

# Non-stimulant interventions in ADHD

AKADEMISK AVHANDLING

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av

**Mats Johnson**

Fakultetsopponent:  
Professor Manfred Döpfner  
Department of Psychiatry and Psychotherapy of Childhood and Adolescence,  
University of Cologne, Köln, Tyskland

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- I. Johnson M, Östlund S, Fransson G, Kadesjö B, Gillberg C (2009). Omega-3/Omega-6 Fatty Acids for Attention Deficit Hyperactivity Disorder. A Randomized Placebo-Controlled Trial in Children and Adolescents. *Journal of Attention Disorders* 12, 394–401.
- II. Johnson M, Månsson J-E, Östlund S, Fransson G, Areskoug B, Hjalmarsson K, Landgren M, Kadesjö B, Gillberg C (2012). Fatty acids in ADHD: plasma profiles in a placebo-controlled study of Omega 3/6 fatty acids in children and adolescents. *ADHD Attention Deficit and Hyperactivity Disorders* 4, 199-204.
- III. Johnson M, Cederlund M, Råstam M, Areskoug B, Gillberg C (2010). Open-Label Trial of Atomoxetine Hydrochloride in Adults with ADHD. *Journal of Attention Disorders* 13, 539-545.
- IV. Johnson M, Östlund S, Fransson G, Landgren M, Nasic S, Kadesjö B, Gillberg C, Fernell E (2012). Attention-deficit/hyperactivity disorder with oppositional defiant disorder in Swedish children – an open study of Collaborative Problem Solving. *Acta Paediatrica* 101, 624-630.

Handledare: Professor Elisabeth Fernell  
Bitr. handledare: Professor Christopher Gillberg



UNIVERSITY OF GOTHENBURG

# Non-stimulant interventions in ADHD

Mats Johnson

Gillberg Neuropsychiatry Centre, Institute of Neuroscience and Physiology  
Sahlgrenska Academy at University of Gothenburg, Sweden

## ABSTRACT

**Aim:** The overall aim of the thesis was to study alternative non-stimulant treatments for Attention Deficit Hyperactivity Disorder (ADHD) in children, adolescents and adults. **Method:** The thesis includes four studies referring to three different treatment trials. Study 1: Randomized double-blind placebo-controlled trial of omega 3/6 fatty acids (Equazen eyeq) treatment of ADHD in children and adolescents. Study 2: Changes in plasma fatty acid profiles in the Omega 3/6 trial, and comparison with treatment response. Study 3: One-year trial of efficacy and safety of the non-stimulant medication atomoxetine in adults with ADHD. Study 4: Study of the effectiveness of the cognitive-behavioural model “Collaborative Problem Solving” (CPS) in children with ADHD and Oppositional Defiant Disorder (ODD). **Results:** The overall group results of Study 1 were negative, but clinical response was seen in subgroups such as those with ADHD inattentive subtype, Developmental Coordination Disorder (DCD), and reading-writing disorder. Study 2 findings suggested that clinical response to Omega 3/6 was associated with plasma fatty acid changes, especially with reduction of the n-6/n-3 ratio. Study 3 showed a moderate effectiveness of atomoxetine after 10 weeks in adults with ADHD, but the longer-term compliance to treatment was poor. In study 4 CPS showed promise in reducing problem behaviours in children with ADHD and ODD, and children with severe ADHD symptoms may be improved by combining CPS and ADHD medication.

**Conclusions:** The trials of non-stimulant treatments included in this thesis showed some promising results and suggested directions for future research and study designs.

**Keywords:** Attention Deficit Hyperactivity Disorder, Omega 3/6, Plasma Fatty Acids, Atomoxetine, Collaborative Problem Solving

**Correspondence:** [mats.johnson@gnc.gu.se](mailto:mats.johnson@gnc.gu.se)

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