

## PEER-REVIEW REPORT

**Name of journal:** *World Journal of Gastroenterology*

**Manuscript NO:** 80217

**Title:** Bile acids and microbes in metabolic disease

**Provenance and peer review:** Invited Manuscript; Externally peer reviewed

**Peer-review model:** Single blind

**Reviewer's code:** 03372482

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Academic Research, Assistant Professor, Associate Professor

**Reviewer's Country/Territory:** Egypt

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2022-09-20

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-09-21 07:09

**Reviewer performed review:** 2022-09-21 07:26

**Review time:** 1 Hour

<b>Scientific quality</b>	<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 Grade E: Do not publish
<b>Language quality</b>	<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
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer</b>	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous

## SPECIFIC COMMENTS TO AUTHORS

Bile acids (BAs) serve as physiological detergents and enable the intestinal absorption and transportation of nutrients, lipids, and vitamins. BAs are produced primarily by humans to catabolize cholesterol and render crucial roles in gut metabolism, microbiota habitat regulation, and cell signaling. BA-activated nuclear receptors regulate the enterohepatic circulation of BAs, which play a role in the metabolism of energy, lipids, glucose, and drugs. The gut microbiota plays an essential role in the biotransformation of BAs and regulates BAs composition and metabolism. Therefore, alteration in gut microbial and BAs activity can alter human metabolism, and thus result in altered metabolic pathways and metabolic diseases/metabolic syndromes, such as diabetes mellitus, obesity/hypercholesterolemia, and cardiovascular diseases. BAs and their metabolites are used to treat altered gut microbiota and metabolic diseases. This review explores the growing body of evidence that links alterations in gut microbial activity and BAs with the pathogenesis of metabolic diseases. We summarize the research on gut microbes and BAs on intracellular pathways that are pertinent to metabolic disorders. Finally, we discuss how therapeutic interventions with BAs facilitate microbiome functioning and ease metabolic diseases. In General: it's a good paper and the subject of the manuscript is applicable and useful. Title: the title properly explains the purpose and objective of the article Abstract: abstract contains an appropriate summary for the article, the language used in the abstract is easy to read and understand, and there are no suggestions for improvement. Introduction: authors do provide adequate background on the topic and reason for this article and describe what the authors hoped to achieve. Results: the results are presented clearly, the authors provide accurate research results, and there is sufficient evidence for each result. Conclusion: in general: Good and the



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research provides sample data for the authors to make their conclusion. Grammar: Need Some revision. (Check The Paper Comments). Please provide and edit the following information in the Paper 1. Some references without DOI. 2. Writing references according to the terms of the journal 3. Reduce the abstract to less than 250 words. 4. Reduce the number of references. 5. The result and discussion must be in one paragraph. Finally, this was an attractive article. In its current state, it adds much new insightful information to the field. Therefore, I accept that paper to be published in your journal.

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**Reviewer's code:** 05355947

**Position:** Peer Reviewer

**Academic degree:** MD, PhD

**Professional title:** Professor

**Reviewer's Country/Territory:** China

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2022-09-20

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2022-09-25 09:38

**Reviewer performed review:** 2022-10-05 09:15

**Review time:** 9 Days and 23 Hours

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

statements

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

## SPECIFIC COMMENTS TO AUTHORS

Bile acids and gut microbiota are now two important topics researched in metabolic disease, such as T2DM, obesity. Plenty of papers about these two topics have been published, and it is time to review and summarize those papers and results. This manuscript aimed this two topics and reviewed the latest published papers, summarized the changes of bile acids and gut microbiota in metabolic disease and discussed the potential mechanisms. Here I have some concerns about the manuscript: 1.The topic discussed in this manuscript contains two big important areas: bile acids and gut microbiota in metabolic disease. It is difficult to discuss these two topic in one paper. The subjects summarized in this manuscript is detailed while inadequate, so I think it is better to discuss bile acids or gut microbiota in one paper respectively. 2.Most of this manuscript is literature stacking, we cannot get their own idea in this manuscript clearly; 3.In part "BILE ACID METABOLITES ALLEVIATES THE METABOLIC DISEASES ", the authors discussed the bile acid sequestrants, not metabolites. We also suggest discussion of bile acids spieces, like CDCA, DCA, etc. 4.As we all know that the changes of bile acids and gut microbiota are also two important mechanisms in the alleviation of T2DM and obesity after bariatric surgery. So the authors should not ignore this field.

## RE-REVIEW REPORT OF REVISED MANUSCRIPT

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**Reviewer's Country/Territory:** Egypt

**Author's Country/Territory:** South Korea

**Manuscript submission date:** 2022-09-20

**Reviewer chosen by:** Han Zhang

**Reviewer accepted review:** 2022-11-10 07:28

**Reviewer performed review:** 2022-11-10 07:44

**Review time:** 1 Hour

<b>Scientific quality</b>	<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
<b>Language quality</b>	<input checked="" 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 type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<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
<b>Peer-reviewer statements</b>	Peer-Review: <input type="checkbox"/> Anonymous <input checked="" type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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#### **SPECIFIC COMMENTS TO AUTHORS**

Bile acids (BAs) serve as physiological detergents and enable the intestinal absorption and transportation of nutrients, lipids, and vitamins. BAs are produced primarily by humans to catabolize cholesterol and render crucial roles in gut metabolism, microbiota habitat regulation, and cell signaling. BA-activated nuclear receptors regulate the enterohepatic circulation of BAs, which play a role in the metabolism of energy, lipids, glucose, and drugs. The gut microbiota plays an essential role in the biotransformation of BAs and regulates BA composition and metabolism. Therefore, alteration in gut microbial and BA activity can alter human metabolism, and thus result in altered metabolic pathways and metabolic diseases/metabolic syndromes, such as diabetes mellitus, obesity/hypercholesterolemia, and cardiovascular diseases. Furthermore, BAs and their metabolites are used to treat the altered gut microbiota and metabolic diseases. This review explores the growing body of evidence that links alterations in gut microbial activity and BAs with the pathogenesis of metabolic diseases. Additionally, we summarize the research on gut microbes and BAs to intracellular pathways that are pertinent to metabolic disorders. Finally, we discuss how therapeutic interventions with BA facilitate microbiome functioning and alleviate metabolic diseases. this was an attractive article. In its current state, it adds much new insightful information to the field. Therefore, I accept that paper to be published in journal.