

Peer Review File

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Reviewer A

We suggest the authors add line numbers in the manuscript, which is not only convenient for reviewers to review, but also for authors to revise. Similarly, the STROBE checklist should also add the page/line number for each item.

Reply: The manuscript previously sent already has line numbers and the STROBE checklist with page/line number for each item. We ignore if the document the journal sent to you was modified in certain way.

Some issues need to be addressed according to the STROBE guideline.

Comment 1: STROBE Checklist Item 1a

Please highlight the study design (a cross-sectional retrospective study) in the Title (lines 2 and 34) or the Abstract (line 44). This should also include the reported “retrospective” reporting.

Reply 1: Changes were made.

Changes in the text: Title page (page 1, line 2); main text (page 3, line 33); abstract (page 3, line 42).

Comment 2: STROBE Checklist Item 1b

Please add accurate data (with 95% CI) in the Abstract (such as the mean value and p-value), instead of vague wording like “the correlation was significant at the 0.001 level”.

Reply 2: Changes were made.

Changes in the text: Page 3, lines 46-48.

Comment 3: STROBE Checklist Item 2

In the Introduction, we suggest authors describe the citing of reference by “Feliz-Matos et al ...”, not “xxx” (line 90).

In addition, in lines 90-94: “... reported the results of a randomized clinical trial ...”. Why are two references cited here (reference 15, 16)?

Reply 3: The manuscript previously sent doesn’t have “XXX”, but the cited authors’ name. We ignore if the document the journal sent to you was modified in certain way.

Regarding the two references, the RCT has two publications, the article (2019) and a presentation in the International Association for Dental Research (2018).

Changes in the text: None.

Comment 4: STROBE Checklist Item 5

We suggest authors report the specific name of the dental clinic and approval number, not “xxx” (line 105, 109-110, 113, 227-228).

Besides, please explain how the original time span was chosen in line 114 (from September 2013- February 2014). Normally, researchers would prefer/choose a whole year. It's better that authors explain their choice of the special time span.

Reply 4: The manuscript previously sent doesn't have "XXX", but the name of the dental clinic and the approval number. We ignore if the document the journal sent to you was modified in certain way.

Regarding the time span, the explanation was added to the manuscript.

Changes in the text: Page 6, lines 114-116.

Comment 5: STROBE Checklist Item 6, 10

In line 112: "The dataset was selected from one of the four groups studied in the RCT, composed of 27 de-identified subjects ...".

Given that this is a secondary analysis of the data, we suggest the authors cite the RCT study (reference 16) in the "Materials and Methods" as well.

I have a question: in reference 16, there were only three groups and the sample size was 35 per group. Please report the name of the group selected and explain how the study size (n=27) was arrived at.

Reply 5:

The cite was added in the Materials and Methods section.

The name of the group was included.

It was explained how the study size was arrived at.

Changes in the text:

Page 6, line 114.

Page 6, line 112.

Page 8, lines 155-158

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Comment 6: STROBE Checklist Item 9

I wonder if the authors have considered potential bias and the corresponding solutions. For example, did the authors arrange two independent partners to include eligible cases (avoid potential selection bias and information bias)?

If this was not done, please include this as one of the limitations of this study in the discussion.

Reply 6: It was included with another limitation that was already described. Patients were volunteers and examiners were blinded.

Changes in the text: Page 11, lines 226-227.

Comment 7: STROBE Checklist Item 11

In line 141-142: "..., and levels of sensitivity were classified in 4 levels: no sensitivity, mild, moderate and severe".

Please report the scorers and the criteria for rating "no sensitivity", "mild", "moderate", and "severe".

Reply 7: The information was added.

Changes in the text: Page 8, lines 143-145.

Comment 8: STROBE Checklist Item 13

If understand correctly, the 27 subjects were the number of participants of the final stage. We strongly suggest authors consider using a Flow Diagram to state the numbers of individuals in the screening and analysis stages of this study. For example, what's the number of patients who meet the inclusion criteria? What's the number of patients excluded, e.g. "Pregnant or lactating women (n=?), smokers (n=?)". For authors' reference, here is an example (See Figure 1):

<https://academic.oup.com/fampra/article/20/6/696/530870>

Reply 8: Flow Diagram added.

Changes in the text: Page 8, line 160 and "figures' document".

Comment 9: STROBE Checklist Item 14

Although this is a secondary analysis of the data, it's also necessary to provide the information about the characteristics of the study participants using a table with three horizontal lines (e.g. demographic, clinical, etc), or to briefly describe and cite the reference in the "Results".

Reply 9: Limited information was added because the dataset was compound with de-identified data.

Changes in the text: Page 8, lines 158-159.

Comment 10: STROBE Checklist Item 15, 16a

Please pay attention to the tables' format. Normally, researchers choose to use a table (with three horizontal lines) to present experimental data.

It's also necessary to add accurate data (with 95% CI) when stating the test results (in the text and table 2-3).

Reply 10: Changes were made.

Changes in the text: Page 9, lines 166-167 and tables' document.

Reviewer B

This manuscript is a well written study that correlates sensitivity after dental bleaching with the concentration of peroxide in bleaching gels.

As described by the authors, it is based in a RCT that was performed between September 2013 and February 2014, and the authors asserted that it should be published as it bring new information for the patients and dentists, as "There is a lack of studies based on robust clinical trials associating the dental sensitivity with distinct percentages of the whitening agents."

