Reviewer’s report

Title: Topical povidone iodine inhibits bacterial growth in the oral cavity of patients on mechanical ventilation: a randomized controlled study

Version: 0 Date: 13 Dec 2019

Reviewer: Dieni Teixeira

Reviewer's report:

Reviewer's Comments

The manuscript is well written, figures and tables are informative. The methodological approach is justified and well described. Additional limitations and/or clarifications on the study are required as follows:

Abstract

1. Review the use of the terms 'normal flora', 'flora in the oral cavity'. I suggest using oral microbiota or oral microbiome (abstract and manuscript)

2. Results: please, inform the p value

Background

1. In this section, it would be interesting for the authors to point out the properties of povidone-iodine and to cite previous studies of the use of this substance in the oral cavity.

Methods

1. Why does the control group have n = 7 and intervention group n = 16?

2. Was a statistical test performed for estimation and sample allocation?

Intervention

3. Please provide an information about the duration of the application of the substance

4. Describe in more detail how the application was performed.

5. What precautions were taken to ensure that the patient did not swallow or aspirate the solution?

6. Have tests been done to monitor thyroid gland activity?
7. Why did the authors not consider assessing the cytotoxicity of povidone-iodine to the oral mucosa?

Statistical analysis

8. Please, inform in this section that the data were analyzed by means of descriptive statistics (mean and standard deviation) and inferential statistics.

Results

1. Duplicate information appears in table 2 and text

'Their mean age was 63.5 years in the intervention group and 65.8 years in the control group'

'… With a mean 6.1 days in the intervention group and 5.5 days in the control group.'

This information may be suppressed from the text

2. Figure 3: I suggest making a column graph (median with interquartile range) and p values

3. '...the number of bacteria in the oral cavity was significantly different between intervention and control groups at 1, 2 and 3 hours after oral care.' What is the value of p?

4. I suggest the comparison between control and intervention group in relation to the different bacterial species analyzed. Check for significant reduction in microbial growth.

Discussion

1. I suggest that the authors begin the section by discussing the results obtained in the present study. The second and third paragraphs present a review of the literature and the discussion effectively begins in the fourth paragraph.

2. In addition, authors should consider the cytotoxicity of this substance in the oral mucosa, side effects, and adverse effects such as tooth structure pigmentation.

Conclusion

1. Observe spacing between words

2. It is not correct to state: 'This is a simple and safe method to reduce oral bacteria for a longer time that could be used as standard prophylaxis against VAP in Japan — similar to 0.12% chlorhexidine globally.' The aim of the study was not to assess the occurrence of VAP. The study evaluated the pre and post intervention microorganism count. For the development of VAP several factors must be considered, as explained in the introduction
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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