Abstract

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Efficacy of folic acid supplementation in stroke prevention: a meta-analysis.

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BACKGROUND: The efficacy of treatments that lower homocysteine concentrations in reducing the risk of cardiovascular disease remains controversial. Our aim was to do a meta-analysis of relevant randomized trials to assess the efficacy of folic acid supplementation in the prevention of stroke.

METHODS: We collected data from eight randomized trials of folic acid that had stroke reported as one of the endpoints. Relative risk (RR) was used as a measure of the effect of folic acid supplementation on the risk of stroke with a random effect model. The analysis was further stratified by factors that could affect the treatment effects.

FINDINGS: Folic acid supplementation significantly reduced the risk of stroke by 18% (RR 0.82, 95% CI 0.68-1.00; p=0.045). In the stratified analyses, a greater beneficial effect was seen in those trials with a treatment duration of more than 36 months (0.71, 0.57-0.87; p=0.001), a decrease in the concentration of homocysteine of more than 20% (0.77, 0.63-0.94; p=0.012), no fortification or partly fortified grain (0.75, 0.62-0.91; p=0.003), and no history of stroke (0.75, 0.62-0.90; p=0.002). In the corresponding comparison groups, the estimated RRs were attenuated and insignificant.

INTERPRETATION: Our findings indicate that folic acid supplementation can effectively reduce the risk of stroke in primary prevention.

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