The effects of exergaming interventions on cognition and physical activity of institutionalized older adults: A systematic review

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THE EFFECTS OF EXERGAMING INTERVENTIONS ON COGNITION AND PHYSICAL ACTIVITY OF INSTITUTIONALIZED OLDER ADULTS: A systematic review

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INTRODUCTION

Older adults with mild cognitive impairments or dementia:
- ↓ physical activities in long-term care homes
- High-risk of inactivity consequences and social withdrawal

Exergaming benefits:
- Cognition
- Well-being
- Physical capabilities

RESULTS

RESEARCH QUESTION

What are the effects of interactive exergaming on cognition and physical activity in older adults with mild cognitive impairments (MCI) or dementia?

METHOD

LITERATURE SEARCH

- Databases: MEDLINE, CINAHL, PsycINFO, and Compendex
- Keywords: older adults with mild cognitive impairment or dementia, technology-based games, physical activity, and long-term care facilities
- Limits: English and years >2007

INCLUSION/EXCLUSION CRITERIA

<table>
<thead>
<tr>
<th>INCLUDE</th>
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<tbody>
<tr>
<td>Quantitative studies (original research studies, reviews, pilot studies, etc.) Non-scholarly articles, dissertations, qualitative studies</td>
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<tr>
<td>Older adults (mean age of 65 or older) MCI or dementia People younger than 65 No MCI or dementia</td>
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<tr>
<td>Nursing home, long-term care facility, care home Own home in the community, complex continuing care unit, retirement home, assisted living</td>
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<td>Exergaming, interactive games, motion based games Physical inactive activities (e.g., inactive virtual reality)</td>
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<td>Any (pre/post design, randomized control trial, etc.)</td>
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CONCLUSIONS

- Insufficient evidence on benefits of exergames on cognition and motor capabilities of institutionalized older adults with mild cognitive impairment or dementia.
- More robust research looking at the effects of exergames on cognition and motor function is needed.

Additional development of exergames tailored to the needs and interests of this population is also required.

REFERENCES

Dijkstra, T., Vermeulen, W., & Schipperijn, J. (2017). The Effect of Exergame-Induced Dual Task Training on the ERP Components of Anticipation and Speed in Older Adults with Mild Cognitive Impairments (pp. 429–429). IEEE.
Gauthier, M., Gosselin, C., & Viau, R. (2013). Perspectives on Exergaming for Older Adults with Cognitive Impairments (pp. 132–132). IEEE.