



PEER-REVIEW REPORT

Name of journal: *World Journal of Diabetes*

Manuscript NO: 100376

Title: Investigating the Influence of Gut Bacteria on T2DM: Mechanisms and Therapeutic Strategy

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer’s code: 08290008

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer’s Country/Territory: Reviewer_Country

Author’s Country/Territory: China

Manuscript submission date: 2024-08-14

Reviewer chosen by: Shang Wu

Reviewer accepted review: 2024-09-13 07:57

Reviewer performed review: 2024-09-16 03:01

Review time: 2 Days and 19 Hours

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 Grade E: Do not publish
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
Creativity or innovation of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No creativity or innovation



Scientific significance of the conclusion in this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No scientific significance
Language quality	<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
Conclusion	<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
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

This manuscript is a review article that delves into the relationship between gut microbiota and Type 2 Diabetes Mellitus (T2DM), exploring the connection between the gut microbiome and T2DM, as well as the impact of dysbiosis on the host's metabolic processes. The article also proposes innovative therapeutic strategies targeting the gut microbiota and assesses the challenges and future directions of these approaches. Based on the research by Jeyaraman M et al., published in the World Journal of Diabetes, the manuscript provides an in-depth analysis of the relationship between gut microbiota and T2DM. The research foundation is solid, with multiple relevant studies cited, demonstrating a strong scientific background. The article employs a literature review method, integrating existing research findings to provide a comprehensive discussion on the relationship between gut microbiota and T2DM. However, as a review article, the absence of original experimental data is understandable. The manuscript proposes innovative therapeutic strategies targeting the gut microbiota, such as the use of probiotics, fecal microbiota transplantation, and dietary adjustments, all of which are current research hotspots. The article discusses the relationship between gut microbiota



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and T2DM from multiple perspectives, including microbiology, immunology, and metabolism, showcasing an interdisciplinary research approach. The article is well-structured, with a standard format, clear hierarchy, and smooth language. The literature materials are rich and detailed, covering the main literature related to this study. The writing is serious and logical, with conclusions and recommendations that have practical significance. The article discusses in detail the impact of specific gut microbiota species on T2DM, such as *Lactobacillus*, *Bifidobacterium*, and *Faecalibacterium prausnitzii*, providing new perspectives for understanding the relationship between gut microbiota and T2DM. It also explores novel concepts such as the gut-skin axis, gut-brain axis, and gut-kidney axis, offering new frameworks for understanding how gut microbiota affects overall health. The authors emphasize the gut microbiota as a new target for T2DM treatment, which is of significant scientific importance for developing new therapeutic strategies. The viewpoints presented support the concept of personalized medicine, aiming to achieve personalized treatment of T2DM by modulating the gut microbiota. The article is clearly expressed, logically strong, and easy to understand. It uses professional scientific terminology suitable for the target audience. There are no apparent grammatical or spelling errors, and the language quality is high. Suggestions for improvement include: 1. If possible, include some specific case studies to demonstrate the application of gut microbiota intervention in actual treatment. 2. Further explore the mechanisms by which the mentioned probiotics and *Bifidobacterium* affect other organs such as the kidneys, muscles, and brain, and provide a schematic diagram of the mechanisms of specific gut microbiota to make the mechanisms clearer and more understandable. 3. In the conclusion, the authors emphasize the importance of integrating microbiome research into the broader context of diabetes management. A more detailed discussion of the study's limitations and future research directions for gut microbiota treatment of diabetes could provide a more



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comprehensive perspective.



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Reviewer's code: 08198617

Position: Peer Reviewer

Academic degree: MD

Professional title: Docotr

Reviewer's Country/Territory: Egypt

Author's Country/Territory: China

Manuscript submission date: 2024-08-14

Reviewer chosen by: Hong-Xin Jiang

Reviewer accepted review: 2024-09-28 20:35

Reviewer performed review: 2024-10-05 10:18

Review time: 6 Days and 13 Hours

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
Novelty of this manuscript	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Good <input type="checkbox"/> Grade C: Fair <input type="checkbox"/> Grade D: No novelty
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Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous
	Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The study offers a unique and valuable contribution to the T2DM, providing new insights into the mechanisms and therapeutic strategy of influence of gut bacteria on T2DM. The author effectively outlines the scope and objectives of the study, ensuring a focused and targeted exploration of the topic. The sections are arranged in a clear and sequential order, ensuring a smooth flow of information. The aim of the research is a strong and well-defined. The topic of gut bacteria and T2DM is a significant area of current research, with potential implications for disease prevention and treatment. The title accurately reflects the content of the paper, informative, providing a clear indication of the focus of the research. The abstract is well-structured, leading the reader from the study's purpose to its main findings in a logical and coherent manner. The keywords are relevant to the research question and provide a useful index for potential readers. The introduction clearly states the research question and its significance, providing a strong rationale for the study. The explanation and interpretation of the data provides a clear and comprehensive analysis of the findings, focusing on the specific implications of the findings, presenting the key points in a clear and logical manner. The references and



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citations are well-supported, providing strong evidence for the claims made in the paper. The figure and table are presented in a clear and consistent manner also, effectively convey the key points of the paper, but in figure (1), there are some overlaps between the words and numbers which make it not clear. There are a lot of abbreviations used with no need, their terms mentioned only one time in the manuscript (eg: BBB, EECs,). Based on the previous comments, the paper is of high quality, well-crafted and informative paper and strongly recommend acceptance for publication.