

Abstract

Arch Gen Psychiatry. 2003 Jun;60(6):618-26.

Folate, vitamin B12, homocysteine, and the MTHFR 677C->T polymorphism in anxiety and depression: the Hordaland Homocysteine Study.

Bjelland I, Tell GS, Vollset SE, Refsum H, Ueland PM.

Department of Public Health and Primary Health Care, Locus for Homocysteine and Related Vitamins, University of Bergen, Norway.

BACKGROUND: An association between depression and folate status has been demonstrated in clinical studies, whereas data are sparse on the relationship between depression and other components of 1-carbon metabolism such as vitamin B12, homocysteine, and the methylenetetrahydrofolate reductase 677C->T polymorphism. The relationship between anxiety and these components is less well known. This study examined the associations between folate, total homocysteine, vitamin B12, and the methylenetetrahydrofolate reductase 677C->T polymorphism, and anxiety and depression in a large population-based study.

METHODS: Anxiety and depression, measured by the Hospital Anxiety and Depression Scale, were assessed in 5948 subjects aged 46 to 49 years (mean, 47.4 years) and 70 to 74 years (mean, 71.9 years) from the Hordaland Homocysteine Study cohort. By means of logistic regression models, anxiety and depression scores were examined in relation to the factors listed above.

RESULTS: Overall, hyperhomocysteinemia (plasma total homocysteine level > or =15.0 micro mol/L [$>$ or =2.02 mg/dL]) (odds ratio, 1.90; 95% confidence interval, 1.11-3.25) and T/T methylenetetrahydrofolate reductase genotype (odds ratio, 1.69; 95% confidence interval, 1.09-2.62), but not low plasma folate or vitamin B12 levels, were significantly related to depression without comorbid anxiety disorder. Plasma folate level was inversely associated with depression only in the subgroup of middle-aged women. None of the investigated parameters showed a significant relationship to anxiety.

CONCLUSION: Our results provide further evidence of a role of impaired 1-carbon metabolism in depression.

PMID: 12796225

FREE FULL TEXT