

Investigating the Expression of NR1/NR2 Receptors in Boys Between 6 to 16 with ADHD Compared to a Healthy Controlled Group

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Abstract : Emerging evidence from clinical, genetic, and animal model studies suggests that the N-methyl-D-aspartate (NMDA) glutamate receptors (NMDAR) may contribute to the pathophysiology and aetiology of neurological and psychiatric disorders and the patients with impaired NMDR receptors experience psychological symptoms. Therefore, we hypothesised that NMDAR receptors play a key role in the development of attention deficit hyperactivity disorder (ADHD). In this comparative analytical study, we utilized western blotting method to assay the expression levels of NMDA subunits NR1 and NR2 in the blood plasma of 50 male individuals diagnosed with ADHD in comparison to 20 healthy controls. The findings from the western blotting analysis provide support for the hypothesis that individuals with ADHD exhibit significantly lower levels of NR1/2 receptors compared to those without the disorder. Further research is needed to explore the potential causal relationship between reduced NR1/NR2 receptor levels and the development of ADHD.

Keywords : expression, glutamate receptors, NR1, NR2, ADHD

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