

Vitamin D levels predict risk of brain decline in Chinese elderly

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Research conducted by Duke-NUS Medical School (Duke-NUS) and Duke University has associated low vitamin D levels with increased subsequent risk of cognitive decline and impairment in the Chinese elderly.

Produced primarily in the skin upon exposure to sunlight, Vitamin D is necessary for maintaining healthy bones and muscles. It is now believed to also play a significant role in maintaining healthy brain function. An increased risk of cardiovascular and neurodegenerative diseases has been observed in those with low vitamin D levels, and studies from Europe and North America have linked low vitamin D levels with future cognitive decline.

This study asks similar questions of vitamin D levels and cognition in the Chinese elderly. It is the first large-scale prospective study in Asia to study the association between vitamin D status and risk of cognitive decline and impairment in the Chinese elderly. 1,202 study subjects greater than or equal to 60 years of age from the Chinese Longitudinal Health Longevity Survey took part in this study. Their baseline vitamin D levels were measured at the start of the study, and their cognitive abilities were assessed over 2 years.

Regardless of gender and extent of advanced age, individuals with lower vitamin D levels at the start of the study were approximately twice as likely to exhibit significant cognitive decline over time. In addition, low vitamin D levels at baseline also increased the risk of future cognitive

impairment by 2-3 times.

"Although this study was conducted on subjects from China, the results are applicable to regions in Asia where a large proportion of the elderly are ethnically Chinese, like Singapore," said Professor David Matchar, first author of the study and Director of the Health Services and Systems Research Programme at Duke-NUS Medical School.

These findings reinforce the notion that vitamin D protects against neuron damage and loss, and call for more intensive investigations into the effects of vitamin D supplements on cognitive decline. Better understanding of the mechanism by which [vitamin](#) D protects neurons may help identify effective interventions to stem the rapidly increasing prevalence of [cognitive decline](#) observed in ageing populations.

More information: David B. Matchar et al, Vitamin D Levels and the Risk of Cognitive Decline in Chinese Elderly People: the Chinese Longitudinal Healthy Longevity Survey, *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences* (2016). [DOI: 10.1093/gerona/glw128](#)

Provided by Duke-NUS Medical School

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