OPEN PEER REVIEW

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As a new feature for progressing towards transparency, we decided to open a new window for all of our editors as well as authors titled "**Open Peer Review**". We hope by this new facility, our reviewers will be more motivated and authors will be more satisfied with the review process. We believe that publishing our peer review reports could make a transparent and clear environment for all our efforts within a journal, but not all reviewers tend to publish their comments.

What is "Open Peer Review" process?

An "Open Peer Review" process is making the details of all review process (including reviewers, associate editors, and EICs comments) as "Public" as it is agreed by EIC, Authors, and reviewers.

Advantages of "Open Peer Review" process

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- More motivations for all involved roles in the review process
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- Prevents reviewers from following their individual agendas and leading to the detection of reviewers' conflicts of interests

You can find out more at:
https://sites.kowsarpub.com/kowsar/knowledgebase/category/tree.html#opr.html

Jundishapur Journal of Microbiology
Article DOI: 10.5812/jjm.100465
Published in: Jundishapur Journal of Microbiology: 13(10); e100465

Peer Review Report for "Decreased Biofilm Formation Ability of a Multidrug-Resistant *Pseudomonas aeruginosa* Strain After Exposure to a Simulated Microgravity Environment"

Author(s): Bin Zhang, Po Bai, Dapeng Wang, Junfeng Wang

Review Timeline:

Submit Date: 28 Dec 2019
Revised Date: 28 Nov 2020
Accepted Date: 26 Dec 2020

Revision (0)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

Rezvan Moniri: Reviewer | Revision (0)

18 May 2020

Dear AE,
This manuscript reports significant data but the language and the expression in the manuscript are not sufficient.
I recommend that the following action be taken:
- Return to the author for major revisions, outlined below; any revised version should be thoroughly reviewed again.
- In the abstract, the author must summarize why the research was conducted, how it was conducted, and what the major results and conclusions were. The abstract does not state the methods, main findings (results), and the principal conclusion of the study.
- In the introduction section, the author must summarize the problem to be addressed, give background on the subject, discuss previous research done on the effect of SMG condition on the biofilm formation ability of a multidrug-resistant Pseudomonas aeruginosa strain, and explain in no uncertain terms exactly what this paper will address, why, and how. The author must clearly state his hypothesis, and quickly summarize the methods used to investigate that hypothesis. The author should address relevant studies by other researchers; however, a full history of the topic is not needed.

- In the method section, authors should thoroughly describe the methods they used to investigate the problem, and should briefly describe why these methods were used. Any materials used should be documented, and any computer programs used should be discussed.
- In the result section, the author should thoroughly detail the results of the experiments developed in the body of the article. The results should be supplemented by figures and tables, and the figures and tables should be briefly explained.
- In the discussion section, the author should restate the problem he was attempting to address, and summarize how the results have addressed it. The author should discuss the significance of all the results, and interpret their meaning.
- The similarities and differences with other relevant studies are not challenged.
Thanks.

REFEREE: Reviewer | **Revision** (0) 20 May 2020

Dear AE,
The article must be up-dated by using new references (like ref 6) in both the introduction and discussion sections first.
In addition, the public health importance of the study (biofilm formation and it,s effects on human body should be mentioned too (the Figure or diagram is the better. the keywords are not in academic order.
Thanks.

Farhad Safarpoor Dehkordi: Reviewer | **Revision** (0) 3 Jun 2020

Dear AE,
Comments to authors
Manuscript Full Title: Decreased biofilm formation ability of a multidrug-resistant Pseudomonas aeruginosa strain after exposure to a simulated microgravity environment
Well, this is an original work about the biofilm formation ability of a multidrug-resistant Pseudomonas aeruginosa strain after exposure to a simulated microgravity environment. The results showed that, under SMG conditions, multidrug-resistant P. aeruginosa exhibits decreased motility and biofilm formation ability compared with those under MG conditions. Further analysis revealed that the decreased motility and biofilm formation ability could be attributed to the downregulated expression of genes associated with flagellar and type 4 pili biogenesis
However, this is an interesting work but some parts of the study need some revisions.
My decision: Major revision
Comments:
1- Text is full of grammatical and typographical mistakes. Please use a native English speaker person which is an expert in microbiology to revise your text.
2- Please add the section objectives before the method section.
3- Authors said: An antimicrobial susceptibility test showed that it was resistant to ciprofloxacin, amikacin, piperacillin and tazobactam , gentamicin, cefepime, levofloxacin, imipenem, meropenem, tobramycin, and ceftazidime….. Please clarify the exact method used for antimicrobial analysis.

