Introduction: Different psychological, social, genetic, and biochemical factors are thought to be involved in the aetiology of attention-deficit/hyperactivity disorder (ADHD).

Objective: However, few studies have evaluated the oxidative pattern of ADHD patients. In the present study, we evaluate whether levels of malondialdehyde (MDA) oxidant as well as superoxide dismutase (SOD), glutathione peroxidase (GSH-Px), and catalase (CAT) antioxidant enzyme activities are associated with ADHD.

Materials and methods: The sample population consisted of thirty child or adolescent patients diagnosed with ADHD according to DSM-IV-TR criteria. Thirty healthy subjects also were included in the study as controls. Venous blood samples were collected, and MDA levels as well as SOD, GSH-Px, and CAT activities were measured.

Results: MDA levels of the patients were significantly higher than the controls. CAT activities of the patients were higher than the controls; however, the difference was not statistically significant. GSH-Px activities of the patients were significantly lower than the controls. There were no significant differences in SOD activity between the patient and control groups.

Conclusion: It is noted, high levels of MDA oxidant as well as low GSH-Px activities suggest an oxidative imbalance in paediatric patients with ADHD. CAT activities may be increased in response to increased oxidant levels.

Antioxidant enzymes, Attention-deficit/hyperactivity disorder, Malondialdehyde, Oxidative stress