Reviewer's report

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

Version: 2 Date: 08 Jan 2020

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses one or several testable research questions? (Brief or other article types: is there a clear objective?)

Yes - there is a clear objective

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?

Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with sufficient technical rigor to allow confidence in the results?

Yes - experiments and analyses were performed appropriately

STATISTICS - Is the use of statistics in the manuscript appropriate?

Yes - appropriate statistical analyses have been used in the study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?

Yes - the author's interpretation is reasonable
OVERALL MANUSCRIPT POTENTIAL - Has the author addressed your concerns sufficiently for you to now recommend the work as a technically sound contribution? If not, can further revisions be made to make the work technically sound?

Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: The manuscript reads much better now. There are a few corrections in the language still required, but those are relatively minor.

ADDITIONAL REQUESTS/SUGGESTIONS:

Abstract results: mention that the number of exacerbations as presented is mean ± ? (SD? SEM?)

Background Paragraph 3: After mention of References (11-13): Change the next two sentences as indicated (without the quote marks): "Nebulizers generate very small particles, which can easily reach the terminal bronchioles and alveoli; therefore, nebulizer organism reaches the lungs easily, which may lead to pulmonary colonization. This highlights the importance of cleaning of home nebulizers (14)."

Background Paragraph 4: Change the second and the third sentences as indicated (without the quote marks): "To the best of our knowledge, no surveys of bacteriological contamination of these nebulizers have been conducted in Iran. There are only a few international articles, that too with small sample sizes (11, 15, 16)."

Background last sentence; change as indicated (without the quote marks): "We also sought to study the clinical implication of microbial contamination of home nebulizers, which has not been studied previously."
Methods: Patient selection section. Please check this last sentence for accuracy. "In the current study, there were no missing data due to the referral policies for all outpatient and inpatients, even if they were in a county." What is the significance of 'county' here?

Methods: Hygiene section. Please change the 'its' to 'their' in the first sentence.

Also, please check the third sentence. Is 'fulfilling' the correct word to use? Does the pediatric pulmonologist fill up or review the list?

Results: Paragraph on daily inhalation numbers: After the first sentence, please use lowercase t in 'the' after the semi-colon. Also, please indicate in the text that the written numbers represent mean ± error (which error measure: SD? SEM?).

Results: Paragraph starting with "Among 61 home nebulizers...": Change the second sentence as indicated (Without quote marks): "Patients' medical records were investigated in order to obtain the number of CF exacerbations which ended in hospital admission and IV antibiotics during the past 12 months."

Last line of Paragraph before Table 4: "The mean age of the subjects who were not properly observing the hygiene of nebulizers was significantly higher than the ones doing the whole process correctly..."—Please change this sentence. Considering that the subjects were children aged only about 8 years or younger, it is unfair to say they were not properly observing the hygiene. You can write, for example, "The mean age of subjects was higher in households where nebulizer hygiene was inadequate than in households where nebulizers were maintained following proper procedures..."

Discussion: First Paragraph: "... and we are reporting this type of study from Iran"—If this is the first study of this kind in this cohort in Iran, you should mention that unique fact.
Next paragraph: The sentence starting with "This less rate of nebulizer contamination..." Please change 'less' to 'lower'.

I understand that you did the antibiogram for only the isolated Pseudomonas spp, but why not mention the outcome of the antibiogram at least in the discussions—if you noticed any specific patterns with the antibiotics tested?

Last paragraph of Limitations: Please change 'exception' to 'exempt'.

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.

Yes

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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