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Low vitamin D linked to higher risk of dementia: Study

By Lorraine Heller, 23-Jan-2009

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A new large-scale senior population study has found that a lack of vitamin D in the elderly could be linked to cognitive impairment.

The study, conducted on almost 2,000 adults over the age of 65, is the first of its scale to identify this relationship, and prompted researchers to suggest vitamin D supplementation as a possible means of reducing the risk of dementia.

The findings from the researchers at the Peninsula Medical School, the University of Cambridge and the University Michigan revealed that compared to those with optimum levels of vitamin D, those with the lowest levels were mor than twice as likely to be cognitively impaired.

Benefits and deficiencies

Vitamin D is one of the better researched vitamins, with a wide range of health benefits already backed by indisputable science.

In adults, it is said vitamin D deficiency may precipitate or exacerbate osteopenia, osteoporosis, muscle weakness, fractures, common cancers, autoimmune diseases, infectious diseases and cardiovascular diseases. There is also some evidence that the vitamin may reduce the incidence of several types of cancer and type 1 diabetes.

However, the vitamin is generally only received through exposure to sunlight or through fortified foods, meaning that optimal levels are often lacking. The elderly, in particular, are at risk of deficiency as the skin's capacity to absorb vitamin D from the sun decreases with age.

Dementia risk

According to the researchers of the new study, which will appear in the forthcoming issue of the *Journal of Geriatri Psychology and Neurology,* some small clinical studies have suggested that serum 25-hydroxyvitamin D [25(OH)D] concentration, an effective indicator of vitamin D status, may be associated with dementia and cognitive function.

However, evidence from large-scale and well-designed trials is lacking, they said, prompting the current study.

The researchers recruited 1,766 participants (708 men and 1,058 women) who participated in the Health Survey fc England in 2000.

Their levels of cognitive function were assessed using the Abbreviated Mental Test (AMT), a common neurocognitiv screening instrument. Fasting blood samples were also taken, and levels of serum 25(OH)D were measured.

The researchers then used Multivariable logistic regression models to determine the relationship of serum 25(OH)D to cognitive impairment, adjusting models for factors such as age, sex, education and ethnicity.

Vitamin D for the brain?

Their findings revealed that people with normal cognitive function had higher levels of serum 25(OH)D than those who were cognitively impaired. Those with the lowest serum 25(OH)D concentrations were four times more likely t be cognitively impaired.

However, the researchers said that the cross-sectional design of their study means they could not determine whether low levels of serum 25(OH)D actually cause cognitive impairment.

They did say, though, that their findings add to the accumulating data supporting *"previously unsuspected roles fo vitamin D in brain development and neuroprotection".*

"Further research is warranted to investigate whether vitamin D supplementation is a cost effective and safe way o reducing the incidence of cognitive impairment in the growing elderly population around the world," they concluded

Source:
Serum 25-Hydroxyvitamin D Concentration and Cognitive Impairment
Authors: Llewellyn DJ, Langa K, Lang I.

J Geriatr Psychiatry Neurol. 2008 Dec 10. [Epub ahead of print]
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