Abstract

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Choline in anxiety and depression: the Hordaland Health Study.

Bjelland I, Tell GS, Vollset SE, Konstantinova S, Ueland PM.

Department of Child and Adolescent Psychiatry, Haukeland University Hospital, Bergen, Norway.

BACKGROUND: Despite its importance in the central nervous system as a precursor for acetylcholine and membrane phosphatidylcholine, the role of choline in mental illness has been little studied.

OBJECTIVE: We examined the cross-sectional association between plasma choline concentrations and scores of anxiety and depression symptoms in a general population sample.

DESIGN: We studied a subsample (n = 5918) of the Hordaland Health Study, including both sexes and 2 age groups of 46-49 and 70-74 y who had valid information on plasma choline concentrations and symptoms of anxiety and depression measured by the Hospital Anxiety and Depression Scale-the latter 2 as continuous measures and dichotomized at a score >/=8 for both subscales.

RESULTS: The lowest choline quintile was significantly associated with high anxiety levels (odds ratio: 1.33; 95% CI: 1.06, 1.69) in the fully adjusted (age group, sex, time since last meal, educational level, and smoking habits) logistic regression model. Also, the trend test in the anxiety model was significant (P = 0.007). In the equivalent fully adjusted linear regression model, a significant inverse association was found between choline quintiles and anxiety levels (standardized regression coefficient = -0.027, P = 0.045). We found no significant associations in the corresponding analyses of the relation between plasma choline and depression symptoms.

CONCLUSION: In this large population-based study, choline concentrations were negatively associated with anxiety symptoms but not with depression symptoms.

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