

Higher vitamin D levels associated with speedier brain processing



In an article published on May 21, 2009 online in the *Journal of Neurology, Neurosurgery and Psychiatry*, European researchers report that men with higher vitamin D levels performed better on a test of attention and speed of information processing than those with lower levels of the vitamin.

Dr David M. Lee of the University of Manchester's School of Translational Medicine and his associates administered 3 tests of cognitive function to 3,369 men aged 40 to 79 from 8 centers participating in the European Male Aging Study (EMAS). Fasting blood samples collected from the subjects were analyzed for serum 25-hydroxyvitamin D levels.

Men whose vitamin D levels were higher were found to perform better on all three tests, although the Digit Symbol Substitution test, which measures psychomotor speed and visual scanning, was the only test whose scores were associated with vitamin D levels after adjustment for several factors. Further analysis revealed that higher test scores were particularly associated with increased vitamin D levels in older participants.

Although the authors write that the mechanisms of vitamin D in cerebral functions are unknown, they note that vitamin D has been shown to increase choline acetyltransferase activity in rat brains and that there is also evidence that the vitamin provides a neuroprotective effect. Furthermore, parathyroid hormone and calcium levels, which are affected by vitamin D, could be involved in cognitive function. Additionally, low serum vitamin D levels have been associated with a greater risk of depression, and higher levels of vitamin D were found to be associated with lower depression scores in the current study.

"Previous studies exploring the relationship between vitamin D and cognitive performance in adults have produced inconsistent findings but we observed a significant, independent association between slower information processing speed and lower levels of vitamin D," stated Dr Lee. "The main strengths of our study are that it is based on a large population sample and took into account potential interfering factors, such as depression, season and levels of physical activity.

"Interestingly, the association between increased vitamin D and faster information processing was more significant in men aged over 60 years, although the biological reasons for this remain unclear," he added. "The positive effects vitamin D appears to have on the brain need to be explored further but certainly raise questions about its potential benefit for minimizing age-related declines in cognitive performance. "

"If cognitive function can be improved by a simple intervention such as vitamin D supplementation, this would have potentially important implications for population health," the authors conclude. "In light of our findings, and the fact that vitamin D inadequacy is common among adults, further prospective studies are warranted to determine whether vitamin D supplementation could aid in minimizing aging-related declines in specific cognitive domains."

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- Huperzine A—50 to 100 mcg daily
- Vitamin B6—100 to 750 mg daily (Be sure to take a complete B complex each day when taking daily doses of vitamin B6 in excess of 200 mg.)
- Methylcobalamin (B12)—1000 to 5000 microgram (mcg) daily sublingually
- Folic acid—800 mcg daily orally; should be taken with vitamin B12
- Vitamin C—at least 2000 mg daily
- Mixed vitamin E—400 International units (IU) daily
- CoQ10—30 to 300 mg daily of a highly absorbable form
- Vinpocetine—15 to 30 mg daily
- Bacopa—As directed, depending on extract strength
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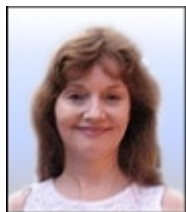
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