

Omega-3 status and clinical manifestation of attention deficit hyperactivity disorder (ADHD)

Omega-3 與注意力不足過動症之相關性

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Objective: Attention deficit/hyperactivity disorder (ADHD) is the most common developmental disorder in childhood and characterized by symptoms of inattentiveness, hyperactivity and impulsivity. The etiology for ADHD is multifactorial, while omega-3 polyunsaturated fatty acids (PUFAs), an essential fatty acid (EFA), deficiency has been hypothesized as one of plausible mechanisms. Lower PUFAs status has been associated with ADHD symptoms, while omega-3 supplement has been shown to improve ADHD symptoms. The aim of the study is to investigate omega-3 PUFAs status and its relation to ADHD symptoms

Methods: We recruited 21 children diagnosed with DSM-IV ADHD, and 21 non-ADHD controls. We assessed the severity of their ADHD symptoms with SNPA-IV, and evaluated their omega-3 dietary intake level and EFA deficit symptom severity.

Results: We found children with ADHD had higher scores of inattention and hyperactivity than non-ADHD group. There is also a trend for ADHD group to have lower dietary intake of omega-3 than non-ADHD group. Moreover, Children with ADHD had higher essential fatty acid (EFA) deficit scores ($p=0.024$) when compared with non-ADHD group, and EFA deficit scores had positive correlation to scores of ADHD symptoms ($p=0.21$) in ADHD group but not in non-ADHD group.

Conclusion: Children with ADHD had higher deficiency of EFA in this study, and EFA deficiency was shown to have positive association with ADHD symptoms. Hence, EFA deficiency may play a role in the clinical manifestation of ADHD

symptoms.