

# ROUND 1

## Point-by-point response

We are very grateful to the editor and the reviewers for their time and valuable comments. We have substantially revised the manuscript to address all the comments and suggestions. This has helped to improve the manuscript further. All the changes have been made in the revised manuscript.

### Reviewer #1

-Page 3 lines 4 and 5: remove this part (The phonetic function of anterior fixed dental prostheses (FDPs) with different pontic designs remains unknown.)

Thank you for the comment. As suggested, this part has been removed.

-Page 3 line 13 : (Or) means that you did one of the two, either immediately or one week later. But, you did both, so write (and) instead of (or).

Thank you for your suggestion. We have used “and” instead “or” in the revised manuscript.

-Page 3 line 17 : (Slight) is unmeasurable word you can replace it with (insignificant).

Agree. This has been replaced.

-Page 5 lines 6,7 and 8 Rewrite this paragraph. I suggest; (As dental implant treatment may suffer from anatomical or economic limitations of patients. So removable partial denture (RPD) and tooth-supported fixed dental prosthesis (FDP) are primary alternations in specific cases).

As suggested, this sentence has been rewritten in the revised manuscript.

-Page 6 lines 19 and 22 : Correct spelling (supernumerary)

Thank you. We have checked carefully and changed the typos throughout the manuscript.

-Page 7 line 3 : Rewrite, I suggest; (and two types of zirconia FDPs, one with saddle pontic and one with modified ridge lap pontic were fabricated)

According to your suggestion, this has been rewritten.

-page 7 line 11 : write (and) instead of (or).

Changed.

-page 7 lines 18, 19 and 20 : give full details about your speech sample. -Mention the used 6 vowels -Mention the used 8 fricatives -Mention the used 5 words Write all of them phonetically (this is mandatory).

Thank you for bringing this to our attention. As you suggested, we have add one table (Table 1) giving the details of the speech sample.

-Page 8 line 6 : What is your rational for using the upper boundary frequency?

Thank you for your comment. Upper boundary frequency is usually used to describe the vocal characteristic of voiveless fricative. We have added this content and the related citations in the revised manuscript.

-Concerning statistics : To do your statistics you need standard values to compare your patient results to them. What are your standard values for formants and the upper boundary frequency? Is it the patient own results while wearing the removable device? Or you had a control (normal person)? Or what? -Including the tables of your statistics provide a better understanding to your results.

Thank you for raising this important issue. For the control group used in this study, the articulation of patient wearing RPD was regarded as a reference for a standard phonetic function, because she had worn the RPD for 4 years and the recovery of major speech distortion was complete. We have added this content in the revised manuscript.

-Page 8 line 25 : You mentioned earlier that you did 8 voiceless fricatives. But here you stated that the total were 5 voiceless fricatives. Make it clear is it 8 or 5 ? and unify your words. -you mentioned only 3 fricatives /f/, /s/ and /ʃ/ what about the other fricatives?  
Sorry for this typo. The total were 8 fricative consonants, and we have added the results of other 5 fricatives in the revised manuscript.

-Page 9 line 6 : What do you mean by (could)? Did you analyze it after 1 week or you didn't?

Yes, we analyzed it after 1 week wearing with both FDPs, we have changed this sentence to make this point clear.

-Page 9 line 17 : the sentence (an immediate or short-term) use (and) instead of (or)  
Changed.

-Page 9 lines 23 and 24 : the sentence (During the pronunciation of /u/ while wearing S-FDP and M-FDP) has no meaning, remove it.

As you suggested, we have removed this sentence in the revised manuscript.

-Page 9 lines 27 and 28 : Rewrite, I suggest; (Nevertheless, the effect of FDP on other vowels was insignificant, because....)

Thank you for your suggestion, we have rewritten this sentence.

-Page 10 line 1: Unify the used terms. Use (consonants).

This term has been changed.

-Page 10 line 12 : the sentence (However, the consonant distortion could be recovered) remove (could be).

Agree. We have removed "could be" from this sentence.

-Page 10 line 14 Use the word (abnormal) instead of (unnormal).

Thank you for this point. We have changed this word.

-Page 10 line 15 Rewrite, the sentence (Since the modified ridge lap pontic slightly contact the alveolar ridge, there will be ..... ) I suggest; (Since the modified ridge lap pontic has incomplete contact to the alveolar ridge...)

As suggested, this sentence has been rewritten in the revised manuscript.

-Page 10 line 16 : Use (Palate) instead of (palatal) in the sentence (there will be a concave space between the lingual surface of teeth and the palatal,).

Thank you for your comment. We have changed this word.

## **Reviewer #2**

1. English language corrections need to be done, since mistakes and typos are present in the whole text.

Thank you for the comment. We have carefully checked carefully throughout the manuscript, finished the language corrections and changed the mistakes and typos in the revised manuscript.

2. It will be better to introduce X-ray images, which will be helpful to see embedded supernumerary tooth as well as roots of canines and their length inside the alveolar bone.

Thank you for this point. We have added the CBCT images (Figure 2) to the revised manuscript.

3. Although authors mentioned that anterior defect (toothless part) was small and canines had strong roots, however as can be seen from pictures, maxillary incisors are not positioned in a straight line. So, tipping forces can occur, which must be resisted by means of additional abutment teeth at each end and first premolars should also be used as

abutment teeth. Taking into consideration this, authors should more clearly and fundamentally explain the choice of treatment plan. Why they did not include first premolar as abutment teeth?

