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EFFICACY OF FOLIC ACID SUPPLEMENTATION IN STROKE PREVENTION: NEW INSIGHT FROM A META-ANALYSIS

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Objectives There are growing data and a continuing controversy over the efficacy of folic acid supplementation in stroke prevention. We conducted a meta-analysis based on relevant, up-to-date published randomised trials to further examine this issue.

Methods Relative risk (RR) was used to measure the effect of folic acid supplementation on risk of stroke with a fixed-effects model.

Results Overall, folic acid supplementation reduced the risk of stroke by 8% (n=55, 764, RR: 0.92, 95% CI 0.86 to 1.00, p=0.038). In the 10 trials with no or partial folic acid fortification (n=43 426), the risk of stroke was reduced by 11% (0.89, 0.82–0.97, p=0.010). Within these trials, a greater beneficial effect was observer among trials with a lower percent use of statins (<80% (median), 0.77, 0.64–0.92, p=0.005), and a meta-regression analysis also suggested a positive dose-response relationship between percent use of statins and log-RR for stroke associated with folic acid supplementation (p=0.013). A daily dose of 0.4–0.8 mg folic acid appeared to be adequate for stroke prevention in comparison with larger doses. In the remaining 5 trials conducted in populations with folic acid fortification (n=12 338), folic acid supplementation had no effect on stroke risk (1.03, 0.88–1.21, p=0.69).

Conclusions Our analysis indicated that folic acid supplementation is effective in stroke prevention in populations with no or partial folic acid fortification. Additionally, a greater beneficial effect was observed among trials with a lower percent use of statins. Our

findings underscore the importance of identifying target populations that can particularly benefit from folic acid therapy.