4- Authors said: The original strain of P. aeruginosa was obtained from the sputum sample of a patient with pneumonia…….. How did the bacteria isolate? Please add the exact method.
5- Please add some information about the history of patients.
6- Please add a valid reference for the Growth rate assay.
7- Please add the valid reference for the Swimming motility assay.
8- Please add the valid reference for the Biofilm formation assay.
9- How the quality and quantity of RNA were measured?
10- How the purity of extracted cDNA was measured?
11- Please use higher-quality figures.
12- Please add the ethical consideration section.
13- (Figure …) and (Table …) should change to (figure …) and (table …). Make it throughout the text.
14- The discussion section has some defects. Please complete the introduction part using the explanation about the characters of the topic. Additionally, add some explanation about the fact that why other surveys cannot solve the issue caused that you and your colleague performed this research. Additionally, the novelty of work and also application of the results obtained from this work. Some of your references were old. You should replace them with some novel references. Are there any survey conducted on this field in Iran and some neighboring countries?
15- Please complete the conclusion with some more relevant information about the exact finding of your survey and also their applications.
16- What are the main applications of your research in the field of microbiology based on the clinical view.
Cheers
FSD

Rezvan Moniri: Associate Editor | **Revision** (0) 12 Jun 2020

Dear EIC,
The manuscript is studied, and there are some comments which should be addressed by the author. According to the comments, the document needs major revision.
Kind regards,

REFEREE: EIC | **Revision** (0) 15 Jun 2020

Dear Authors,
Thank you for submitting your manuscript to JJM. I have completed the review of your manuscript and a summary is appended below (Pleases find attached files). The reviewers recommend the reconsideration of your paper following major revision. I invite you to resubmit your manuscript after addressing all reviewer comments. Please answer point by point to reviewer's comments on a separate sheet under WORD format and write your modifications in the revised version (WORD format) in colored or highlighted letters. Your answers to reviewers' queries are not only for the Editorial Board but for the readers and should be included, when appropriate, in the manuscript for improvement and a better understanding.

When resubmitting your manuscript, please carefully consider all issues mentioned in the reviewers' comments, outline every change made a point by point, and provide suitable rebuttals for any comments not addressed. In addition, JJM INSTRUCTION attached to the mail, Pleases find it.

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Thanks.

OPEN PEER REVIEW

Revision (1)

Reply to Reviewers

Ideally, the reviewing process can significantly improve the submitted manuscripts by allowing the authors to take into account the advice of reviewers. Author(s) must reply to all reviewers' comments in a separate Word file, point by point. A "**Reply to Reviewers**" document is submitted along with revised manuscript during submission of revised files, summarizing the changes that the authors made in response to the reviewers' comments. The responses to reviewers' comments specifies how the authors addressed each comment the reviewers made.

You can read the authors' responses to the reviewers' comments in the next page.

Reviewer 1:

1. Your article must be up-dated by using new references (like ref 6) in both introduction and discussion sections first.

Response: Our article has been up-dated using new references in both introduction and discussion sections.

2. In addition, the public health importance of the study (biofilm formation and it's effects on human body should be mentioned too (the Figure or diagram is the better).

Response: Line 158-164. Line 223-228. We have mentioned the public health important of this study.

3. the keywords are not in academic order.

Response: Line 24-25. We have revised the order of the keywords.

Reviewer 2:

Comments:

1- Text is full from grammatical and topographical mistakes. Please use from a native Eng"?

Response: We have revised the manuscript as your suggestion.

2- Please add the section objectives before the method section.

Response: Line 58-60. We have added the section objectives before the method section.

3- Authors said: An antimicrobial susceptibility test showed that it was resistant to ciprofloxacin, amikacin, piperacillin and tazobactam , gentamicin, cefepime, levofloxacin, imipenem, meropenem, tobramycin and ceftazidime….. Please clarified the exact method used for antimicrobial analysis.

Response: Line 67-69.

4- Authors said: The original strain of *P. aeruginosa* was obtained from the sputum sample of a patient with pneumonia…….. How did the bacteria isolated? Please add the exact method.

