

# Weekly physical activity may help prevent mild cognitive impairment conversion to dementia

12 November 2020



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Exercising more than once per week is associated with a lower risk of developing Alzheimer's disease in patients with mild cognitive impairment, research published in the open access journal *Alzheimer's Research and Therapy* suggests. Mild cognitive impairment is a condition that causes people to have more problems with memory and thinking than is normal for someone their age. People with mild cognitive impairment have a ten-fold higher risk of developing Alzheimer's disease than the general population.

A team of researchers from Yonsei University College of Medicine, Republic of Korea, found that compared with people with [mild cognitive impairment](#) who did not [exercise](#), those who carried out vigorous or [moderate physical activity](#) for at least ten minutes more than once per week had an 18% lower risk of developing Alzheimer's [disease](#). Among those who exercised more than once per week, people with mild cognitive impairment who exercised three to five times per

week had a 15% lower risk of developing Alzheimer's disease than those who exercised less than three to five times per week.

Those with mild cognitive impairment who started exercising after their diagnosis had an 11% [lower risk](#) of developing Alzheimer's disease than people who did not exercise at all. Stopping exercise after being diagnosed with mild cognitive impairment was associated with the same risk of developing Alzheimer's disease as not exercising before or after diagnosis.

Hanna Cho, the corresponding author said: "Our findings indicate that [regular physical activity](#) may protect against the conversion of mild cognitive impairment to Alzheimer's disease. We suggest that regular exercise should be recommended to patients with mild cognitive impairment. Even if a person with mild cognitive impairment did not exercise regularly before their diagnosis, our results suggest that starting to exercise regularly after diagnosis could significantly lower their risk of developing Alzheimer's disease."

The authors used electronic health record data of people diagnosed with mild cognitive impairment from the National Health Insurance Service cohort of Korea from 2009 to 2015. The average age of participants was between 64 and 69 years. Physical activity was measured using a questionnaire asking participants how much they had exercised in the previous seven days.

Out of the 247,149 participants included in the study, 99,873 (40%) did not exercise regularly, 45,598 (18%) began exercising after being diagnosed with mild cognitive impairment, 45,014 (18%) stopped exercising after diagnosis and 56,664 (23%) exercised more than once per week before and after diagnosis. By the end of the follow-

up period, 8.7% of those who did not exercise were diagnosed with Alzheimer's disease compared with 4.8% of those who exercised more than once per week. Of those who began exercising after diagnosis, 6.3% went on to develop Alzheimer's, compared to, 7.7% of those who stopped exercising after diagnosis.

The authors suggest that [regular exercise](#) may increase the production of molecules that support the growth and survival of neurons or increase blood flow to the brain, which could prevent a reduction in brain volume that is often associated with dementia.

The authors caution that as information on physical activity was collected at two time points during the study, it is unknown whether the type, intensity, duration or frequency of participants' exercise changed at any other points during the study period. Further research is needed to assess how long the protective effect of regular [physical activity](#) against Alzheimer's disease lasts and to investigate the biological mechanisms underlying the protective effect.

**More information:** Yeo Jin Kim et al, Association between physical activity and conversion from mild cognitive impairment to dementia, *Alzheimer's Research & Therapy* (2020). DOI: [10.1186/s13195-020-00707-1](https://doi.org/10.1186/s13195-020-00707-1)

Provided by BioMed Central

APA citation: Weekly physical activity may help prevent mild cognitive impairment conversion to dementia (2020, November 12) retrieved 30 May 2022 from <https://medicalxpress.com/news/2020-11-weekly-physical-mild-cognitive-impairment.html>

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