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OCULOMOTOR DEFICITS IN ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD) - A SYSTEMATIC REVIEW AND META-ANALYSIS

ABSTRACT

Purpose: Children with the psychiatric condition develop eye movement disorders (oculomotor deficits). This study aims to report the oculomotor deficiency among attention deficit hyperactivity disorder (ADHD) compared to those without ADHD.

Materials & Methods: We searched on PubMed, Scopus, CINAHL complete and BMJ databases for key title terms “oculomotor deficit” or a related term, and “attention deficit hyperactivity disorder” or an associated word in the title or abstract. We excluded non-case-control studies, and articles in which ADHD children were under medication during the time of testing.

Results: In this study, a total of twelve articles are included. Ten of the research reported on characteristic of various types of saccade among ADHD and without ADHD. Two studies reported on fixation and one study on pursuit. Among various oculomotor deficits, the analysis in the antisaccade task showed that children with ADHD made more direction errors than controls, and there was no considerable difference found in the visually guided saccade latency between ADHD and without ADHD.

Conclusions: We have found from this evidence that the children with attention deficit hyperactivity disorder (ADHD) are less precise in performing eye movements and need more time to complete the oculomotor tasks. The overall results suggest there is a presence of oculomotor deficits in ADHD.

Keywords: Attention deficit hyperactivity disorder, oculomotor abnormalities, saccade, smooth pursuit, fixation