

# Abstract

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## Effect of vitamin and trace-element supplementation on cognitive function in elderly subjects.

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**OBJECTIVE:** To determine whether supplementation with vitamins and trace elements in modest amounts influences cognitive function in apparently healthy, elderly subjects.

**METHODS:** The study was designed as a randomized, double-blind, placebo-controlled trial. Ninety-six, apparently healthy, independent men and women older than 65 y of age were recruited and randomized to receive a supplement of trace elements and vitamins or a placebo daily for 12 mo. Blood-nutrient levels were estimated at baseline and at the end of the study. The major outcome measure assessed was cognitive function consisting of immediate and long-term memory, abstract thinking, problem-solving ability, and attention.

**RESULTS:** Eighty-six subjects completed the 1-y trial. The supplemented group showed a significant improvement in all cognitive tests ( $P < 0.001$  to  $0.05$ ) except long-term memory recall ( $P > 0.1$ ). Those whose blood-nutrient levels were below the reference standard showed lower responses on cognitive tests. There was no significant correlation between individual nutrient levels and performance on various cognitive function tests.

**CONCLUSIONS:** Cognitive functions improved after oral supplementation with modest amounts of vitamins and trace elements. This has considerable clinical and public health significance. We recommend that such a supplement be provided to all elderly subjects because it should significantly improve cognition and thus quality of life and the ability to perform activities of daily living. Such a nutritional approach may delay the onset of Alzheimer's disease.

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