Hormone disorder and vitamin deficiency in attention deficit hyperactivity disorder (ADHD) and autism spectrum disorders (ASDs).

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Abstract

BACKGROUND:
The aim of this study was to analyze thyroid hormones and antibodies, ferritin, vitamins B12 and D, adrenal and gonadal steroid levels, and celiac antibodies in children diagnosed with attention deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD).

METHODS:
Between February 2014 and July 2014, a total of 77 children and adolescents (31 girls, 46 boys) who were admitted to the Van Training and Research Hospital were included in the study. The study population was divided into three groups including ADHD (n=34), ASD (n=16), and age- and sex-matched healthy controls (n=27). The diagnosis of ADHD was made on the basis of Diagnostic and Statistical Manual of Mental Disorders - Fifth Edition (DSM-5) and DSM-4 Turkish version with the diagnostic interview and Disruptive Behavior Disorder Rating Scale (DBDRS). The diagnosis of ASD was based on the DSM-4 and DSM-5 Turkish version with the diagnostic interview and the Childhood Autism Rating Scale (CARS). The blood samples were obtained between 8:00 and 9:00 A.M.

RESULTS:
There was a statistically significant difference in vitamin B12 and D levels and ferritin values among the three groups. The ASD group had the highest ferritin and the lowest vitamins B12 and D levels. Vitamin D levels of the ADHD group were significantly lower compared to the healthy controls.

CONCLUSIONS:
Our study results highlight the importance of supplementation of vitamins B12 and D in the ASD and ADHD patients.