The Effects of Vitamin D on Kynurenine Level in Children with Attention Deficit Hyperactivity Disorder: An Epidemiological Study

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Abstract

Background and aims:
Attention deficit hyperactivity disorder (ADHD) is one of the most common psychiatric disorders with a worldwide prevalence of 5%. The prevalence is even higher among school age children ranging from 8% to 12%. ADHD is predominantly childhood-onset disorder and can persist into adolescence and adulthood to inflict long-term harm. The aim of this study was to identify the epidemiological features of ADHD and investigate the effects of vitamin D on kynurenine level in children with ADHD in Iran using ELISA method.

Methods:
A case-control study was designed. The study participants consisted of 40 patients with ADHD and 40 healthy participants as control group. It was conducted in Isfahan Hasht Behesht hospital from July to November 2015. All samples were treated with 1000 U of vitamin D as a tablet twice daily. The level of kynurenine was measured in blood samples using enzyme-linked immunosorbent assay (ELISA) method. Data analysis was done using SPSS software.

Results:
The results of this study showed that the mean vitamin D levels were 49.73 and 73.72, respectively before and after treatment in patient group, which seem significant. The mean vitamin D level after treatment was higher in patient group in comparison with control group. On the other hand, the mean kynurenine levels were 608.1 and 662.9, respectively before and after treatment in patient group. The mean kynurenine level was the same before and after treatment.

Conclusion:
According to the results of the study, we can conclude that vitamin D did not have a significant effect on kynurenine level in children with ADHD.