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Enhancing Cognitive Abilities and Delaying Cognitive Decline in the Elderly through Exercise-based Health Management Systems


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R e v i e w e r s

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1. Round 1

1.1 Reviewer 1

Reviewer:

The introduction could be improved by providing a deeper background on the links between gut microbiota, exercise, and cognitive health. This would offer readers a more comprehensive understanding of the study's context.

The presentation of results, particularly in tabular form, could be more organized. For instance, summarizing the main findings related to each type of exercise in separate tables might improve clarity.

While the study discusses the limitations of the systematic review, it could further elaborate on the limitations of the methods used in the primary studies reviewed, such as small sample sizes or short intervention periods, and how these might affect the review's conclusions.

The manuscript would benefit from more detailed suggestions for future research, such as specific areas where gaps in knowledge exist or potential methodological improvements for studying the exercise-GM-cognitive health nexus.

Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The manuscript could benefit from a clearer structure, particularly in the results section. The division between the effects of different types of exercise (aerobic, resistance, and combined training) on GM could be more distinct to enhance readability and comprehension.

While the manuscript briefly mentions the potential mechanisms through which exercise affects GM and cognitive health, a more detailed discussion could strengthen the argument. Specifically, elucidating how changes in GM diversity and composition might influence cognitive functions could offer valuable insights.

The discussion could be expanded to address potential confounding factors more thoroughly, such as dietary habits, which can significantly impact GM composition and thus the effects of exercise.

The conclusion section would benefit from a more detailed discussion on the implications of the findings for future research, specifically regarding the design of exercise programs targeted at enhancing cognitive health in the elderly.

that the references are up to date and include the most recent studies that have investigated the relationship between exercise, GM, and cognitive health.

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.