

A new study has confirmed previous research indicating a possible association between low vitamin D blood levels and an increased risk of cognitive decline in the elderly.

Inadequate vitamin D levels are related to cognitive decline in the elderly

In addition to its role in bone health, vitamin D also plays a role in mental health by protecting the brain in several ways: reducing the risk of cardiovascular disease and hypertension (diseases that affect the brain), providing antioxidant mechanisms, regulating calcium levels, supporting the immune system, enhancing nerve conduction, and by its role in detoxification. Many previous studies have concluded that inadequate vitamin D blood levels may be linked to a higher risk of cognitive impairment.

A recent study published in the journal *Neurology* tested the hypothesis that low vitamin D blood levels are associated with risk of cognitive decline.

The Italian population-based study included 1,927 elderly subjects. Serum vitamin D levels were measured at baseline, and cognitive function was measured with the Mini-Mental State Examination (MMSE). A MMSE score lower than 24 indicated cognitive dysfunction. Over a period of a 4.4 year follow-up, a decline of 3 or more points on the MMSE was considered clinically significant.

Compared to subjects with sufficient vitamin D levels (>30 ng/ml or 75 nmol/L), the subjects with vitamin D deficiency (<20 ng/ml, or 50 nmol/L) or insufficiency (20-30 ng/ml or 50-75 nmol/L) were more likely to have declining MMSE scores during the follow-up. Among the subjects with normal cognitive function (MMSE of 24 or higher) at the beginning of the study, those with deficient or insufficient vitamin D levels were 36% and 29% more likely to experience the onset of cognitive dysfunction in comparison to subjects with normal vitamin D levels.

The results of this study confirm an independent association between vitamin D levels and mental decline in elderly adults. Although there is considerable variation from person to person, and testing prior to supplementation is generally recommended, most people need to take between 1,000 and 5,000 IU/day of vitamin D3 to achieve levels adequate to protect against cognitive decline.

Elena D. Toffanello et al. Vitamin D deficiency predicts cognitive decline in older men and women. *Neurology*. 2014 Nov 5. pii: 10.1212/WNL.0000000000001080.