




## The Impact of Modern Technologies and Physical Exercises on Motor Control, Balance, and Quality of Life in Older Adults

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E d i t o r	R e v i e w e r s
Izet Pehlić  Full professor for Educational sciences, Islamic pedagogical faculty of the University of Zenica, Bosnia and Herzegovina izet.pehlic@unze.ba	<b>Reviewer 1:</b> Parvaneh Mohammadkhani  Professor, Department of Clinical Psychology, University of Rehabilitation Sciences and Social Health, Tehran, Iran. Email: Pa.mohammadkhani@uswr.ac.ir <b>Reviewer 2:</b> Ali Khodaei  Department of Psychology, Faculty of Educational Sciences and Psychology, Payam Noor University, Tehran, Iran. Email: alikhodaei@pnu.ac.ir

### 1. Round 1

#### 1.1. Reviewer 1

Reviewer:

Theoretical basis: The introduction mentions motor control and balance impairments but lacks a detailed discussion on the neurophysiological mechanisms. Consider expanding on neural plasticity and sensory integration (e.g., referencing Izquierdo et al., 2021).

The descriptive analysis method is mentioned, but the steps for thematic analysis or coding are not described. Expand this section to include software tools or frameworks used (e.g., NVivo).

The statement "Wearable devices and virtual reality platforms enhance engagement and provide real-time feedback" could benefit from specific examples of user engagement metrics.

For "Robotic-assisted systems and AI-driven tools facilitate personalized rehabilitation," discuss the range of effect sizes or confidence intervals found in reviewed studies.

The discussion on "synergistic effects when technology was combined with physical exercise" should specify the added value or quantified outcomes compared to standalone interventions.

The mention of "cost and digital literacy" barriers is critical but lacks solutions or recommendations. Suggest initiatives or policies that could mitigate these challenges.

The paper highlights strengths of modern technologies but does not address potential risks, such as over-reliance on technology or user fatigue. Discuss these to balance the narrative.

In "Integrating physical exercise with technological interventions has been shown to yield synergistic benefits," include examples of specific combined interventions and outcomes.

Response: Revised and uploaded the manuscript.

## 1.2. Reviewer 2

Reviewer:

The sentence "Studies have shown that maintaining physical activity during these periods can mitigate mental health challenges" could include specific examples or numerical data from cited studies for credibility.

The choice of databases (PubMed, Scopus, Web of Science) is appropriate but adding justification for excluding others like CINAHL or PsycINFO would strengthen the methodology.

The combination of keywords such as "modern technologies" and "older adults" could yield broad results. Consider specifying how keyword relevance was assessed.

The criterion "Only studies reporting empirical results..." lacks clarity. Did it include pilot studies or only peer-reviewed experiments? Clarify for reproducibility.

The paragraph "Wearable devices have emerged as a cornerstone..." could benefit from examples of specific wearable technologies and their associated algorithms.

The section on "Virtual reality and augmented reality platforms" should better differentiate the practical applications and user outcomes of AR versus VR systems.

The phrase "Aerobic exercises improve oxygen delivery..." would be enriched by referencing cognitive biomarkers affected, such as executive function or working memory.

Response: Revised and uploaded the manuscript.

## 2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.