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Microbial Colonization Patterns and Prognostic Factors in Cystic Fibrosis Patients: A Comprehensive Assessment

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

3 comments · 16 Apr 2024 – 11 May 2024

Referee 1 Reviewer

MAJOR REVISION 16 Apr 2024

Dear Editor
Thank you so much for considering me as a reviewer for your journal. This manuscript is about ": Microbial Colonization Patterns and Prognostic Factors in Cystic Fibrosis Patients: A Comprehensive Assessment". This manuscript needs major revision.
Comments
The names of bacteria should be written in italics.
The reference for classifying bacteria as common or uncommon should be cited.
Line 99. Each patient's resistance/sensitivity to 99 antibiotics is incorrect because bacteria can be resistant or sensitive.
Acinetobacter is wrong; Acinetobacter spp. is correct. The same applies to Enterococcus and Klebsiella.
Line 139. BMI had a significant relationship with the type of microorganisms. The authors should specify the types of bacteria detected in patients with and without above-normal BMI.
Table 1 does not have a titer, and its format is incorrect.
The results of the antibiogram were not presented in the text.
The authors should state the reasons for collecting blood samples.
The first paragraph of the discussion is a repeat of the results.
The results of the antibiogram should be discussed in the discussion section.
Sincerely,

Referee 2 Reviewer

MAJOR REVISION 20 Apr 2024

Dear Editor
I have read with interest the submitted manuscript. This manuscript needs major revision to provide an appropriate contribution to the field.
Reviewer,
1- The authors should revise the background section in the abstract and state the knowledge gap in the field.
2- The study objective should be clearly stated in the abstract section and the introduction section.
3- Instead of stating the statistical software in the abstract section, it is better to report which statistical analysis was performed and how it was reported.
4- The mean age should be reported along with the SD or IQR.
5- The authors have drawn general conclusions and have not interpreted the external validity and clinical importance of the findings.
6- English editing is required for the use of scientific names.
7- Although the authors have stated the lack of adequate information on colonization patterns in the last paragraph of the introduction section, their approach to addressing the knowledge gap is not clear. The study objective is also not clear.
8- The authors did not state which analyses used regression models.
9- There are no findings on the output of the regression models in the results section.
10- The total number of males and females is not equal to the number of study participants (206).
11- The table should be revised according to the principles of scientific writing.
12- P-values should be reported to three decimal places.

13- Interpretation of the study findings and their external validity should be discussed and reported appropriately in the conclusion.

Associate Editor

MAJOR REVISION 11 May 2024

Your manuscript [ID Number 147162] has passed the review stage and is ready for revision.

To ensure the Editor and Reviewers can recommend that your revised manuscript be accepted, please pay careful attention to each comment posted underneath this email. This way we can avoid future clarifications and revisions, moving swiftly to a decision.

Technical points:
1. Please provide a point-by-point response to the Editor's and reviewers' comments.
2. Please highlight all the amendments in your manuscript in yellow.
3. Use line numbering and page numbers in the next submission.
4. Improve the English language of the manuscript.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:
Dear Editor
I have read with interest the submitted manuscript. This manuscript needs major revision to provide an appropriate contribution to the field.
Reviewer,
1- The authors should revise the background section in the abstract and state the knowledge gap in the field.

Response: Thanks for your comment. The appropriate changes were made.

2- The study objective should be clearly stated in the abstract section and the introduction section.

Response: Thanks for your comment. Appropriate changes were made.

3- Instead of stating the statistical software in the abstract section, it is better to report which statistical analysis has been done and how reported.

Response: Thanks for your comment. Its corrected. As well, appropriate changes were made.

4- The mean age should be reported along with SD or IQR.

Response: Thanks for your comment. Appropriate changes were performed.

5- The authors have concluded a general findings and did not interpret the external validity and clinical importance of the findings.

Response: Thanks for your comment. We conclude that the BMI and age of patients might play an important role in the type of microorganisms that might patients who had CF to be infected. In detail, usual microorganisms were more prevalent among normal and less than normal BMI range of CF patients and also older patients, while unusual microorganisms were common among above normal BMI range and younger patients. It should be mentioned that to the best of our knowledge, previous studies and meta-analyses only evaluate the prevalence of *Pseudomonas aeruginosa* and BMI among CF patients. However, we evaluated the relation of other types of microorganisms with BMI. Moreover, our study illustrated that *Pseudomonas aeruginosa* and Staphylococcus *aureus* were the most common microorganisms that presented in the sputum culture of patients with CF. As well, appropriate changes were made.

