Reviewer’s report

Title: In vitro teeth whitening effect of two nicotine medicated chewing gums compared to a whitening gum and saliva

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Reviewer: Darren Lath

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Title: In vitro tooth whitening effect of two medicated chewing gums compared to a whitening gum and saliva.

General

This study by Moore et al looked at the in vitro whitening effect of two medicated chewing gums compared to a whitening gum and saliva. The total colour change of enamel specimens were assessed by spectrophotometry after simulated gum chewing. This is an interesting article but needs revision especially with relation to grammar and further explanations of methodology.

Major Compulsory Revisions

1. Throughout the manuscript the test samples were often referred to as teeth. This is incorrect as dental enamel blocks were used as test samples. Please change teeth samples to either just samples or enamel samples.

2. Are CIE lab values obtained from absorbance or reflective spectrophotometry, can you describe the spectrophotometer in greater detail.

3. CIE L* is a measure of lightness and not whiteness (a different concept) as is mentioned in the abstract and methods section. This needs to be consistent throughout the manuscript.

4. In the methods section it was mentioned that the specimens were pumiced. Would the pumice not cause to the surface greater than that of previous hand polishing? If so, is it not likely that light will be diffused, possible giving misrepresentation of results? Maybe add this into the discussion.

5. Would the air drying result in desiccation and therefore affect the results? This could also be mentioned in discussion.

6. In the discussion it states” Visual evaluation……”, and figure 2 talks about visual evaluation, yet there is no mention of a visual evaluation in the methods section. Either expand on this in the methods section or remove the words visual evaluation from the manuscript.
7. In the discussion, there is a statement which suggests that baking soda removes extrinsic and intrinsic stains backed up by references 8 and 9. I was unable to access these references. Is it correct that baking soda can remove intrinsic stains? From my understanding, intrinsic stains are removed by chemical processes such as peroxide bleaching and cannot be removed by abrasives. Please verify this.

Minor essential Revisions

1. References need to be in the style outlined in the author guidelines. Issue number of journal needs to be in bold and there should be no spaces between issue number and page numbers. Please modify references.

2. There needs to be grammatical changes throughout the manuscript, for example changing the word teeth for tooth. The title could be changed from “In vitro teeth whitening…….” to “In vitro tooth whitening…..”

Discretionary revisions

1. There is no mention of any limitations to this work. The authors may like to mention this, possibly in the discussion.

Level of interest: An article whose findings are important to those with closely related research interests

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

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests