

Medication : NATURAL REMEDIES TO TREAT ADHD*

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The term *natural remedies* generally refers to those substances used for medicinal purposes that are found in relatively unaltered states in the environment—as opposed to the *unnatural* pharmaceutical drugs that are synthesized in laboratories. Natural remedies are popularly thought of as safe, and synthetic unnatural drugs are often considered by the lay public to be potentially hazardous. The problem with what seems to be a simple distinction, however, is that natural remedies are not always safe or adequately tested, and many are processed in unnatural ways before they reach the consumer. Furthermore, many pharmaceutical drugs are actually derived from natural sources, and some that are entirely synthetic may be quite safe or may be chemically indistinguishable from similar substances of natural origin. In other words, the boundaries between natural and unnatural remedies are fuzzy at best.

Having said this, there may be a place for the use of certain supplements to *augment* the response to stimulants in some children with ADHD (as opposed to using these remedies as *alternatives* to stimulants). For example, ADHD has been found to be associated with a deficiency of essential fatty acids in some children (Colquhoun & Bunday, 1981; Stevens et al., 1995) and that supplementing the diet with essential fatty acids, usually given in the form of fish oil, may reduce ADHD symptoms (Burgess, 1998; Richardson & Ross, 2000). Essential fatty acids, particularly the omega-3 fatty acid known as DHA, play a critical role in the brain and central nervous system throughout the life span and are “essential for normal neuronal structure and function, maintenance of membrane fluidity, impulse transmission, receptor sensitivity, and maintenance of adequate neurotransmitter pool” (Horrobin, Glen, & Hudson, 1995, p. 605). Although studies in this area are very promising, it should be emphasized that ADHD symptoms did not disappear entirely with fish oil alone and that the positive results in one study were seen primarily in children who manifested clinical signs consistent with a deficiency of essential fatty acids (e.g., frequent urination, excessive thirst, dry skin, and dry hair) (Mitchell, Aman, Turbott, & Manku, 1987).

With respect to specific vitamins or minerals, several small studies have found levels of zinc, iron, B vitamins, and magnesium to be lower in children with ADHD than in control groups (Kozielec & Starobrat-Hermelin, 1997; Toren et al., 1996). It is possible that restoring deficient levels to normal could improve ADHD symptoms in some individuals. Although there are no studies to validate the use of megavitamin doses, smaller doses of certain specific vitamins or minerals may be helpful. For example, one study, where 150 milligrams of zinc were added to stimulant treatment, noted significant improvement in impulsive behaviors and socialization skills compared with the placebo (Arnold et al., 2005).

Another study demonstrated improvement in ADHD symptoms with one month of iron supplementation (Konofal, Cortese, Lecendreux, Arnulf, & Mouren, 2005). Significant behavioral improvement was noted in a majority of children with ADHD when daily vitamin B6 was administered with 100 milligrams of magnesium (Mousain-Bosc et al., 2006).

With respect to herbal supplements, some small studies have been notable. *Panax quinquefolius* (200 mg) along with ginkgo biloba (50 mg) given twice daily for one month demonstrated improvement in ADHD in a majority of 36 children with ADHD (Lyon et al., 2001), and L-theonine (an amino acid found in green tea) has been found to improve ADHD symptoms and to decrease anxiety.

In response to observations that some children show hyperactive behavior associated with certain foods (especially sugar), food dyes, chocolate, and other additives, various *elimination* diets have been tried. The best known of these is the Feingold diet. Several double-blind placebo controlled studies have failed to support the Feingold diet or the dietary effects of sugar on behavior (Egger, Stella, & McEwen, 1992; Wolraich, Wilson & White, 1995). A great deal of media attention was given to a study in 2007 (McCann et al., 2007) that seemed to suggest that ADHD could be caused by some common food additives found in junk food. In this study, children from the general population in the United Kingdom were given a drink laden with food dyes and a common preservative (sodium benzoate). The study was notable in that a significant percentage of the children (a group of three-year-olds and another group of eight- and nine-year-olds) demonstrated an increase in hyperactive symptoms that “lend strong support for the case that food additives exacerbate hyperactive behaviors (inattention, impulsivity, and overactivity) in children at least up to middle childhood” (McCann et al., 2007, p. 1556). Few would argue about the importance and the validity of this study, and hopefully, it will lead to further studies on the possible adverse effects of a wide variety of food additives (many of which, especially in the case of food dyes, are of very questionable necessity). In my practice, I routinely refer to this study as a lesson to parents about the importance of a healthy diet. Nonetheless, what seems to have been missed in the media coverage is that the degree to which the additives increased hyperactive symptoms was mild in most cases that it was observed. Food additives did exacerbate hyperactive behaviors, and the results did reach a convincing level of statistical significance but not to a sufficient degree to cause the full range and severity of symptoms associated with a diagnosis of ADHD.

The temptation to find a natural approach to treatment (as an *alternative* to medication) can be very strong. Most of us would like to use approaches to treatment that offer the greatest benefit with the fewest risks, but unfortunately, *natural* or *herbal* does not always mean *safer*. Additionally, many parents feel that they can somehow avoid the stigma associated with either the ADHD diagnosis or with the use of stimulants by using alternative therapies.

Unfortunately, even if these approaches do not end up being toxic,

they may have adverse consequences for a child if they significantly delay the usage of more thoroughly researched medications where potential risks versus benefits are better known.

There is at least one important reason why natural treatments are often less well-studied than are more traditional medications. Because natural remedies are by definition found in nature, these substances cannot, generally speaking, be easily patented by companies wishing to package and promote their use. The patent system was designed to give a person or company exclusive rights to research, to develop, and to market a product for a predetermined period of time. Once a patent is obtained, a company no longer needs to worry (for several years) that their own research and development dollars will allow a competing second or third company to borrow and profit from that research by marketing the same product with minimal investment. Therefore, without the ability to patent an herbal remedy, there traditionally has been little incentive for private companies to spend money on research. However, because of dramatic recent increases in the general public's interest in herbal remedies in the United States, there is increasing movement by both private enterprise and the government to fund research in this area.

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