

**Journal Pre-proof**

**New guidelines for the effectiveness of exercise in the prevention of dementia:  
Implications for psychiatry**

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## LETTER TO THE EDITOR

### **New guidelines for the effectiveness of exercise in the prevention of dementia: Implications for psychiatry**

*To the Editors,*

We recently published evidence-based guidelines for the role of exercise in the prevention of dementia.<sup>1</sup> The guidelines combined an umbrella review and expert consensus, and has important implications for psychiatry.

Evidence from published studies was evaluated using the GRADE assessment. We found scarce and relatively low-quality evidence in the literature, particularly for the primary prevention of dementia.

Our GRADE-informed evidence synthesis yielded the following conclusions:

- For Primary prevention of dementia: Physical activity may be considered for the primary prevention of dementia. In people without dementia or MCI, exercise may be no better than health education for the primary prevention of dementia and MCI. Quality of evidence: Very low for physical activity; very low for exercise.
- For Secondary prevention of dementia: In people with MCI there is continued uncertainty about the role of physical activity and exercise in slowing the conversion to dementia. Quality of evidence: Very low for physical activity; very low for exercise.
- For Tertiary prevention of dementia: In people with moderate dementia, physical activity/exercise could be considered for maintaining cognition and exercise could be considered for stabilizing disability compared to usual care. Quality of evidence: Exercise: very low for cognitive outcomes; low for disability.

Following a consensus process, we recommended physical activity/exercise for all three purposes, namely primary, secondary, and tertiary prevention (improve cognition and reduce disability) of dementia. The recommendation of exercise was largely contingent on its positive effects on mental health,<sup>2,3</sup> in conjunction with the extensive body of evidence linking mental disorder with dementia.<sup>4</sup>

The guidelines highlight the need for further research on multidisciplinary interventions for both the primary and secondary prevention of dementia. A question remains whether the positive effect of physical activity on mood/behaviour applies to the MCI group, as it does to the dementia group. More research is required in people with established dementia and in less common forms of dementia. The guidelines also make an implicit research recommendation in support of heurism, in the sense that they integrate the evidence-based expectation that exercise is likely to be beneficial both for mental and physical health. Indeed, employing heurism may be inherently necessary in prevention research.<sup>5</sup>

Overall, these guidelines offer an evidence-based insight into the effectiveness of physical activity/exercise for the prevention (primary, secondary, and tertiary) of dementia. Importantly, they necessitate the inclusion of mental health in a multi-component approach.

In doing so, they emphasize the necessity of mental health promotion and mental illness prevention in the prevention and management of dementia.

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**References**

1. Veronese N, Soysal P, Demurtas J, Solmi M, Bruyère O, Christodoulou N, et al. Physical Activity and Exercise for the Prevention and Management of Mild Cognitive Impairment and Dementia: A Collaborative International Guideline. *Eur Geriatr Med* 2023, 14:925–952, doi: 10.1007/s41999-023-00858-y
2. Firth J, Solmi M, Wootton RE, Vancampfort D, Schuch FB, Hoare E, et al. A Meta-Review of “Lifestyle Psychiatry”: The Role of Exercise, Smoking, Diet and Sleep in the Prevention and Treatment of Mental Disorders. *World Psychiatry* 2020, 19:360–380, doi: 10.1002/wps.20773

3. Ashdown-Franks G, Firth J, Carney R, Carvalho AF, Hallgren M, Koyanagi A, et al. Exercise as Medicine for Mental and Substance Use Disorders: A Meta-Review of the Benefits for Neuropsychiatric and Cognitive Outcomes. *Sports Med* 2020, 50:151–170, doi: 10.1007/s40279-019-01187-6
4. Stafford J, Chung WT, Sommerlad A, Kirkbride JB, Howard R. Psychiatric Disorders and Risk of Subsequent Dementia: Systematic Review and Meta-analysis of Longitudinal Studies. *Int J Geriatr Psychiatry* 2022, 37:10.1002/gps.5711, doi: 10.1002/gps.5711
5. Christodoulou N. General Prevention Research and Person Centered Medicine. *International Journal of Person Centered Medicine* 2013, 3:133–136, doi: 10.5750/ijpcm.v3i2.170

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