

Attention Deficit Hyperactivity Disorder

Attention Deficit Hyperactivity Disorder, also referred to as ADHD, is one of the most pervasive psychiatric disorders in childhood with a global incidence of between 6 and 13%, existing cross-culturally with a 4:1 higher prevalence in males than females. ADHD is defined by the Diagnostic and Statistical Manual of Mental Disorders, Volume 5 as complex and multi-faceted; often co-occurring with externalizing symptoms including oppositional and conduct disorder-related behaviors. There are 3 recognized sub-types: (1) Predominantly inattentive (ADD) (includes disorganization), (2) Predominantly hyperactive-impulsive presentation and (3) Combined presentation: Inattentive+ hyperactive-impulsive (ADHD). Symptoms begin in childhood, are present before the age of 12 but often observable in chronic cases in children as young as 2-3 years. For a diagnosis to be reached, symptoms must be present in more than one setting, e.g., home and school or home and work.

The IFBB believe that every child, irrespective of background, should be eating a well-balanced diet from a range of food groups including whole-grains, fruits and vegetables, protein and dairy. Important nutrients for children with ADHD are thought to include omega-3 HUFAs, iron, zinc and magnesium. Extra care should be taken to ensure that children with ADHD taking stimulant medication do not skip meals and enjoy a nutrient-rich breakfast, lunch and especially at dinner when medication effects wear off. Unhealthy snack foods and processed foods should be avoided and not kept in the home even as treats or rewards. If a child is hungry between meals then raw foods such as sliced apples or carrot sticks, hummus and pitta, dried fruit can be offered or a home-made smoothie using a combination of fruits and vegetables including strawberries, mango, pineapples, carrot and mint or ginger for added flavor.

Iron & Iodine

With regard to ADHD, researchers have reported an increased risk of the disorder among those with Iron Deficient Anemia. The investigators emphasize that this finding may be a reciprocal effect in that children with autism may have iron-deficient diets. These findings suggest that intake of iron may be valuable for children with neurodevelopmental disorders such as ADHD and autism.

Zinc

Zinc is involved in the metabolism of neurotransmitters and plays an important role in regulating dopamine, which is involved in many neurodevelopmental

disorders, particularly ADHD. This nutrient plays a role in normal growth, sexual development, and immune system strengthening. Zinc deficiency can result in irritability, resentment, infection, fatigue, appetite loss and low mood in children. Researchers have found a relationship between serum zinc levels and attention in children with ADHD. No relationship was found between zinc and hyperactivity or impulsivity. Research has also suggested that zinc supplementation in children with ADHD may enhance therapeutic benefits from existing stimulant medication, via its metabolism of neurotransmitters and fatty acids.

Magnesium and Vitamin B

Magnesium is an important element that facilitates many central nervous system (CNS) processes. Since neurodevelopmental disorders are associated with CNS dysfunction and therefore the role of magnesium is important to examine within these ADHD. Many studies have found that children with ADHD and other neurodevelopment disorders reported to have low erythrocyte magnesium levels. After receiving treatment through Magnesium/B12 supplementation, these children reported decreased symptoms of ADHD, anxiety, and aggression.

Omega-3 HUFAs

Omega-3s HUFAs are essential fats important for neurodevelopment and healthy brain structure and function. Since our bodies cannot produce these fats, we must get them from our diet. Several studies report that children with ADHD present with low omega-3's than their undiagnosed counterparts. In addition, several randomized, placebo-controlled, double-blind studies have shown a significant effect of omega-3 in reducing clinical symptoms of ADHD. Research in this area is however very inconsistent. Some of the reasons for this could be that available studies have small sample sizes and individually lack the statistical power to demonstrate a substantive effect. Other potential reasons for the lack of consistent findings in the clinical trial literature are the large variation in methodological design, differences in dose, duration of supplementation (e.g., 8, 12, 16 or 34 weeks), and choice of formula of fatty acids used (e.g., EPA-rich versus DHA-rich). Biochemical results are mostly not reported, so it may be unclear whether supplementation has in fact had its intended effect.