Attention-Deficit/Hyperactivity Disorder And Inflammation: What Does Current Knowledge Tell Us? A Systematic Review

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Front. Psychiatry, November 2017
DOI: https://doi.org/10.3389/fpsyt.2017.00228

Background:
Attention-deficit/hyperactivity disorder (ADHD) is a complex condition that interferes with development and/or functioning. Our objective is to investigate the potential association between ADHD and inflammation.

Methods:
We conducted a systematic review of human studies measuring inflammatory markers in ADHD. The studies were identified by searching PUBMED, MEDLINE, EMBASE, PSYCHINFO, COCHRANE, and SCOPUS databases for peer-reviewed journals published until September 2016. We included cytokine gene expression and protein measured. Fourteen papers met the inclusion criteria.

Results:
Seven studies evaluated the association of cytokine gene polymorphisms in ADHD, and six studies measured cytokines levels in blood. One study analyzed the presence of cytokines in cerebrospinal fluid in patients with ADHD. Altogether, these studies indicate a possible role of inflammation in ADHD pathogenesis, despite the significant heterogeneity and contradictory results.

Conclusion:
Evidence points to the association of ADHD with inflammatory processes, but more studies are warranted.