

PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 71036

Title: Antibiotics, gut microbiota and irritable bowel syndrome: what are the relations?

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05264112

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: China

Author's Country/Territory: Russia

Manuscript submission date: 2021-08-24

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-08-30 03:02

Reviewer performed review: 2021-08-30 03:19

Review time: 1 Hour

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous



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statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

it's a interesting article, written in an adequate and concise way.

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Title: Antibiotics, gut microbiota and irritable bowel syndrome: what are the relations?

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 03793463

Position: Editorial Board

Academic degree: PhD

Professional title: Assistant Professor

Reviewer's Country/Territory: South Korea

Author's Country/Territory: Russia

Manuscript submission date: 2021-08-24

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-09-29 02:15

Reviewer performed review: 2021-10-05 05:07

Review time: 6 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input checked="" type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input checked="" type="checkbox"/> Grade D: Rejection
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Re-review	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Reviewer comments for 71036 (Manuscript ID) from WJG: This manuscript summarizes the relationships among the antibiotic, gut microbiota, and irritable bowel syndrome. Although the review is interesting, there are still lots of issues that need to figure out, details as follows: 1. The conclusion is not clear. If antibiotics are a friend or foe for IBS? 2. No appropriate statistical methods were used in the study. 3. The authors should summarize the mechanisms and pathways, including how to gut microbiota inference IBS and how IBS changes the gut microbiota? 4. Don't mix the "gut microbiota" and "gut microbiome" in the manuscript. 5. Lots of minor errors exist, like p-value miss, abbreviation, etc.

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Manuscript NO: 71036

Title: Antibiotics, gut microbiota and irritable bowel syndrome: what are the relations?

Provenance and peer review: Unsolicited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05194092

Position: Associate Editor

Academic degree: MSc, PhD

Professional title: Professor

Reviewer's Country/Territory: China

Author's Country/Territory: Russia

Manuscript submission date: 2021-08-24

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-09-30 11:15

Reviewer performed review: 2021-10-08 01:38

Review time: 7 Days and 14 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

The paper “Antibiotics, gut microbiota and irritable bowel syndrome: what are the relations?” presents a review about the relationships among antibiotics, gut microbiota and irritable bowel syndrome. However, the authors failed to provide an in-depth analysis of the link between antibiotic and IBS development. Furthermore, the paper mainly presented some simple description without the author's viewpoints. Overall, it could be reconsidered with major revision. Below are general comments followed by specific points that authors should clearly address.

1. The background information of the “Introduction” is not sufficient which should be enriched to strengthen the significance of the paper. For example, the author should supplement the necessary information about why should we pay attention to the roles of gut microbiota in IBS development. Besides, the logic is very obscure which should be rearranged. The transitions between paragraphs aren't fluid.
2. In the section of “MODERN CONCEPT OF IRRITABLE BOWEL SYNDROME: THE EVOLVING ROLE OF GUT MICROBIOME”, the author stated that “The concept of “microbiota-gut-brain” axis has been proposed [42-45], supporting the crucial role of microbial dysbiosis in the development of IBS symptoms.” However, the author failed to illustrate the relationship between “microbiota-gut-brain” axis and IBS. Please clarify the statement.
3. In the section of “Microbiota and motility/sensitivity abnormalities”, the full text is a simple description of the references and the conclusion is not clear.
4. In the section of “Microbiota as a regulator of stress and emotional responses”, the author illustrates the role of gut microbiota in stress and emotional responses, and briefly describes the possible symptoms of stress in the IBS patient. However, the key point that How microbiota influence the stress responses and IBS pathology wasn't clarified.
5. In the section of “Microbiota and host immunity”, the

author expounds the relationship between IBS and immune system, and the role of gut bacteria in immune response, but the logic is not strong. The author should focus on the role of gut bacteria in immune response in the context of IBS. 6. In the section of “Microbiota and intestinal barrier integrity”, since the behavior of gut microbiota will be different under the different physiology status, the author should focus on how gut bacteria regulate intestinal epithelial barrier integrity in the context of IBS. 7. Some contents in the manuscript just simply list the abstracts of references. For instance, in the section of “ANTIBIOTICS, GUT MICROBIOTA AND IRRITABLE BOWEL SYNDROME”. A review paper should provide an experts' perspective, not a list of findings from the abstracts of the cited articles. 8. The section of “Conclusion” lacks effective summary and failed to propose perspective for future work on the topic.

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Peer-review model: Single blind

Reviewer's code: 05754827

Position: Peer Reviewer

Academic degree: PhD

Professional title: Deputy Director

Reviewer's Country/Territory: China

Author's Country/Territory: Russia

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Review time: 19 Days and 2 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

Conflicts-of-Interest: [] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

Mamieva et al have summarized the relationship between the use of antibiotics, gut microbiota and IBS. They also included some studies related to Immune regulation through gut microbiota. Although the manuscript has been nicely written and presented, I have concerns which need to be addressed before publication. Following points need to be addressed. Please define IBS properly in Abstract. Are there any clinical drug trials on IBS or supplementation of specific microbes, such as GLP-1 or Serotonin inhibitors or activators for respective IBS types. Let's suppose GLP-1 is found low in IBS-C, while serotonin level is elevated in IBS-D, what if inhibiting or promoting levels of these molecules could control symptoms? If any clinical studies are available, how do these or other effects affect IBS and gut microbiota. Please provide more animal models' evidence for gut microbiota regulating mood and emotional stress, better describe in detail specifically levels of stress related hormones in IBS mice etc. It is believed that stress is a secondary effect triggered due to IBS (any cause), please state any difference of stress hormones in bacterial IBS or other causes. A thorough check is needed for language errors. The use of some antibiotics favour the growth of some of bacteria such as (amoxicillin, amoxicillin/clavulanate, cephalosporins, lipopolyglycopeptides, macrolides, ketolides, clindamycin, tigecycline, quinolones and fosfomycin) increase the abundance of Enterobacteriaceae, mainly *Citrobacter* spp., *Enterobacter* spp. and *Klebsiella* spp etc. How do authors explain it? Beneficial for gut microbiota and IBS? Could these or other antibiotics be used in IBS? Any remarks about safety of the antibiotics in IBS. Please also describe how to recover the IBS, thorough probiotics and medicines. Please provide your concluding remarks based on your analysis of the literature for every headings of the manuscript, so it could make this

manuscript more reader friendly. Please also provide the future prospects and recommendations. Both figures are related to the immune regulation, authors should draw an overall schematic figure for IBS, show readers how antibiotics influence the gastric system and trigger IBS.