6- English editing is required in the case of using scientific names.

Response: Thanks for your comment. Appropriate changes were performed.

7- Although the authors have stated the lack of adequate information on colonization patterns in the last paragraph of the introduction section. However, their approach to cover the knowledge gap is not clear. The study objective is not clear as well.

Response: Thanks for your comment. Appropriate changes were made.

8- The authors did not state for what analysis, they used regression models.

Response: Thanks for your comment. *In this study, regression methods were not used for analysis, which were modified in the text of the article. As well, appropriate changes were performed.*

9- There are no findings on the output of the regression models in the results section.

Response: Thanks for your comment. In this study, regression methods were not used for analysis, which were modified in the text of the article.

10- The total number of males and females is not equal to study participants (206).

Response: Thanks for your comment. Our study included 117 males and 89 females. Appropriate changes were performed.

11- The Table should be revised according to the principles of scientific writing.

Response: Thanks for your comment. Appropriate changes were made.

12- P-Values should be reported with three decimal digits.

Response: Thanks for your comment. Appropriate changes were made.

13- Interpretation of the study findings and their external validity should be discussed and reported in the conclusion appropriately.

Response: Thanks for your comment. The appropriate changes were performed.

Reviewer 2:
Dear authors, please consider below comments:

Comment 1: when you report percent, you should use" % " inside the value.

Response: Thanks for your comment. Appropriate changes were performed.

Comment 2: your study is " cross-sectional descriptive-analytical ". some changes should be made in statistical analysis section,

Response: Thanks for your comment. Its corrected. Appropriate changes were performed.

comment 3: at first you should about the test that you used for checking normality.

Response: Thanks for your comment. Kolmogorov–Smirnoff test and Q-Q plot was applied to find the distribution pattern of quantitative variables (for normality). As well, appropriate changes were performed.

Comment 4: you stated that " inferential statistics contained calculation of differences between study variables by ..." this sentence is unclear please correct or omit it.

Response: Thanks for your comment. It's omitted and corrected.

Comment 5: It is not necessary to describe each statistical test in parentheses.

Response: Thanks for your comment. Appropriate changes were made.

Comment 6: It is better to use a graph to show the results better.

Response: Thanks for your comment. Due to your recommendation, the graph was added to the manuscript. As well, appropriate changes were made.

Comment 7: in results section, you stated that " 206 patients were included in our study (107 males & 89 females) “, the sum of 107 and 89 is 196, which is not equal to 206 that you reported, please correct it.

Response: Thanks for your comment. Our study included 117 males and 89 females. The appropriate changes were performed.

Comment 8: in table 1, it's better that report frequency and percent in the cells.

Response: Thanks for your comment. Appropriate changes were performed.

Reviewer 3:
Dear Editor
Thank you so much for considering me as a reviewer in your journal. This manuscript is about “: Microbial Colonization Patterns and Prognostic Factors in

Cystic Fibrosis Patients: A Comprehensive Assessment". This manuscript needs major revision.
Comments
The name of bacteria should be written in italic format.

Response: Thanks for your comment. The appropriate changes were performed.

The reference for considering common and uncommon bacteria should be cited.

Response: Thanks for your comment. Appropriate changes were made.

> *7. Thornton, C. S., & Parkins, M. D. (2023, April). Microbial epidemiology of the cystic fibrosis airways: past, present, and future. In Seminars in Respiratory and Critical Care Medicine (Vol. 44, No. 02, pp. 269-286). Thieme Medical Publishers, Inc.*
>
> *18. Høiby, N. (2002). Understanding bacterial biofilms in patients with cystic fibrosis: current and innovative approaches to potential therapies. Journal of Cystic Fibrosis, 1(4), 249-254.*
>
> *19. Frayman, K. B., Armstrong, D. S., Carzino, R., Ferkol, T. W., Grimwood, K., Storch, G. A., ... & Ranganathan, S. C. (2017). The lower airway microbiota in early cystic fibrosis lung disease: a longitudinal analysis. Thorax, 72(12), 1104-1112.*
>
> *20. Manos J. Current and emerging therapies to combat cystic fibrosis lung infections. Microorganisms 2021;9(09):1874*

Line 99. Each patient's resistance/ sensitivity to 99 antibiotics is wrong because Bacteria can be resistant or sensitive.

