

# Abstract

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## Effect of supplementation with polyunsaturated fatty acids and micronutrients on learning and behavior problems associated with child ADHD.

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**METHODS:** Various developmental problems including attention-deficit/hyperactivity disorder (ADHD) have been linked to biological deficiencies in polyunsaturated fatty acids (PUFAs). Additionally, there is evidence that symptoms may be reduced with PUFA supplementation. This study investigated effects of supplementation with PUFAs on symptoms typically associated with ADHD. Because nutrients work synergistically, additional effects of micronutrient supplementation were also investigated. A total of 132 Australian children aged 7 to 12 years with scores  $>$  or  $=$  2 SD above the population average on the Conners ADHD Index participated in a randomized, placebo-controlled, double-blind intervention over 15 weeks, taking PUFAs alone, PUFAs + micronutrients, or placebo. Due to unreturned questionnaires, data were only available for 104 children.

**RESULTS:** Significant medium to strong positive treatment effects were found on parent ratings of core ADHD symptoms, inattention, hyperactivity/impulsivity, on the Conners Parent Rating Scale (CPRS) in both PUFA treatment groups compared with the placebo group; no additional effects were found with the micronutrients. After a one-way crossover to active supplements in all groups for a further 15 weeks, these results were replicated in the placebo group, and the treatment groups continued to show significant improvements on CPRS core symptoms. No significant effects were found on Conners Teacher Rating Scales.

**CONCLUSION:** These results add to preliminary findings that ADHD-related problems with inattention, hyperactivity, and impulsivity might respond to treatment with PUFAs and that improvements may continue with supplementation extending to 30 weeks.

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