Reviewer’s report

Title: Bacterial Contamination of Home Nebulizers in Children with Cystic Fibrosis and Clinical Implication on the Number of Pulmonary Exacerbations

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Reviewer: Francesca Bai

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Milan, 12 March, 2019

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Bacterial Contamination of Home Nebulizers in Children with Cystic Fibrosis and Clinical Implication on the Number of Pulmonary Exacerbations

This is a descriptive manuscript reporting on the colonization of home devices used for antibiotics nebulization in children diagnosed with CF.

Even if the aim of the paper seems interesting, I have a number of concerns with the reported data which I feel render the manuscript not suitable for publication in the current form.

First, the methods are not correctly presented. The type of study is not clear and has to be better described; the statistical analyses could be implemented.

Furthermore, the manuscript needs language and style corrections. It includes some linguistic errors that at times make it difficult to follow. The paper would benefit from stylistic changes to make a stronger, clearer, and more compelling argumentative manuscript. There are also a few sentences that require rephrasing for clarity.

Specifically:
Abstract

A total of 43 of the 61 nebulizers (70.5%) were contaminated; 31 mouthpieces, 21 reservoirs, and 11 connecting tubes. Could the authors provide also the percentages of mouthpieces, reservoirs and connecting tubes that are contaminated (31/43, etc) in the abstract?

There was a significant increase in CF exacerbations over 12 months in children whom pathogenic organisms were recovered from their home nebulizers (p<0.001). Could the authors report the numbers of exacerbations and not only the p value?

Background

The introduction section is well written.

As regards the previous studies that the authors cited about the same topic, could they specify if these studies were cohort studies, randomized controlled trials or other?

Methods

What is the calendar period of the current study? Is the study a retrospective or a prospective analysis?

Regarding inclusion/exclusion criteria, did the authors allow the use of oral antibiotics at the time of enrollment?

Did the study receive authorization of the local Ethics Committee? Was there an informed consent?

Could the authors specify the procedure of cleaning of the nebulizers that was adopted by parents? Was it standardized?

Was the questionnaire about nebulizers' hygiene and maintenance validated or already used in previous studies?

Did the authors follow up the patients till the last available visit to record the number of exacerbations? Or did they follow up the patients for one year after the enrollment? Is it possible to conduct a survival analysis? Are the data about follow up of the patients available?

In the statistical analyses section, please provide a more detailed description of statistical analyses. How missing data from clinical records were managed?
Results

The results section has to be revised after a better definition of methods and statistical analyses. Are the data about antibiotic susceptibility testing available?

Discussion

The results (such as OR and p values) could be reported with confidence intervals in the results section and not in the discussion.

Minor points:

The manuscript needs some language corrections and style corrections.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

No

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 am able to assess the statistics

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

Needs some language corrections before being published
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