Response: Line 64-65.

5- Please add some information about the history of patients.

Response: Line 63-64.

6- Please add valid reference for the Growth rate assay.

Response: Line 81.

7- Please add valid reference for the Swimming motility assay.

Response: Line 88.

8- Please add valid reference for the Biofilm formation assay.

Response:Line 93-94.

9- How the quality and quantity of RNA were measured?

Response: Line 105-107.

10- How the purity of extracted cDNA was measured?

Response: Line 110-111.

11- Please use from higher quality figures.

Response: We have revised figures according to your suggestion.

12- Please add the ethical consideration section.

Response: Line 352-353.

13- (Figure …) and (Table …) should change to (figure …) and (table …). Make it throughout the text.

Response: We have changed the titles as your suggestion.

14- Discussion section has some defects. Please complete the introduction part using the explanation about the characters of the topic. Additionally, add some explanation about the fact that why other surveys cannot solve the issue which

caused that you and your colleague performed this research. Additionally, the novelty of work and also application of the results obtained from this work. Some of your references were old. You should replace them with some novel references. Are there any survey conducted on this field in Iran and some neighbor countries?

Response: China has performed space experiment in recent years.

①Line 165-171. We have completed the introduction part using the explanation about the characters of the topic.

②Line 158-164. We have explained the reasons that why we performed this research.

③Line 171-173. We have elaborated the novelty of work and also application of the results obtained from this work.

④ We have added some novel references.

⑤ Recently, some Austrian and Japanese scientists have performed simulated microgravity experiments. They performed experiments about molecular response of *Deinococcus radiodurans* to simulated microgravity explored by proteometabolomic approach. (Ott E, Fuchs FM, Moeller R, Hemmersbach R, Kawaguchi Y, Yamagishi A, et al. doi: 10.1038/s41598-019-54742-6.)

15- Please complete the conclusion with some more relevant information about the exact finding of your survey and also their applications.

Response: Line 219-226.

16- What are the main applications of your research in the field of microbiology based on the clinical view.

Response: Line 226-228.

Reviewer 3:

This manuscript report significant data but the language and the expression in the manuscript are not sufficient. I recommend that the following action be taken:

Return to the author for major revisions, outlined below; any revised version should be thoroughly reviewed again.

1. In the abstract, the author must summarize why the research was conducted, how it was conducted, and what the major results and conclusions were. Abstract dose not state the methods, main findings (results) and the principle conclusion of the study.

Response: We have revised the abstract as your suggestion.

2. In introduction section, the author must summarize the problem to be addressed, give background on the subject, discuss previous research done on the effect of SMG condition on the biofilm formation ability of a multidrug-resistant *Pseudomonas aeruginosa* strain, and explain in no uncertain terms exactly what this paper will address, why, and how. The author must clearly state his hypothesis, and quickly summarize the methods used to investigate that hypothesis. The author should address relevant studies by other researchers; however, a full history of the topic is not needed.

Response: We have revised the introduction section as your suggestion.

3. In method section, authors should thoroughly describe the methods they used to investigate the problem, and should briefly describe why these methods were used. Any materials used should be documented, and any computer programs used should be discussed.

Response: We have revised the method section as your suggestion.

1. In result section, the author should thoroughly detail the results of the experiments developed in the body of the article. The results should be supplemented by figures and tables, and the figures and tables should be briefly explained.

Response: We have revised the result section as your suggestion.

2. In discussion section, the author should restate the problem he was attempting to address, and summarize how the results have addressed it. The author should discuss the significance of all the results, and interpret their meaning. The similarities and differences with other relevant studies are not challenged.

Response: We have revised the discussion section as your suggestion.

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Revision (1)

Here, you can see the **Reviewers**, **Associate Editors** and **EICs'** comments from the beginning to the end of the revision process.

REFEREE: Associate Editor | **Revision** (1) 26 Dec 2020

Dear EIC
The manuscript is completely revised according to reviewer comments by authors and it is acceptable for publishing.
Regards

REFEREE: EIC | **Revision** (1) 26 Dec 2020

Dear authors
According to the associated editor report, your manuscript is accepted for publishing in JJM and sent to the publisher for the next process.
Note:
Please add ORCID number into you and your collages account, then automatically appear in your published papers in JJM both in HTML and pdf. For more details:
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Thanks.