

Abstract

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A trial of B vitamins and cognitive function among women at high risk of cardiovascular disease.

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BACKGROUND: High homocysteine concentrations may be neurotoxic and contribute to cognitive decline in older persons.

OBJECTIVE: The objective was to examine the effect of supplementation with folic acid, vitamin B-12, and vitamin B-6 on cognitive change in women with cardiovascular disease (CVD) or CVD risk factors.

DESIGN: The Women's Antioxidant and Folic Acid Cardiovascular Study is a randomized placebo-controlled trial designed to test the effect of a combination of B vitamins (2.5 mg folic acid/d, 50 mg vitamin B-6/d, and 1 mg vitamin B-12/d) on secondary prevention of CVD. Female health professionals aged ≥ 40 y (n = 5442) with CVD or ≥ 3 coronary risk factors in 1998 (after folic acid fortification began in the United States) were randomly assigned to treatment. Shortly after randomization (mean: 1.2 y), a substudy of cognitive function was initiated among 2009 participants aged ≥ 65 y. Telephone cognitive function testing was administered up to 4 times over 5.4 y with 5 tests of general cognition, verbal memory, and category fluency. Repeated-measures analyses were conducted, and the primary outcome was a global composite score averaging all test results.

RESULTS: Mean cognitive change from baseline did not differ between the B vitamin and placebo groups (difference in change in global score: 0.03; 95% CI: -0.03, 0.08; P = 0.30). However, supplementation appeared to preserve cognition among women with a low baseline dietary intake of B vitamins.

CONCLUSIONS: Combined B vitamin supplementation did not delay cognitive decline among women with CVD or CVD risk factors. The possible cognitive benefits of supplementation among women with a low dietary intake of B vitamins warrant further study.

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