

Point-by point response to reviewers' comments

Reviewer #1:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors:

- 1- Did the authors compare the load of produced droplets, airborne or aerosols with and without this shield? (For example with natural harmless color).

Response:

This is a very useful comment. At this stage we have planned to write and publish a letter to editor to present this mouth shield. The authors are now planning to further examine the effectiveness of this mouth shield. In the last part of the discussion, we have added the following statement to address the reviewer's comment: "Nevertheless, the effectiveness of the mouth shield in minimizing the airborne aerosols and droplets spread during dental treatment should be investigated, and its role in protecting against infectious diseases, with a comparison of the load of produced aerosols, droplets and airborne particles with and without this shield, should be examined before this shield can be adopted for global use".

- 2- Can this shield be used solely for air water syringe tip or it can be used for another dental equipment like drill?

Response:

Thank you for this comment. That is right the shield can be used solely for air water syringe tip. In the description of the mouth shield we indicated "The mouth shield attaches to the air-water syringe tip - - -"

Reviewer #2:

Scientific Quality: Grade B (Very good)

Language Quality: Grade B (Minor language polishing)

Conclusion: Accept (General priority)

Specific Comments to Authors:

- 1- Improve on the abstract. it's too short.

Response:

Done.

- 2- Do list the potential materials that can be used to make the shields.

Response:

Thank you very much for this important remark. We have included the following statement in the description of the mouth shield instrument: “Different size lids made from disposable, crystal clear polyethylene terephthalate (PET) plastic or polystyrene can be selected to accommodate patients with varying degrees of mouth opening. The front surface of the shield can be relined with a water absorbent liner to capture scattered droplets”.

- 3- Please attach the experimental results to justify the effectiveness of the shield.

Response:

At this stage we have planned to write and publish a letter to editor to present this mouth shield. The authors are now planning to further examine the effectiveness of this mouth shield. However, the mouth shield has been tried and evaluated by our dental team, with satisfactory results in terms of its feasibility for the dental use. In the last part of the discussion, the authors indicated that: “The effectiveness of the mouth shield in minimizing the airborne aerosols and droplets spread during dental treatment should be investigated, and its role in protecting against infectious

diseases, with a comparison of the load of produced aerosols, droplets and airborne particles with and without this shield, should be examined before this shield can be adopted for global use.

4- Also, attach a link to a short video demonstrating its use.

Response:

Done. A short video to demonstrate the use of the mouth shield has been uploaded along with the revised manuscript.

5- Has the shield been satisfied by the dental department to be effective and be adopted for global use?

Response:

Thank you for this comment. We indicated in the discussion that: “The described mouth shield has been successfully implemented and evaluated in our dental practice. Nevertheless, the effectiveness of the mouth shield in minimizing the airborne aerosols and droplets spread during dental treatment should be investigated”.