



THE ASSOCIATION BETWEEN ADHD AND CELIAC DISEASE IN CHILDREN. EXPERT REVIEW FROM KATE LAWRENCE



Gaur, S
Children (Basel, Switzerland). 2022;9(6)

Untreated coeliac disease (CeD) can be accompanied by an array of neurological symptoms. Some of these symptoms are similar to those observed in attention deficit hyperactive disorder (ADHD), like an inability to focus, lack of mental alertness, physical under-activity and clinically measurable under-activity in particular brain regions. The mechanism of such symptoms is not fully understood but is thought to be linked to low-grade inflammation in the brain as a result of permeability in the gut and blood-brain barrier, which could contribute to the presentation of ADHD-like symptoms.

This is an updated systematic review including 23 studies of children and young adults, which found an association between ADHD and CeD, in contrast to previous reviews that found no clear association. This review paid particular attention to the diagnostic criteria of ADHD and its subtypes, highlighting the need to examine the subtypes of ADHD in future studies. Specifically, the inattentive subtype may be a behavioural ADHD phenotype that could respond to a gluten-free diet. The authors advocate screening ADHD patients for CeD and encourage the consideration of non-neurological symptoms in the assessment of ADHD to identify potential CeD cases.



IMPULSIVENESS IN CHILDREN WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER AFTER AN 8-WEEK INTERVENTION WITH THE MEDITERRANEAN DIET AND/OR OMEGA-3 FATTY ACIDS: A RANDOMISED CLINICAL TRIAL WITH EXPERT REVIEW FROM ANA-PAULA AGRELA

San Mauro Martin, I ; Sanz Rojo, S ; González Cosano, L ; et al.
Neurologia. 2022;37(7):513-523

The aim of this 2022 randomised clinical trial was to analyse changes in the Barratt Impulsiveness Scale (BIS-11c) scores in children with ADHD after an 8-week intervention with the Mediterranean diet, omega-3 fatty acid supplementation, or Mediterranean diet plus omega-3 fatty acid supplementation, as compared to a control group. Participants (n= 60) were divided into 4 groups, with a control group and 3 intervention groups. Results show that participants with ADHD taking n-3 PUFA supplements (550 mg EPA and 225 mg DHA daily) showed significantly lower levels of impulsiveness than those adopting a Mediterranean diet and controls. These participants also scored lower on all subscales of the BIS (cognitive, motor, and lack of planning). However, there weren't any differences in impulsive behaviour between patients taking n-3 PUFA supplements and those taking supplements and adhering to the Mediterranean diet. Authors conclude that omega-3 rich (EPA/DHA) supplements should be considered for paediatric patients with ADHD, particularly those with the predominantly hyperactive-impulsive subtype.

MICRONUTRIENTS FOR ATTENTION-DEFICIT / HYPERACTIVITY DISORDER IN YOUTHS: A PLACEBO-CONTROLLED RANDOMIZED CLINICAL TRIAL

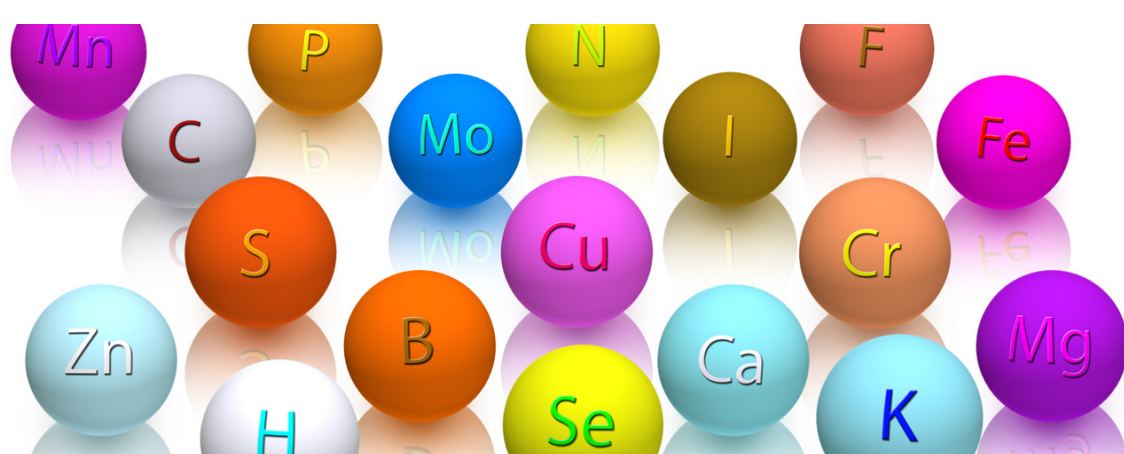


WITH EXPERT REVIEW FROM GAIL BRADY

Johnstone, JM ; Hatsu, I ; Tost, G ; et al.
Journal of the American Academy of Child and Adolescent Psychiatry. 2022;61(5):647-661

Attention-deficit/hyperactivity disorder (ADHD) is a common neurodevelopmental condition that affects about 5-7% of children. This eight-week randomised placebo-controlled clinical trial evaluated the effects of a multi-nutrient supplement in 135 children with ADHD, aged 6-12 years, focusing specifically on irritable mood symptoms. The multi-nutrient formula contained vitamins, minerals, amino acids, and antioxidants.

Outcomes were measured by scores rated by clinicians (Clinical Global Impression-Improvement aka CGI-I) and scores rated by parents (Child and Adolescent Symptom Inventory-5 aka CASI-5). The multi-nutrient formula showed overall benefit in the blinded clinician rating but not by parental reports. According to the parents, overall improvement was reported both in the placebo and intervention groups. The supplement was well tolerated with good adherence and the monitored blood markers demonstrated safety of use.



CIRCULATING LEVELS OF MATERNAL VITAMIN D AND RISK OF ADHD IN OFFSPRING: RESULTS FROM THE VITAMIN D ANTENATAL ASTHMA REDUCTION TRIAL WITH EXPERT REVIEW FROM JESSICA RIGUTTO

Chu, SH ; Huang, M ; Kelly, RS ; Kachroo, P ; Litonjua, AA ; Weiss, ST ; Lasky-Su, J
International journal of epidemiology. 2022;51(3):910-918

Vitamin D has been found to play a critical role in neurodevelopment across sensitive periods in utero, infancy and early childhood. Among neurodevelopmental and behavioural disorders in early life, attention-deficit/hyperactivity disorder (ADHD) is the most common among children worldwide. Low levels of circulating 25-hydroxy-vitamin D [25(OH)D] have been shown to associate with prevalent ADHD. The aims of this study were to (i) determine the association between maternal vitamin D levels in the first and third trimesters of pregnancy and the risk of offspring ADHD by age 6 years or later; and (ii) to identify potential sensitive periods in utero during which vitamin D levels might be most important for reducing risk of ADHD. This is an ancillary study of the Vitamin D Antenatal Asthma Reduction Trial (VDAART). The VDAART was a randomised, double-blinded, multicentre, clinical trial in which 876 participating mothers were recruited between 10-18 weeks of gestation and assigned to receive either 4400 or 400 IU/day of vitamin D throughout pregnancy. Results show protective associations between maternal 25(OH)D sufficiency in the third trimester and child ADHD, but not at baseline. At baseline and in the third trimester, there were higher odds of ADHD in male offspring compared with female offspring in 25(OH)D insufficient mothers (NB small sample sizes). Authors conclude that higher levels of maternal vitamin D during pregnancy may play a protective role against risk of ADHD in offspring,

