

No interventions proven to prevent late-life dementia

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There is no proven intervention for preventing late-life dementia. Researchers from the Minnesota Evidence-based Practice Center (EPC) reviewed published research to determine if physical activity,

prescription medications, over-the-counter vitamins and supplements, or cognitive training interventions could help to prevent dementia in patients who did not have it at the time of the studies. The vast majority of research showed that none of the interventions worked. Findings from four systematic evidence reviews are published in *Annals of Internal Medicine*.

The prevalence of cognitive impairment and dementia is expected to increase dramatically as the population ages. Optimal treatment to prevent or delay [cognitive decline](#), mild cognitive impairment, or Alzheimer-type dementia is not known. EPC researchers were funded by the Agency for Healthcare Research and Quality (AHRQ) to assess the literature and determine if any interventions had enough quality evidence to warrant a recommendation.

Physical Activity

Researchers reviewed data from 16 trials comparing a physical activity intervention with an inactive control. They found insufficient evidence to draw conclusions about the effectiveness of aerobic training, resistance training, or tai chi for improving cognition. The researchers did find low-strength evidence that combining different types of interventions at the same time, such as [physical activity](#), diet, and cognitive training, improved cognitive test performance.

Prescription Medications

Researchers reviewed data from 51 trials comparing the effect of prescription medication with placebo, usual care, or active control on [cognitive outcomes](#). The evidence did not support use of any of the studied pharmacologic treatments (dementia medications, antihypertensives, diabetes medications, NSAIDs or aspirin, hormones,

and lipid-lowering agents) for cognitive protection in persons with normal cognition or mild cognitive impairment.

Cognitive Training

A review of 11 trials of adults with either normal cognition or mild cognitive impairment at the time of enrollment found that insufficient evidence that cognitive training exercises could prevent dementia. Group [cognitive training](#) was found to improve performance only in the cognitive domain trained. For example, memory training improved memory, but did not improve any other aspects of cognition.

Over-the-counter Vitamins and Supplements

The study authors reviewed 38 trials comparing over-the-counter (OTC) supplements, including omega-3 fatty acids, soy, ginkgo biloba, B vitamins, vitamin D plus calcium, vitamin C or beta carotene, multi-ingredient supplements, with placebo or other OTC interventions for preventing or delaying cognitive decline, [mild cognitive impairment](#), or clinical Alzheimer-type dementia. They found insufficient evidence to suggest that any of the supplements worked to reduce the risk for cognitive decline.

According to the researchers, the reasons these interventions fail is not entirely clear. It is possible that they simply do not work to improve cognition, or it could also be that the studies started the interventions too late in life, didn't use them long enough, or because of shortcomings in many of the studies.

Researchers note that while there was no [evidence](#) about whether an [intervention](#) to practice a healthy lifestyle earlier in life protects against cognitive decline or dementia in later life, it is unlikely to worsen

cognition and may have other, noncognitive benefits.

More information: *Annals of Internal Medicine* (2017).
annals.org/aim/article/doi/10.7326/M17-1528

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