

Vitamin D and Cognitive Function in Older Patients

Low levels are associated with cognitive decline.

Vitamin D deficiency is associated with several chronic illnesses, but studies of its association with cognitive function have been short and have yielded equivocal results. Data from the well-known InCHIANTI study of older Italian people (*J Am Geriatr Soc* 2000; 48:1618) were used to determine the relation between cognitive decline among 858 participants (mean age at baseline, 74) and baseline levels of 25-hydroxyvitamin D (25[OH]D). 25(OH)D levels were classified as severely deficient (<10 ng/mL [<25 nmol/L]), deficient (10–20 ng/mL [25–50 nmol/L]), insufficient (20–30 ng/mL [50–75 nmol/L]), and sufficient (≥ 30 ng/mL [≥ 75 nmol/L]). Patients were assessed at baseline and every 3 years with several cognitive tests, including the Mini-Mental State Examination (MMSE).

At 6 years, analyses that were adjusted for clinical factors relevant to cognitive functions and for impaired mobility showed that participants with severe deficiency were 60% more likely to experience significant declines of ≥ 3 points on the MMSE than were participants with sufficient levels of 25(OH)D. Similar relative risks were noted for most secondary measures of cognition.

Comment: Despite appropriate adjustment, these results still could reflect reverse association — i.e., frail patients who are inactive and sun-deprived would have lower levels of 25(OH)D. Editorialists suggest that we move past observational studies and design prospective trials to assess the risks and benefits of vitamin D supplementation specifically.

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