

Weekly Health Digest

July 26, 2026 | B Vitamins & Brain Health

Article: Efficacy of B Vitamin Supplementation on Global Cognitive Function in Older Adults: A Systematic Review and Meta-analysis

Authors: Jade Berg, Ross Grant, Mario Siervo, Blossom C.M. Stephan, Phillip J. Tully

Journal: Nutrition Reviews, 2025 (Vol. 83, No. 12, pp. 2256–2267)

Source: <https://pubmed.ncbi.nlm.nih.gov/40966571/>

What Did Scientists Study?

Researchers pooled 17 [randomized controlled trials](#), covering 5,275 older adults, to see whether taking [B vitamins](#) — B6, B9 (folate), and B12 — improves [thinking and memory skills](#). Combining trials this way is called a [meta-analysis](#).

Why Does It Matter?

As we age, many people worry about memory and mental sharpness. High levels of a blood marker called [homocysteine](#) have been linked to brain shrinkage and [dementia](#). B vitamins help the body break down homocysteine, so scientists have long wondered whether taking them could protect the aging brain. Earlier studies gave mixed, confusing answers, so this team set out to sort through the noise.

What Did They Find?

Across all 17 trials, B vitamin supplements were linked to better overall [cognitive function](#). But some of those trials were less reliable — a few outlier results and studies where participants could guess whether they got the real vitamin skewed the numbers.

When the researchers set those weaker studies aside and focused only on the most trustworthy trials, they still found a real, measurable improvement in brain function — just a smaller one. Importantly, this remaining result was rated "high certainty," meaning scientists are confident it reflects a true effect rather than chance. The benefit held up whether people started with normal thinking skills, [mild cognitive impairment](#), or dementia — everyone saw roughly the same small boost.

Trials in the review lasted at least 26 weeks, so the benefit likely builds gradually rather than appearing overnight.

What Can You Do?

B12 is mainly found in meat, fish, eggs, and dairy, so people eating fully plant-based diets, along with many older adults in general, are at higher risk of low levels and should ask their doctor about testing. Folate (B9) is abundant in leafy greens, beans, and fortified grains, and B6 is found in poultry, fish, potatoes, and bananas. If a blood test shows you're low, or your doctor recommends it, a B-complex supplement is inexpensive, low-risk, and, based on this review, likely to offer a small but real benefit for brain health over time.

Bottom Line

B vitamins are not a memory miracle, but solid, high-certainty evidence now shows they give the aging brain a small, genuine assist — making them a simple, low-cost addition to a brain-healthy routine.

Definitions

Randomized Controlled Trial: A study where researchers randomly place people into groups — like a treatment group and a placebo group — so the groups can be fairly compared. It's one of the best ways to test whether a treatment really works. [↑ Back Wikipedia](#)

B Vitamins: A group of nutrients (including B6, folate/B9, and B12) that help the body make energy, red blood cells, and healthy nerve tissue. They're found in meat, fish, eggs, dairy, leafy greens, and fortified grains. [↑ Back Wikipedia](#)

Cognitive Function: The everyday mental skills we use to think, remember, focus, and solve problems. [↑ Back Wikipedia](#)

Homocysteine: An amino acid naturally made in the body. When levels get too high, it has been linked to damage in blood vessels and the brain. [↑ Back Wikipedia](#)

Dementia: A decline in memory, thinking, and reasoning severe enough to interfere with daily life. Alzheimer's disease is the most common cause. [↑ Back Wikipedia](#)

Mild Cognitive Impairment (MCI): A noticeable decline in memory or thinking that is more than normal aging but not severe enough to be called dementia. [↑ Back Wikipedia](#)

Meta-Analysis: A method that combines results from many smaller studies into one larger analysis, helping researchers spot patterns they might miss looking at just one study. [↑ Back Wikipedia](#)