I understand that this assertion could be true when the RCT was conducted, more than 8 years ago, but nowadays, I don't agree with this sentence. **(Comment #1)**

Quickly, I can cite some systematic reviews with meta-analysis that already studied all the clinical trials already published, almost all of them evaluating, among other outcomes, sensitivity related to dental bleaching, as follows:

de Geus JL, Wambier LM, Kossatz S, Loguercio AD, Reis A. At-home vs In-office Bleaching: A Systematic Review and Meta-analysis. Oper Dent. 2016 Jul-Aug;41(4):341-56. doi: 10.2341/15-287-LIT.

Rezende M, Coppla FM, Chemin K, Chibinski AC, Loguercio AD, Reis A. Tooth Sensitivity After Dental Bleaching With a Desensitizer-containing and a Desensitizer-free Bleaching Gel: A Systematic Review and Meta-analysis. Oper Dent. 2019 Mar/Apr;44(2):E58-E74. doi: 10.2341/17-253-L.

Cardenas AFM, Maran BM, Araújo LCR, de Siqueira FSF, Wambier LM, Gonzaga CC, Loguercio AD, Reis A. Are combined bleaching techniques better than their sole application? A systematic review and meta-analysis. Clin Oral Investig. 2019 Oct;23(10):3673-3689. doi: 10.1007/s00784-019-03042-4.

Maran BM, Matos TP, de Castro ADS, Vochikovski L, Amadori AL, Loguercio AD, Reis A, Berger SB. In-office bleaching with low/medium vs. high concentrate hydrogen peroxide: A systematic review and meta-analysis. J Dent. 2020 Dec;103:103499. doi: 10.1016/j.jdent.2020.103499.

Due to this, I don't believe this study brings any new information for the dentists, and should not be published in Frontiers of Oral and Maxillofacial Medicine.

Reply comment #1: The sentence was reformulated and the bibliography was updated.

Changes in the text: Introduction (page 5, lines 92-95); discussion (pages 9-10, lines 186-200; page 10, lines 206-209; page 11, lines 220-222).

Reviewer C

This cross-sectional retrospective study evaluated the relationship of dental sensitivity and the combinations of different concentrations of peroxides (HP 10% / HP 40%) used for dental bleaching in order to define a tooth whitening protocol that is effective, while minimizing the discomfort experienced by patients. The theme is relevant. The experimental design and results are adequately described. The discussion of the article is well written, however the bibliography needs to be updated. **(Comment #1)** The conclusion is consistent with the proposed study. The manuscript is well drafted and can be published after adjustments.

Full Title:

The title is adequate, follow the STROBE guidelines.

Suggestion: “Dental sensitivity in tooth whitening and its relationship to peroxides concentrations: a cross-sectional retrospective study” **(Comment #2)**

Abstract:

The abstract is well organized, clear and objective. It was mentioned in the conclusion exactly the answer to the purpose of the study.

Keywords

The chosen keywords are matching the descriptor terms of the Medical Subject Headings (MeSH).

Introduction

The introduction is presented in a clear and organized way, with consistent citation from the literature. But is important to mention the author’s hypotheses, as suggested by STROBE. **(Comment #3)**

Objective:

The objective is clear.

Materials and Methods:

This part of the manuscript is well written and its description is detailed and appropriate.

Statistical analysis:

The analyzes are appropriate.

Results:

This section is short and objective, but well written and easy to understand. I suggest that you include individual descriptive data about the 4 days of study. **(Comment #4)**

Also, it is important to add baseline data regarding tooth sensitivity, even if you used strict eligibility criteria. (Comment #5) I also suggest that as you mention that you are evaluating the effectiveness of a protocol that combines different concentrations of peroxides, in addition to data related to tooth sensitivity, it would be interesting to include information about tooth whitening itself. (Comment #6)

The authors describe well the number of participants in each stage of the study (flowchart), but they do not justify the reason for the “loss” of 3 participants, as recommended by Strobe Statement. (Comment #7)

Discussion

The discussion of the article is well written, however the bibliography needs to be updated. (Comment #8) The limitations of the study are mentioned, which brings more credibility to the work. For what is proposed, considering a cross-sectional study, it is well done.

Conclusion

The conclusion is consistent with the proposed study.

Reply comment #1: The bibliography has been updated.

Changes in the text: Introduction (page 5, lines 92-95); discussion (pages 9-10, lines 186-200; page 10, lines 206-209; page 11, lines 220-222).

Reply comment #2: The title was changed as recommended.

Changes in the text: Title page (page 1, lines 2-3).

Reply comment #3: There is not hypothesis due to the nature of the research (a secondary analysis of a RCT; a retrospective study).

Changes in the text: None.

Reply comment #4: There is not individual descriptive data about the 4 days of the research because the outcomes were measured at the end of the study. It was analyzed as a period of time.

Changes in the text: None.

Reply comment #5: There is not baseline data regarding dental sensitivity because all the patients included did not have history of tooth sensitivity. A sentence was added in the results section to clarify this point.

Changes in the text: Results (page 8, lines 156-157).

Reply comment #6: It is already cited in the text that the original RCT demonstrated favorable results in terms of color change. A sentence was added in the results section to invite lectors to read the RCT for detailed information regarding color change, to maintain the focus of this new article on the dental sensitivity topic.

Changes in the text: Results (page 9, lines 170-171).

Reply comment #7: Changes were made in order to justify the reason for the loss of 3 participants.

Changes in the text: Results (page 8, line 158); figures (page 1).

Reply comment #8: The bibliography has been updated.

Changes in the text: Discussion (pages 9-10, lines 186-200; page 10, lines 206-209; page 11, lines 220-222).