

Abstract

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Serum zinc correlates with parent- and teacher- rated inattention in children with attention-deficit/hyperactivity disorder.

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OBJECTIVE: The aim of this study was to explore the relationship of zinc nutrition to the severity of attention-deficit/hyperactivity disorder (ADHD) symptoms in a middle-class American sample with well-diagnosed ADHD. Previous reports of zinc in ADHD, including two positive clinical trials of supplementation, have come mainly from countries and cultures with different diets and/or socioeconomic realities.

METHOD: Children 5-10 years of age with DISC- and clinician-diagnosed ADHD had serum zinc determinations and parent and teacher ratings of ADHD symptoms. Zinc levels were correlated (Pearson's and multiple regression) with ADHD symptom ratings.

RESULTS: Forty-eight children (37 boys, 11 girls; 33 combined type, 15 inattentive) had serum zinc levels with a median/mode at the lowest 30% of the laboratory reference range; 44 children also had parent/teacher ratings. Serum magnesium levels were normal. Nutritional intake by a parent-answered food frequency questionnaire was unremarkable. Serum zinc correlated at $r = -0.45$ ($p = 0.004$) with parent-teacher-rated inattention, even after controlling for gender, age, income, and diagnostic subtype, but only at $r = -0.20$ ($p = 0.22$) with CPT omission errors. In contrast, correlation with parent-teacher-rated hyperactivity-impulsivity was nonsignificant in the opposite direction.

CONCLUSION: These findings add to accumulating evidence for a possible role of zinc in ADHD, even for middle-class Americans, and, for the first time, suggest a special relationship to inattentive symptoms. They do not establish either that zinc deficiency causes ADHD nor that ADHD should be treated with zinc. Hypothesis-testing clinical trials are needed.

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