

Subject: [BDS] Editor Decision

Lucas Tadeu Pereira dos Santos, Nathália Maria Ferreira Gonçalves, Clarisse Maria Luiz Silva, Pollyanna Vieira da Silva Sousa, Antonio José Tôrres Neto, Alexandre Luiz Souto Borges, Camila da Silva Rodrigues, Renata Marques Melo:

We have reached a decision regarding your submission to Brazilian Dental Science Journal, "Mechanical and surface alterations of denture materials following exposure to gastric juice".

Our decision is: Resubmit

Reviewer A:

Recommendation: Revisions Required

Questionnaire

Does the manuscript contain new and significant information to justify publication?*

Yes

Does the Abstract (Summary) clearly and accurately describe the content of the article?

Yes

Is the problem significant and concisely stated?

Yes

Are the methods or research design described comprehensively? Is the statistical analysis adequate?

Yes

Are the interpretations and conclusions justified by the results?

Yes

Is adequate reference made to other work in the field?

Yes

Is the language acceptable?

Yes

Manuscript Structure

Length of article is:*

Adequate

Number of tables is:

Adequate

Number of figures is:

Too Long

Please state any conflict(s) of interest that you have in relation to the review of this paper (state “none” if this is not applicable).

I declare no conflicts of interest related to the review of this paper.

Rating

Interest*

Good

Quality

Average

Originality

Good

Overall

Good

Recommendation

Major Revision

Would you be willing to review a revision of this manuscript?

Yes

Comments

Comments to the Author

The manuscript addresses the comparison between heat-polymerized, milled, and 3D-printed resins, evaluating the degree of conversion, microhardness, and surface characteristics. The topic is relevant for the development and clinical application of additively manufactured dental materials. However, several aspects of the manuscript require clarification and improvement before it can be considered for publication.

Reviewer B:

Recommendation: Revisions Required

Questionnaire

Does the manuscript contain new and significant information to justify publication?*

Yes

Does the Abstract (Summary) clearly and accurately describe the content of the article?

Yes

Is the problem significant and concisely stated?

Yes

Are the methods or research design described comprehensively? Is the statistical analysis adequate?

Yes

Are the interpretations and conclusions justified by the results?

Yes

Is adequate reference made to other work in the field?

Yes

Is the language acceptable?

Yes

Manuscript Structure

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Number of figures is:

Adequate

Please state any conflict(s) of interest that you have in relation to the review of this paper (state “none” if this is not applicable).

None

Rating

Interest*

Good

Quality

Good

Originality

Good

Overall

Good

Recommendation

Minor Revision

Would you be willing to review a revision of this manuscript?

Yes

Comments

Comments to the Author

After a thorough critical reading and technical review of the manuscript entitled “Mechanical and surface alterations of denture materials following exposure to gastric juice,” several points were identified that require revision. The study demonstrates clear scientific and clinical relevance, particularly in its comparison of different processing methods (heat-polymerized, milled, and 3D-printed) under acidic conditions. This is a timely and pertinent topic. However, certain methodological, statistical, and editorial aspects need clarification to avoid potential concerns from reviewers.

In the Introduction, the epidemiological context should be strengthened. The statement indicating that edentulism is frequently observed in individuals over 50 years of age would benefit from the inclusion of concrete prevalence data to better substantiate the scientific relevance and magnitude of the problem. Furthermore, the claim that patients with gastrointestinal disorders exhibit higher denture failure rates is supported by only one reference, although the term “studies” is used. It is recommended either to include additional references to support this statement or to revise the wording to the singular form, ensuring consistency between the text and the supporting literature.

In the Materials and Methods section, there is inconsistency in the description of the sample size. It is essential to standardize and clearly state the total number of specimens per material, the number used for each analysis (roughness,

microhardness, and FTIR), and to justify any differences in sample size among the tests. This inconsistency compromises methodological clarity.

The post-printing cleaning protocol (immersion in 96% isopropyl alcohol for 15 minutes in an ultrasonic bath) requires clarification regarding its methodological basis. It should be specified whether this procedure followed the manufacturer's recommendations or was based on a previously published protocol. The appropriate reference should be included, or a clear statement should be added indicating that the procedure followed the manufacturer's instructions. Similarly, the drying step at 37 °C for 48 minutes requires proper justification, such as a scientific reference, ISO standard, or institutional protocol.

In the roughness analysis, the axis or direction of the measurements is not described (parallel or perpendicular to the polishing marks, standardized directions, or random orientations). Since the measurement direction can directly influence Ra and Rz values, this information should be explicitly stated.

Finally, the reference "Atalay et al. 2021" in the microhardness section is formatted differently from the rest of the manuscript, which follows a numerical citation style. It is recommended to standardize this reference according to the citation style adopted throughout the manuscript. Additionally, the presentation of time units should be standardized across the entire text, using a single format (for example, consistently writing "seconds" in full or consistently using the abbreviation "s"), avoiding alternation between different forms.

Overall, the study shows strong potential for publication and contributes meaningfully to the understanding of the behavior of different prosthetic materials under acidic challenge.