

# What We Know About Multivitamins and Memory

New research suggests a daily vitamin can improve cognition. But that doesn't mean everyone should take one.



By Alice Callahan and Dana G. Smith

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A new study reported that adults 60 and older who took a daily multivitamin for two years scored higher on memory and cognitive tests than those who took a placebo — a rare example of a clinical trial finding that a nutritional supplement might actually benefit healthy people.

“It suggests that multivitamins can be a safe, affordable and accessible approach to protecting cognitive health in older adults,” said Dr. Chirag Vyas, a psychiatric epidemiologist at Mass General Brigham in Boston and a lead author of the study, published Thursday in *The American Journal of Clinical Nutrition*.

But experts not involved in the trial cautioned that the benefits were small, and it was not clear that they would translate to tangible improvements in people's lives.

“I would put it in the realm of promising, but I wouldn't go to the bank with it,” said Mary Butler, an associate professor of public health at the University of Minnesota who has published several papers evaluating interventions to prevent dementia.

The research was part of a larger trial involving more than 21,000 older adults looking at whether supplements can protect against several age-related diseases, called the COcoa Supplement and Multivitamin Outcomes Study (COSMOS). The new report included results from a subset of 573 participants — mostly white and relatively well educated — who took several cognitive tests in person.

People in both the multivitamin and placebo groups improved their cognitive scores over two years, possibly because they were already familiar with the tests. But the participants taking the multivitamin showed a slightly greater gain, with the biggest bump coming on memory assessments.

The study also pooled those findings with the results from two prior COSMOS

investigations that tested the cognition of more than 5,000 people over the phone or online. Across the three studies, those who took multivitamins had a consistent improvement in their scores on tests of memory and overall cognitive ability compared with people who received a placebo, said Dr. JoAnn Manson, a professor of medicine at Harvard University and the co-principal investigator of the trial.

The researchers estimated that the memory boost observed in people taking the multivitamin corresponded to a two-year reduction in brain aging, meaning that they theoretically tested as well as someone two years younger, Dr. Vyas said.

Experts not involved in the research said that the study was well-designed: It included a large number of participants and used reputable cognitive tests. But the findings “are relatively modest,” said Dr. Hussein Yassine, an associate professor of neurology at the Keck School of Medicine at the University of Southern California. While some people may have truly benefited from the multivitamin, he said, a majority most likely did not.

Dr. Yassine added that claiming a multivitamin could slow cognitive aging by two years “is really a stretch.” To arrive at that conclusion, the researchers compared the performance of the multivitamin group with average test scores by age. Dr. Yassine took issue with that technique, calling the interpretation “misleading.”

That calculation was also the primary concern cited by Dr. Pieter Cohen, an internist at Cambridge Health Alliance in Boston who studies supplements. He added that it was unclear whether the subtle improvements measured in people taking multivitamins would be meaningful. It would be far more convincing if the trial found that people who took multivitamins were less likely to be diagnosed with Alzheimer’s by a certain age, or could live independently for longer, he said.

Dr. Manson agreed that more research on multivitamins was needed, especially in groups with more racial, ethnic and socioeconomic diversity. Follow-up studies should analyze who benefited from the supplements and why, Dr. Yassine added. It’s possible, for example, that the gains were driven by people who weren’t previously consuming enough of certain nutrients important for brain health, such as vitamin B12, vitamin D and zinc.

“Instead of concluding that everybody should be taking a multivitamin, I think we should possibly try to understand who benefits from taking the multivitamin,” Dr. Yassine said.

Multivitamins can be useful for certain people, such as those with conditions that affect their ability to absorb nutrients, Dr. Cohen said, but most healthy people don’t need one. “I’m not going to be recommending multivitamins to improve memory based on this data,” he said.

The COSMOS study, funded by the National Institutes of Health and chocolate maker Mars Inc., was originally designed to see whether multivitamins or supplements containing cocoa flavanols would affect heart disease or cancer risk. But the trial found little benefit of either supplement.

Other studies have largely shown that multivitamins didn't improve cognition or prevent dementia. For example, in a trial of nearly 6,000 male physicians tracked for 12 years, those who took a multivitamin performed no better on cognitive or memory tests than those who took a placebo.

Research has consistently found, however, that a healthy diet and other lifestyle interventions can benefit the brain. Puja Agarwal, a nutritional epidemiologist at the Rush University Medical Center in Chicago, called the new findings "encouraging." But, she added, "if we can meet our nutritional requirements with dietary approaches, that should be the first priority."

***A correction was made on Jan. 18, 2024: An earlier version of this story incorrectly described the title of Dr. JoAnn Manson. She is co-principal investigator of the COSMOS trial, not co-coordinator.***

***A correction was made on Jan. 19, 2024: An earlier version of this story misidentified a substance being studied in the COSMOS trial. They are cocoa flavanols, not flavonols.***

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