University of Lethbridge

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What nutrient-based interventions improve ADHD outcomes in children?

BACKGROUND

- Children with Attention Deficit Hyperactivity Disorder (ADHD) can have increased risk of poor educational achievement, substance use problems, psychiatric conditions, among other health risks.
- Parents and families of children with ADHD have expressed interest to pursue a variety of treatment options, including nutrient-based interventions.
- The Patient Oriented Innovative Nutrition Trial (POINT) will be building on the results of the Micronutrients for ADHD in Youth (MADDY) study by Dr. Brenda Leung and colleagues.
- An advisory group of clinicians, educators, researchers, and those with lived/living experiences was created to co-design the innovative clinical trial protocol.
  - We are look to recruit more clinicians and policymakers. If you're interested, please email our research coordinator at kirsten.schmidt@uleth.ca
- To inform the co-design, two research assistants – Kirsten Schmidt and Sunny Yimeng Dong – conducted a rapid review on non-pharmaceutical interventions for ADHD children (age 0-18) within the last 10 years.

RESULTS

Out of 30 single studies, 21 demonstrated significant improvement in ADHD outcomes:

Micronutrients (n=9)

Multivitamins + Minerals

Vitamin D + Magnesium

Zinc + Iron

Vitamin D

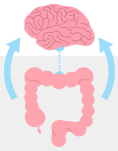
Essential Fatty Acids (n=5)

Omega 3: EPA + DHA

Omega 3/6: EPA + DHA + GLA

EPA + DHA + DPA + Vitamin E + Antioxidants

PCSO-524: Omega 3 + PUFA



Combination/ Other (n=7)

Dietary (Balanced, Restriction, Fortified)

Omega 3/6 + Korean Red Ginseng

Omega 3/6 + Methylphenidate

Microbiome Modulators

Vitamine D + Direct Neuro-stimulation

RECOMMENDATIONS FOR FUTURE RESEARCH

Long-Term Effects and Safety
Emphasize the need for long-term studies on safety, brain development, and potential side effects of ADHD treatments.

Dosage Optimization and Maintenance
Focus on finding the right dosage and exploring reduced doses after symptom control, including combining treatments with lower doses of traditional ADHD medications.

Combination and Synergistic Treatments
Investigate the benefits of combining supplements like omega-3/6 with conventional medications to enhance treatment effectiveness.

Broader Participant Inclusion and Generalizability
Recommend including more diverse participants in research to make findings applicable to a broader ADHD population (e.g., more female representation).

Mechanisms of Action and Nutrient Absorption
Explore how supplements work, including the role of diet, nutrient absorption, and gut health in treatment effectiveness.

Targeted Interventions for Subthreshold ADHD
Call for more research on mild ADHD symptoms and targeted treatments to improve management.

Improved Research Design and Methodology
Suggest using placebo-controlled trials, cross-over designs, and neuroimaging to produce more reliable evidence and address research limitations.

Patient Adherence and Barriers to Treatment
Highlight the need to reduce treatment complexity and capsule burden to improve patient adherence.

Are you an ADHD/nutrition clinician and policymakers? Please email: kirsten.schmidt@uleth.ca.