

# 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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