

Basic Reporting

I have reviewed the manuscript titled "Examination of a novel dietary fiber formulation on morphology and nutritional physiology of young male Sprague-Dawley rats fed a high fat diet" The study addresses an important topic and is generally well-structured, with clear aims and comprehensive methodology.

The manuscript follows a logical structure, clearly presenting the hypothesis, methodology, and results. The well-organized sections make the paper easy to follow and scientifically rigorous.

The study introduces a unique dietary fiber complex combining several functional ingredients, contributing new insights to the field of nutritional science, particularly in high-fat diets.

The research was conducted in full compliance with ethical guidelines approved by the Institutional Animal Care and Use Committee (IACUC). Animal welfare was prioritized, and humane euthanasia procedures were used.

The tables, figures, and charts are well-organized and present data. The statistical analyses are sound and appropriate for the study's objectives, making the results easily interpretable.

I would recommend that please conduct a final proofread to catch minor grammatical errors or awkward phrasing.

Experimental design

Authors, please insure that's

The study effectively examines the short-term effects of the novel fiber complex.

The authors suggest that future studies consider extending the study duration beyond six weeks and experimenting with higher or varied fiber, which could reveal additional, long-term health benefits and clarify dose-dependent effects.

The comparison between high-fat and fiber-supplemented groups is valuable.

Including a fiber-depleted control group could provide additional insights into how fiber alone contributes to metabolic health, improving the interpretability of results.

The statistical methods used are appropriate and robust for the data presented.

Including effect sizes alongside p-values would help us better understand the practical significance of the findings, making the conclusions more impactful for future research.

Validity of the findings

The discussion critically reflects on the results, acknowledging the study's limitations while providing well-grounded conclusions. The authors appropriately recognize that the fiber complex did not prevent certain metabolic conditions but suggest reasonable areas for future investigation.

Delving deeper into the mechanisms by which individual fibers work and providing a more detailed comparison with conflicting evidence from prior studies further enhance the depth of the discussion.

The study adds valuable data to dietary fiber research, particularly in understanding how fiber formulations may impact metabolic health in the context of high-fat diets.

A more explicit discussion of how the results could inform future human studies or dietary guidelines would enhance the research's practical relevance.

Additional

The manuscript is written in professional language and is accessible to a broad scientific audience.

Simplifying some of the more complex sentences in the discussion and adding a concise summary of key results would improve readability for a wider audience.