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Antioxidant therapies in attention deficit hyperactivity disorder

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Abstract

Attention Deficit Hyperactivity Disorder (ADHD) is a common neurodevelopmental disorder among children and adults. Impulsivity, inattention, and hyperactivity are hallmark of ADHD. While ADHD is not on the autism spectrum, they are related in several ways as they have some overlapping symptoms. The pathogenesis of ADHD has so far remained enigmatic, however, there is some evidence suggesting critical association among ADHD and the level of oxidative stress which trigger cell membrane damage, changes in inner structure and function of proteins, as well as structural damage to DNA which eventually culminate into development of ADHD. Although stimulants as well as some classes of non-stimulants are used to ameliorate symptom of ADHD, various adverse effects have been associated with such compounds. To date, treatment of ADHD is done with a combination of medications, behavior modifications, psycho-education, family therapy and life-style changes. The American Academy of Pediatrics officially promote stimulant medications and/or behavior therapy as 'first line of therapy'. In addition to the presently therapeutic armamentarium, evidences are emerging on relevancy of natural products. There has been an interest on the therapeutic role of antioxidants in the treatment of ADHD. The present review aims to highlight the beneficiary role played by different antioxidants in mitigating the symptoms of ADHD.

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