

# Abstract

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## Serum folate, vitamin B12, and homocysteine in major depressive disorder, Part 1: predictors of clinical response in fluoxetine-resistant depression.

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**OBJECTIVE:** In the present study, we assessed the relationship between serum folate, vitamin B12, and homocysteine levels and clinical response in patients with major depressive disorder (MDD) who had previously failed to respond to open treatment with fluoxetine 20 mg/day and were enrolled in a 4-week, double-blind trial of either (1) fluoxetine dose increase, (2) lithium augmentation of fluoxetine, or (3) desipramine augmentation of fluoxetine.

**METHOD:** Fifty-five outpatients (mean +/- SD age = 41.7 +/- 10.6 years; 50.9% women) with MDD as assessed with the Structured Clinical Interview for DSM-III-R who were enrolled in the double-blind trial had serum folate, vitamin B12, and homocysteine measurements completed at baseline (prior to fluoxetine treatment initiation). Folate levels were classified as either low (< or = 2.5 ng/mL) or normal. Vitamin B12 levels were classified as either low (< or = 200 pg/mL) or normal. Homocysteine levels were classified as either elevated (> or = 13.2 micromol/L) or normal. With the use of a logistic regression, we then assessed the relationship between (1) low or normal folate levels, (2) normal or low B12 levels, and (3) elevated or normal homocysteine levels and clinical response to double-blind treatment. The study was conducted from November 1992 to January 1999.

**RESULTS:** Low serum folate levels (chi2=3.626, p = .04), but not elevated homocysteine (p > .05) or low vitamin B12 levels (p > .05), were associated with poorer response to treatment. The response rates for patients with (N = 14) and without (N = 38) low folate levels were 7.1% versus 44.7%, respectively.

**CONCLUSION:** Low serum folate levels were found to be associated with further treatment resistance among patients with fluoxetine-resistant MDD.

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