

PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 73597

Title: Effect of ancient Khorasan wheat on gut microbiota, inflammation and short-chain fatty acids' production in patients with fibromyalgia

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05867627

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Portugal

Author's Country/Territory: Italy

Manuscript submission date: 2021-11-26

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-12-02 11:10

Reviewer performed review: 2021-12-03 16:47

Review time: 1 Day and 5 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 Grade E: Do not publish
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 checked="" type="checkbox"/> Accept (General priority) <input 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: [☒] Anonymous [☐] Onymous

Conflicts-of-Interest: [☐] Yes [☒] No

SPECIFIC COMMENTS TO AUTHORS

In recent times, the intestinal microbiota has been increasingly associated with a huge diversity of phenomena in the human body, and for this reason it would not be surprising that it was also related to musculoskeletal problems such as fibromyalgia. In this study, the authors try to examine whether a replacement diet with Khorasan wheat could influence the gut microbiota composition, the fecal molecular immune profile and SCFAs production in patients with fibromyalgia and the results were very promising. For the analysis, feces were collected at an initial and a final moment, and a lot of tests were carried out, for a detailed analysis. Despite some limitations that the authors explored in the manuscript, the results came out positive, with some gut microbiota modifications that positively correlates with an improvement of fibromyalgia symptomatology. Overall, a great study that can introduce new discoveries in the science field for future research.

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Provenance and peer review: Invited 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: Italy

Manuscript submission date: 2021-11-26

Reviewer chosen by: AI Technique

Reviewer accepted review: 2021-12-06 08:48

Reviewer performed review: 2021-12-17 04:27

Review time: 10 Days and 19 Hours

Scientific quality	<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
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
Conclusion	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input checked="" type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Peer-reviewer
statements**

Peer-Review: [☒] Anonymous [☐] Onymous

Conflicts-of-Interest: [☐] Yes [☒] No

SPECIFIC COMMENTS TO AUTHORS

It is well-known that microbiota dysbiosis is closely associated with numerous diseases in the human body. This study explored the effects of ancient Khorasan wheat on gut microbiota, inflammation and short-chain fatty acids' production in Fibromyalgia (FM) patients. The work in here has a good reference significance for the related research for the prevention and treatment in FM. Although the results seem interesting, they show correlations rather than causations. Moreover, the logic and elucidation of results in the current form is not really good.

1. Providing a workflow will make clearer for understanding the experimental design and analysis. Figure 1 is too simple, consider adding a workflow.
2. In the results of abstract section, more detail data of this study should be given.
3. Format errors were noticed. For example, required spaces between numbers and units, "5min", "10mM", "p=0.041"; "ml" and "mL"; "IFN- " should be "IFN-γ". These are just to give some examples. Please make a strong effort to avoid any of these errors.
4. Please unify the number writing, significant digits and space. For example, "p=0.041", "p= 0,0547", "6,61±10,94" and "shFC= 0.969, p= 0,0140", "84,94838", "1.5 mL", "p =2.03e-05", "FM subjects3 4" and "groups7,8", etc.
5. Please provide high resolution images for the Figure 2.
6. In the result section, the specific data (e.g. interquartile range, IQR) should be added to illustrate the results.
7. Please unify the table legends and figure legends. For example, "CD0= pre- control-wheat diet, CD1= post- control-wheat diet, KD0= pre- Khorasan-wheat diet, KD1= post- Khorasan-wheat diet" and "C0= pre- control-wheat diet, C1= post- control-wheat, K0= pre- Khorasan-wheat diet, K1= post- Khorasan-wheat diet".
8. The method and results of study population are not enough. For information on the interpretation of the table and figure,



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the content of discussion was insufficient. We hope the author can further analyze and think about the conclusion. 9. Minor errors in the references were noticed. For example, the initial letter of cited reference's title was not uniform: "The GC-MS metabolomics signature in patients with fibromyalgia syndrome directs to dysbiosis as an aspect contributing factor of FMS pathophysiology.", "T Cell Subpopulations in the Physiopathology of Fibromyalgia: Evidence and Perspectives. ". The format of journal names was not uniform: "Food Research International" should be "Food Res Int". Overall, this manuscript still doesn't seem fit for publication in World Journal of Gastroenterology.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 73597

Title: Effect of ancient Khorasan wheat on gut microbiota, inflammation and short-chain fatty acids' production in patients with fibromyalgia

Provenance and peer review: Invited 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: Italy

Manuscript submission date: 2021-11-26

Reviewer chosen by: Han Zhang (Online Science Editor)

Reviewer accepted review: 2022-02-14 05:45

Reviewer performed review: 2022-02-15 07:31

Review time: 1 Day and 1 Hour

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
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
Peer-reviewer	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous

statements

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

SPECIFIC COMMENTS TO AUTHORS

After revision, the content of this manuscript has been relatively complete. However, there are still some issues with the current form of the manuscript as indicated below: Minor revision for consideration. 1.Format errors still need to be noticed. For example, “p< ” should be “p < ”, “P = ” should be “p =”. 2.Minor errors in the references were noticed. For example, the initial letter of cited reference’s title was not uniform: “Ref 44: The Influence of Pro-inflammatory Cytokines and Genetic Variants in the Development of Fibromyalgia: A Traditional Review”, as well as the references 1, 2, 9, 10, 12, 14, 19, 23, 24, 27, 28, 37, 39 and 40. The format of journal names was not uniform: Ref 32 “Food Res IntFood Research International” should be “Food Res Int”; Ref 46 “Expert Opin Ther Targets” should be “ Expert Opin Ther Tar”. In the figure of PCoA, when the number of samples in each group is greater than four, circles might be drawn to better illustrate the differences among groups.