Thank you for raising this important point. Agree, tipping forces can load on the FDP and abutments upon masticatory movement. According to the minimal invasive concept and in consideration of the small anterior dental arc, strong roots of the canines and normal overlap and overbite, only two canines were selected in this case. So, examinations should be carefully conducted to consider whether to include first premolar as additional abutments in the further follow-ups after this clinical trial. We have added these contents in the Discussion section.

4. Please mention the exact name of PVS material. Additionally, the whole process of FPD manufacturing should be explained. Which technology was used? Which scanner and software was used? Pontic design fabrication should be clearly presented. Was ceramic veneering or glazing applied? Since texture or rough surface also can have some influence on phonetics, in my opinion.

Thank you for your comment. The detailed processes have been added in the revised manuscript.

5. Authors must explain why they choose zinc polycarboxylate cement as temporary cement. In some literature it can be found that this cement is permanent. Was it easy to remove FPD every time without damaging tooth structure or prothetic construction? Why authors did not use other temporary cement?

Thank you for the comment. In this case, we used dilute zinc polycarboxylate cement, so the FPD can be easily removed without damaging tooth and prothetic structure. We have added this in the revised manuscript.

6. Under “Articulation test and procedure” heading/subheading authors should mention which vowels and voiceless fricatives were tested. They should mention why those letters were selected and not the others? Moreover, 5 typical words also should be highlighted.

Agree. As you suggested, we have add one table (Table 1) giving the details of the speech sample.

7. In “Results” section there is no information about all letters that were tested. Authors should include information about every letter that was tested.

Thank you for your suggestion. We have added all results of the letters that were tested in the revised manuscript.

8. Although authors mentioned that the phonetic function of anterior fixed dental prostheses (FDPs) with different pontic designs remains unknown, however there can be various similar studies which results should be discussed and compared with obtained data in “Discussion” section.

Thank you for bringing this important issue. There are multiple similar studies on the different parameter in the anterior region. We have added one paragraph in the revised manuscript.

9. Authors should add Conclusion in the end of study. In Abstract, as a conclusion, authors talk about provisional restorations, which somehow is not clear. Although provisional restorations also can affect speech, however material of provisional restorations are different (zirconia cannot be used as provisional) so conclusion is not supported by the results. Maybe some modification of the conclusion need to be done.

Thank you for these comments. We have add the Conclusion part in the revised manuscript and modified the conclusion, and the contents related to provisional restorations has been removed in the revised manuscript.

**Science editor:**

Self-cited references: There are 2 self-cited references. The self-referencing rates should be less than 10%. Please keep the reasonable self-citations that are closely related to the topic of the manuscript, and remove other improper self-citations. If the authors fail to address the critical issue of self-citation, the editing process of this manuscript will be terminated;

Thank you for the comment. We have carefully checked and modified the cited references, and removed one self-citation in the revised manuscript.

Academic norms and rules: The authors should provide the Biostatistics Review Certificate, the Clinical Trial Registration Statement, the Institutional Review Board Approval Form, and Written informed consent was waived. No academic misconduct was found in the Bing search.

The materials have been checked and provided.

The title is too long, and it should be no more than 18 words

As suggested, we have changed the title (15 words).

The authors did not provide the approved grant application form(s). Please upload the approved grant application form(s) or funding agency copy of any approval document(s);

Thank you for this point. The approved grant documents have been provided.

The authors did not provide original pictures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor

Thank you for this point. The original figure documents have been provided.

PMID and DOI numbers are missing in the reference list. Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout.

The PubMed numbers and DOI citation numbers have been provided to the reference list.

The “Article Highlights” section is missing. Please add the “Article Highlights” section at the end of the main text.

Thank you for the comment. We have added the “Article Highlights” at the end of the manuscript.

**Company editor-in-chief:**

Before its final acceptance, please upload the primary version (PDF) of the Institutional Review Board’s official approval in official language of the authors’ country to the system.

Thank you for your comment, The Institutional Review Board’s official approval in Chinese has been provided.



## ROUND 2

### Point-by-point response

We are very grateful to the editor and the reviewers for their time and valuable comments. We have again revised the manuscript to address all the comments and suggestions. All the changes have been made with red color in the revised manuscript.

### Reviewer #3

1. Under subheading “Articulation test and procedure” check the name of cement. There is written zinc polycarboxylate cement. It should be Zinc polycarboxylate. Thank you for the comment. As suggested, the name of cement has been changed.

2. It will be interesting for a reader to see which type of FPD (saddle pontic design or modified ridge lap pontic design) was used as a final. Please mention also what kind of permanent cement was used for final fixation of restoration.

Thank you for your suggestion. Because of less /s/ speech distortion and better tactile impression of the tongue when touching palatal surface of the S-FDP, the patient selected the FDP with saddle pontic design as the permanent prosthesis with RelyX U200 resin cement (3M ESPE). We have added this content in the Result section.

3. Some typos are still exist which need to be corrected during proofreading. I highly recommend to Accept manuscript in its current form and congratulate the authors for this valuable scientific work.

Thank you for this point. We have carefully proofread again and made some corrections in the revised manuscript.

