

Manuscript NO.: 89723, Basic Study

Time-dependent impact of a high-fat diet on the intestinal barrier of male mice

World Journal of Methodology

Dear editor,

I am glad to submit the revised version of the manuscript. In this new version, we added the article highlights and made the modifications suggested by the reviewer, which are highlighted to facilitate the identification. We also provided, as requested, the certificate of English revision, the conflict-of-interest form, the copyright, grant approvals, and a PowerPoint file with all the figures.

We believe that the suggestions improved the message that we want to give to the readers of the *World Journal of Methodology*.

Looking forward to a reply at your convenience, I remain.

Yours sincerely,



Vanessa Souza-Mello, Ph.D.

Reviewer #1:

Scientific Quality: Grade D (Fair)

Language Quality: Grade C (A great deal of language polishing)

Conclusion: Major revision

Specific Comments to Authors:

To evaluate the chronic effect (10 and 16 weeks) of a high-fat diet (50% energy as fat) on phylogenetic gut microbiota distribution and the structure and protection of the intestinal barrier in C57BL/6 mice. What are the original findings of this manuscript? What are the new hypotheses that this study proposed?

Response: We are grateful for the opportunity to improve our manuscript with the English revision by a native speaker. We added the original findings of this study to the conclusion section (Page 14) and the article highlights (Pages 14 and 15). Also, we added our hypothesis to the end of the introduction section (Page 5). We hope that these modifications fulfill your requests.

Revision reviewer

Specific comments to authors

There is great interest in the scientific community on the impact of unhealthy eating habits, such as excess saturated fatty acid intake, on the gut microbiota composition and metabolic disease onset. Here, we evaluated the progressive changes in the intestinal structural barrier and gut microbiota composition in mice fed a high-fat diet for 10 or 16 weeks. A high-fat diet yielded gut dysbiosis, compensatory enhancement of goblet cell numerical density, and Mucin2 expression after 10 weeks. Continuous feeding reduced the goblet cell number and the expression of Mucin2 and occludin, consistent with the impaired tight junction ultrastructure in the chronically obese high-fat diet-fed mice after 16 weeks.

Response: We are grateful for your interest in our study. We hope this revised version reaches the English level necessary for publication.