

# Abstract

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## **Weekly may be as efficacious as daily folic acid supplementation in improving folate status and lowering serum homocysteine concentrations in Guatemalan women.**

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**BACKGROUND:** Daily **folic acid (FA)** supplementation improves folate status, lowers circulating homocysteine (Hcy) concentrations, and reduces the risk of neural tube defects. Little is known about the efficacy of weekly FA supplementation.

**OBJECTIVE:** The objective of this study was to compare the efficacy of weekly and daily FA supplementations in improving folate and vitamin B-12 status and lowering Hcy concentrations in healthy reproductive-aged women.

**METHODS:** A randomized, double-blind supplementation trial was conducted in Guatemala. A total of 459 women were assigned randomly to 4 groups to receive weekly (5000 or 2800 microg) or daily (400 or 200 microg) FA for 12 wk. Daily and weekly iron, zinc, and vitamin B-12 were also provided. We determined serum and RBC folate by microbiological assays, but the latter was available only at baseline. Serum Hcy and vitamin B-12 were also measured. We used generalized linear regression models to assess the effects of treatment on biochemical indicators.

**RESULTS:** Supplementation improved folate status similarly across all 4 groups. Overall, mean serum folate concentrations increased by 15.4 nmol/L (95% CI: 13.8, 16.9) and the geometric mean serum Hcy concentration decreased by 9.8% (95% CI: -12.3, -7.1). Daily supplementation improved serum vitamin B-12 by 20% (95% CI: 8, 33.2), whereas weekly supplementation had no effect.

**CONCLUSION:** In conclusion, **weekly FA (either high or low dose) plus vitamin B-12 may be as efficacious as daily supplementation in improving serum folate and lowering Hcy concentrations in healthy women of reproductive age.**

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