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The effects of vitamin D supplementation on ADHD (Attention Deficit Hyperactivity Disorder) in 6–13 year-old students: A randomized, doubleblind, placebo-controlled study

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Introduction: Attention Deficit Hyperactivity Disorder (ADHD) is a common mental disorder in children. Drug treatment is the most prevalent method used to control it; however, considering the low efficacy and frequent side effects of current drugs, more attempts are needed to replace them with safer agents. Several studies have shown the beneficial role of micronutrients such as vitamin D in development and improving the performance of neuronal system. This research intended to study the effects of vitamin D supplementation in 6–13 year-old students with ADHD.

Methods: In this double-blind parallel clinical trial, the subjects were selected from among 6–13 year-old students with ADHD diagnosed by a child psychiatry specialist. Vitamin D3 supplements (1000 IU) or placebo given daily to 70 subjects for three months. ADHD symptoms were evaluated before and after the intervention using Conners Parent Questionnaire (CPQ), the Strengths and Difficulties Questionnaire Teacher Version (SDQT), the Strengths and Difficulties Questionnaire Parent Version (SDQP) and Continuous performances Test (CPT) scores.

Results: The mean scores of the CPQ, SDQP and SDQT showed a significant difference in the two groups after intervention ($p < 0.05$). The impulsivity mean scores of the CPT after intervention showed statistical significance ($p = 0.002$), but the attention ($p = 0.11$) and mean reaction time ($p = 0.19$) mean scores did not.

Conclusions: Vitamin D supplementation not only improves some behavioral problems but may prevent exacerbation in some symptoms of the disorder and reduce impulsivity.

Notes: