



PEER-REVIEW REPORT

Name of journal: *World Journal of Diabetes*

Manuscript NO: 111008

Title: Effects of tailored exercise on glycemic and nutritional outcomes in diabetic patients with colorectal cancer and on chemotherapy

Provenance and peer review: Unsolicited manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer’s code: 07917309

Position: Peer Reviewer

Academic degree and professional title: Assistant Professor, PhD

Reviewer’s Country/Territory: Swaziland

Author’s Country/Territory: China

Manuscript submission date: 2025-07-04

Reviewer chosen by: Jia-Lin Zhang

Reviewer accepted review: 2025-07-08 02:48

Reviewer performed review: 2025-07-17 02:51

Review time: 9 Days

Content to be reviewed	<p>Does the manuscript’s content fall within the scope of the journal? Yes</p> <p>Is there any Key Word that is not included in the manuscript title? No</p> <p>Do authors’ affiliations correspond to the content of the manuscript? Yes</p> <p>Does the Abstract contain the contents of each part of the manuscript (IMRaD)? Yes</p> <p>Are the Key Words complete? Yes</p>
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Is the content of the Introduction adequate? **Yes**

Is the content of the Materials and Methods complete?

Yes

Is the description of the experiments clear and complete? **Yes**

Are the experimental data presented in the manuscript's biostatistics content reliable? **Yes**

Are the experimental data of the Results true and reliable? **Yes**

Are the quality and resolution of the images up to standard? **Yes**

Do the selection and design of the figures and tables follow the principles of necessity and clarity? **Yes**

Is there any duplication between various parts of the manuscript and between the main text and the content presented in the figures and tables? **No**

Are the figures and tables numbered consecutively in the order in which they appear in the manuscript? **Yes**

Is the content of the Discussion reasonable? **Yes**

Is the Conclusion reasonable? **Yes**

Are all references necessary and reasonable? **Yes**

Do authors omit important references? **No**

Are all references related to the topic of the manuscript? **Yes**

Do authors only cite their own earlier publications? **No**

Is the manuscript's text correct, concise, and clear? **Yes**

Will the manuscript's content be of interest to readers?
Yes

Are additional experiments needed for the study? **No**

Does the research scope comply with ethics? **Yes**



Scientific quality	Grade B (Very good)
Novelty of this manuscript	Grade C (Good)
Creativity or innovation of this manuscript	Grade C (Good)
Scientific significance of the conclusion in this manuscript	Grade B (Very Good)
Language quality	Grade B (Very good)
Does this manuscript describe a study of the existing knowledge system?	Yes
Does this manuscript report a revolutionary innovation?	No
Does this manuscript report an unconventional innovation?	Yes
Conclusion	Minor revision
Re-review	Yes
Peer-reviewer statements	Peer-Review: Anonymous
	Conflicts-of-Interest: No
Are your review comments generated by AI tools?	No

SPECIFIC COMMENTS TO AUTHORS

This study used a retrospective cohort analysis to investigate the effects of personalized exercise intervention on glycemic control, nutritional status, and intestinal permeability in patients with type 2 diabetes undergoing colorectal cancer chemotherapy. The results showed that personalized exercise training (IET) was superior to standard care (SC) in improving fasting blood glucose, hemoglobin A1c, nutritional markers, and intestinal barrier function, without increasing the risk of adverse events. The study focuses on the high-risk population of “diabetes + colorectal cancer chemotherapy,” making the topic



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selection clinically significant. I believe this is an excellent paper. The study design is well-structured, with the authors comparing standardized care (SC) and personalized exercise training (IET) through a retrospective cohort analysis, and the control group is appropriately set. The selection of indicators is comprehensive: it simultaneously focuses on blood glucose control (HbA1c, blood glucose fluctuations), nutritional indicators (albumin, prealbumin, etc.), and intestinal barrier function, reflecting a multidimensional effect. However, there are also some areas that require improvement. Insufficient basis for individualization: The paper states that the protocol is based on “patient physiological status customization,” but does not specify how exercise parameters are adjusted based on cancer stage, chemotherapy regimen, or diabetes complications (e.g., whether patients with TNM stage III require reduced intensity). Among intestinal permeability indicators, the elevated LBP in the IET group contradicts the conclusion of “improved intestinal barrier function,” necessitating further discussion of mechanisms, such as whether exercise temporarily increases intestinal permeability (e.g., due to blood flow redistribution causing ischemia) or whether the testing time coincided with an inflammatory response window. Since patients with cardiovascular, hepatic, or renal diseases (who constitute the majority of the chemotherapy population) were selectively excluded during subject selection, and all ECOG scores were ≤ 2 , the conclusions of this study may only apply to populations with better physical fitness. This limitation should be clearly stated in the discussion.



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Reviewer's Country/Territory: United Kingdom

Author's Country/Territory: China

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Reviewer chosen by: Jia-Lin Zhang

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Content to be reviewed	Does the manuscript's content fall within the scope of the journal? Yes Is there any Key Word that is not included in the manuscript title? No Do authors' affiliations correspond to the content of the manuscript? Yes Does the Abstract contain the contents of each part of the manuscript (IMRaD)? Yes Are the Key Words complete? Yes
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Does this manuscript report an unconventional innovation?	Yes
Conclusion	Minor revision
Re-review	No
Peer-reviewer statements	Peer-Review: Anonymous
	Conflicts-of-Interest: No
Are your review comments generated by AI tools?	No

SPECIFIC COMMENTS TO AUTHORS

This study compared the effects of personalized exercise training with standard care in patients with colorectal cancer undergoing chemotherapy and type 2 diabetes, confirming the advantages of personalized exercise in improving glycemic control, nutritional status, and intestinal permeability. The authors innovatively incorporated glycemic variability into the assessment, as traditional HbA1c is unable to reflect acute glycemic fluctuations during chemotherapy, while parameters such as ASV and SD better capture short-term glycemic changes, providing more sensitive indicators for



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clinical adjustments to glycemic control regimens. By focusing on the association between intestinal permeability and metabolism/nutrition, this study used indicators such as zonulin and occludin to reveal that exercise may indirectly promote nutrient absorption by improving intestinal barrier function. This provides preliminary evidence for the mechanism of the “exercise-gut-metabolism” axis and offers new strategies for the comprehensive management of such patients. The study design is clear, the data presentation is comprehensive, and the conclusions have certain clinical implications. Main comments: (1) The exercise regimen developed in this study has poor practicality. Daily abdominal massage (5 times) plus lower limb training (5 times, totaling ≥ 60 minutes) may have low compliance among chemotherapy patients. It is recommended to simplify the regimen (e.g., retain the most effective exercises) or provide compliance data. (2) The heterogeneity of chemotherapy regimens was not controlled. Different chemotherapy drugs (e.g., oxaliplatin, capecitabine) have varying effects on blood glucose and nutrition, yet the study did not analyze the interaction between chemotherapy regimens and exercise outcomes. (3) The follow-up period was short (only 2 weeks), making it impossible to assess the impact of exercise on long-term blood glucose control (e.g., HbA1c after 3 months) and tumor prognosis (e.g., disease-free survival), thereby weakening the clinical value of the study. (4) The mechanisms underlying improved nutritional status are inadequately explained, attributed solely to “increased appetite and enhanced protein synthesis,” without incorporating objective indicators such as muscle mass or grip strength. This makes it difficult to distinguish whether the improvement stems from increased intake or enhanced absorption. It is recommended that future studies incorporate additional measures of muscle mass (e.g., via bioimpedance analysis) and subjective overall nutritional assessment (PG-SGA) to provide a more comprehensive explanation of the causes of improved nutritional status.