

# Abstract

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## Serum folate and homocysteine and depressive symptoms among Japanese men and women.

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**BACKGROUND AND OBJECTIVES:** Folate and homocysteine have been implicated to have a role in depression. However, results of epidemiologic studies on this issue have been inconsistent. The objective of this study was to clarify the association between serum folate and homocysteine concentrations and depressive symptoms in Japanese adults.

**SUBJECTS AND METHODS:** We analyzed cross-sectional data for 530 municipal employees (313 men and 217 women), aged 21-67 years, who participated in a health survey at the time of periodic checkup. Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression (CES-D) scale. Logistic regression analysis was used to estimate odds ratios of depressive symptoms (CES-D scale scores of  $\geq 16$ ) with adjustment for potential confounding variables.

**RESULTS:** In total, 113 men (36.1%) and 79 women (36.4%) had depressive symptoms. A higher serum folate was associated with a decreased prevalence of depressive symptoms in men. The multivariate-adjusted odds ratios (95% confidence interval) of depressive symptoms for the lowest to highest quartiles of serum folate were 1.00 (reference), 0.53 (0.27-1.03), 0.33 (0.16-0.68) and 0.51 (0.25-1.03), respectively (trend  $P=0.03$ ). Furthermore, the data suggested a positive association between serum homocysteine and depressive symptoms in men (trend  $P=0.06$ ). In women, neither folate nor homocysteine was associated with depressive symptoms.

**CONCLUSIONS:** Low serum folate may be related to an increased prevalence of depressive symptoms in Japanese men.

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