Response: Thanks for your comment. The appropriate changes were performed.

Acinetobacter is wrong, Acinetobacter spp. is correct. Also, about Enterococcus and klebsiella.

Response: Thanks for your comment. The appropriate changes were performed.

Line 139. BMI had a significant relationship with the type of microorganisms. Authors should be writing the type of detected bacteria in patients with and without above-normal BMI.

Response: Pseudomonas aeruginosa (PA), and Staphylococcus aureus (SA) had more prevalent among normal and less than normal BMI, whereas Klebsiella spp., E. coli, Enterococcus spp., Acinetobacter spp., beta hemolytic Streptococcus, and coagulase negative Staphylococcus were frequent among above normal BMI. As well, appropriate changes were performed.

Table 1 does not have a titer and the format of that is incorrect.

Response: Thanks for your comment. Appropriate changes were made.

The results of the antibiogram were not observed in the text.

Response: Thanks for your comment. In the current study we did not evaluate patients' antibiogram and the word" antibiogram" was used incorrectly in the method and material section. Therefore, it omitted from the method & material part. As well, appropriate changes were performed.

Authors should be the reasons for gathering blood samples.

Response: Thanks for your comment. The blood samples were gathered due to investigating laboratory data; such as Vitamin D level, even though as mentioned in the manuscript the result is not statistically significant.

The first paragraph of the discussion is a repeat of the results.

Response: Thanks for your comment. It omitted. Moreover, Appropriate changes were made.

The results of the antibiogram should be discussed in the discussion part.

Response: Thanks for your comment. In the current study we did not evaluate patients' antibiogram and the word "antibiogram" was used incorrectly in the method and material section. Therefore, it omitted from the method & material part. As well, appropriate changes were performed.
Sincerely,

Reviewer 4:
It should be match in abstract and method material .there were 2016 -2022

With result:"Between September 2017 and September 2022, 206 patient"

Response: Thanks for your comment. Appropriate changes were performed.

Ethics Statement part should be written the end of materials and methods.

Response: Thanks for your comment. Ethics statement were added. As well, appropriate changes were made.

The resistant bacteria pattern is different in thisc periof of study .

The method of disinfection is different in this long period ,too .the author can xplain about thiese in discussion .

Response: Thanks for your comment. Appropriate changes were performed.

This study is very good to excellent proposal without novelty in the world but could use for design for treatment.

Associate Editor's Comments:

Associate Editor 1:
Your manuscript [ID Number 147162] has passed the review stage and is ready for revision.

To ensure the Editor and Reviewers can recommend that your revised manuscript be accepted, please pay careful attention to each comment posted underneath this email. This way we can avoid future clarifications and revisions, moving swiftly to a decision.

Technical points:
1. Please provide a point-by-point response to the Editor and reviewer's comments

Response: Thanks for your comment. It was done.
2. Please highlight all the amends on your manuscript with a yellow colour

Response: Thanks for your comment. It was done.
3. Use line numbering and page number in the next submission

Response: Thanks for your comment. It was done.
4. Improve the English language of the manuscript

Response: Thanks for your comment. The manuscript was revised both grammatically and vocabulary. As well, the appropriate changes were made.

2 Revision 1

3 comments · 10 Aug 2024 – 14 Aug 2024

Referee 2 Reviewer — ACCEPT 10 Aug 2024

Dear Editor
The comments raised were considered by the authors.
Reviewer,

Referee 1 Reviewer — ACCEPT 11 Aug 2024

Dear Editor
This manuscript was revised according to my comments and is now accepted for publication in this journal.
Sincerely,

Associate Editor — ACCEPT 14 Aug 2024

I read the revised manuscript.
I have no further comments to add. I thank the authors for their detailed replies to the reviewers' comments.