

Nonpharmacologic Approaches to Improving or Preserving Cognitive Function

Results were largely unimpressive in various studies.

Continuing uncertainty and controversy about drug treatments for people with dementia have encouraged patients and clinicians to explore nonpharmacologic approaches to preserving or improving cognitive function. In 2023, *NEJM Journal Watch General Medicine* reviewed six studies that addressed this issue in various populations and stages of cognitive impairment.

In a randomized trial of 175 adults with mild cognitive impairment (MCI), researchers compared various combinations of aerobic/resistance exercise, cognitive training, and vitamin D supplementation. The groups that received any combination of exercise or cognitive training had statistically significant, but numerically small, improvement in cognition (1–3 points on an 85-point scale), with no incremental benefit associated with vitamin D supplementation (*NEJM JW Gen Med* Aug 15 2023 and *JAMA Netw Open* 2023; 6:e2324465).

In a study of 585 adults with self-reported memory impairment that included MCI but not dementia, participants were randomized to an aerobic and strength exercise program, mindfulness-based stress-reduction training, both interventions, or neither. At 6 and 18 months, a composite measure of cognitive function was similar among the four groups (*NEJM JW Gen Med* Feb 1 2023 and *JAMA* 2022; 328:2218).

In a randomized trial of nearly 1000 adults with mild-to-moderate hearing impairment and no cognitive impairment, investigators examined whether audiologist-fitted hearing aids might prevent cognitive decline. Hearing aids provided no benefit in the treated group overall (compared with controls), but a prespecified subgroup analysis of participants with lower (but still normal) cognitive scores and risk factors for MCI showed significantly slower cognitive decline during 3 years of follow-up (*NEJM JW Gen Med* Sep 1 2023 and *Lancet* 2023; 402:786).

In two trials with overlapping participants, 4400 adults (mean age, 72) with either normal cognitive function or mild impairment were randomized to a multivitamin or placebo. During 3 years of follow-up, some small, statistically significant changes in cognition occurred that favored the vitamin group, but the clinical importance of the differences was unclear (*NEJM JW Gen Med* Aug 15 2023 and *Alzheimers Dement* 2023; 19:1308; *Am J Clin Nutr* 2023; 118:273).

Finally, in a randomized trial, researchers compared the MIND diet (combined Mediterranean and DASH [Dietary Approaches to Stop Hypertension] diet components) with a control diet (portion-control advice) in 600 overweight adults with family histories of dementia. Both groups lost weight (means, ≈5 kg), and cognitive scores increased slightly and similarly in both groups (*NEJM JW Gen Med* Aug 15 2023 and *N Engl J Med* 2023; 389:602).

Taken together, these results might help clinicians counsel patients who ask about various lifestyle approaches to improving cognitive function or preventing decline, but there are no clear winners. Prescribing hearing aids might help patients with mild-to-moderate hearing loss and lower (but still normal) cognitive function. Exercise has a wide range of health benefits, possibly including improved cognitive function. Diet, cognitive training, and stress reduction seem less useful. Multivitamin supplementation is otherwise benign and inexpensive, but the extent of cognitive benefit remains unclear.

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