



Assessing Complementary and/or Controversial Interventions

CHADD Facts Sheet #6

Introduction

In the past decade, there has been a tremendous upsurge of scientific and public interest in attention-deficit/hyperactivity disorder (AD/HD). This interest is reflected not only in the number of scientific articles, but in the explosion of books and articles for parents and teachers. Great strides have been made in understanding and managing this disorder. Children with AD/HD who would have gone unrecognized and untreated only a few short years ago are now being helped, sometimes with dramatic results.

There are still many questions to be answered concerning the developmental course, outcome and treatment of AD/HD. Although there are a number of effective treatments, they are not equally effective for all children with AD/HD. Among the most effective methods to date are the judicious use of medication and behavior management. Cognitive self-control programs, when applied carefully and consistently, can also be helpful. Results of the landmark NIMH-sponsored MTA study showed that children in the group treated with medication that was carefully-managed and individually tailored, including intensive behavioral management, plus the treatment group that only received closely monitored medical management, had much greater improvement in their AD/HD symptoms than the groups that received intensive behavior treatment alone or community care.

In an effort to seek effective help for AD/HD, however, many people turn to treatments which claim to be useful, but which have not been shown to be truly effective in accord with standards held by the scientific community.

How are Treatments Evaluated?

Treatments may be evaluated in one of two ways: (1) standard scientific procedure or (2) limited case studies or testimonials. The scientific approach involves testing a treatment in carefully controlled conditions, with enough subjects to allow researchers to be comfortable with the “strength” of their findings. These studies are repeated a number of times by various research teams before arriving at a conclusion that a particular treatment alleviates a particular problem.

Good scientific studies go through a peer review before they are published in a scientific journal. Peer review is the analysis of research by a group of professionals with expertise in a specific scientific or medical field. Findings are not considered substantive until additional studies have been conducted to reaffirm (or refute) the findings.

In the second method of evaluation, conclusions are drawn from a limited sample size and are often based solely on testimonials from doctors or patients. A treatment that is evaluated only in this manner is not necessarily a harmful or ineffective treatment. However, when standard scientific evaluation is lacking, it does raise questions about the effectiveness and safety of a treatment.

How Do I Assess Alternative Treatments?

Alternative treatment approaches are usually publicized in books or journals which do not require independent review of the material by recognized experts in the field. Often, in fact, the advocate of a particular treatment approach publishes the work himself. Measurement techniques and statistical means of evaluation are scant at best, and often single-case studies are offered as “proof” of the effectiveness of the treatment.

Questions to Ask Alternative Health Care Providers

- Have clinical trials been conducted regarding your approach? Do you have information regarding the results?
- Can the public obtain information about your alternative approach from the National Center for Complementary and Alternative Medicine Clearinghouse at the National Institutes of Health? (The NCCAM develops and disseminates fact sheets, information packages and publications to assist the public in understanding NIH research in the areas of complementary and alternative medicines.) The office can be reached toll free at (888) 644-6226 or through their web site: <http://ncaam.nih.gov/>.
- Is there a national organization of practitioners? Are there state licensing and accreditation requirements for practitioners of this treatment?
- Is your alternative treatment reimbursed by health insurance?

Checklist for Spotting Unproven Remedies

This list has been adapted from *Unproven Remedies*, Arthritis Foundation, 1987.

Is it likely to work for me?

Suspect an unproven remedy if it:

- claims it will work for everyone with AD/HD and other health problems;
- uses only case histories or testimonials as proof;
- cites only one study as proof;
- cites a study without a control (comparison) group

How safe is it?

Suspect an unproven remedy if it:

- comes without directions for proper use;
- does not list contents;
- has no information or warnings about side effects;

- is described as harmless or natural. Remember, most medication is developed from “natural” sources.

How is it promoted?

Suspect an unproven remedy if it:

- claims it’s based on a secret formula;
- claims that it will work immediately and permanently for everyone with AD/HD;
- is described as “astonishing,” “miraculous,” or an “amazing breakthrough;”
- claims it cures AD/HD;
- is available from only one source;
- is promoted only through infomercials, self-promoting books, or by mail order;
- claims that treatment is being suppressed or unfairly attacked by the medical establishment.

How do I evaluate media reports?

Develop a healthy skepticism and be sure to watch for red flags when evaluating media reports of medical advances. When evaluating reports of health care options, consider the following questions:

- *What is the source of the information?*

Good sources of information: medical schools, government agencies (such as the National Institutes of Health and the National Institute of Mental Health), professional medical associations, and national disorder/ disease-specific organizations (such as CHADD). Information from studies in reputable peer-reviewed medical journals is more credible than popular media reports.

- *Who is the authority?*

The affiliations and relevant credentials of “experts” should be provided, although initials behind a name do not always mean that the person is an authority. Reputable medical journals now require researchers to reveal possible conflicts of interest — such as when a researcher conducting a study also owns a company marketing the treatment being studied.

- *Is the finding preliminary or confirmed?*

Unfortunately, a preliminary finding is often reported in the media as a “breakthrough” result. An “interesting preliminary finding” is a more realistic appraisal of what often appears in headlines as an “exciting new breakthrough.” You should track results over time and seek out

the original source, such as a professional scientific publication, to get a fuller understanding of the research findings.

Tips for Negotiating the World Wide Web

The good news is that the Internet is becoming an excellent source of medical information. The bad news is that with its low cost and global entry, the web is also home to a great deal of dubious health information.

In addition to the tips cited earlier, web-surfing requires special considerations:

Know where you are:

- Part of the address tells you what kind of domain owns the host computer (e.g., .edu = university, .com = company, .org = non-profit organization, .gov = government agency)

To obtain a “second opinion” regarding information on the web, you can:

- pick a key phrase or name and run it through a search engine to find other discussions of the topic;
- talk to your health care professional.

Forewarned is Forearmed

Get into the habit of actively seeking out information about AD/HD and every prescribed medication and intervention that is proposed for you or your child. If you use alternative medicines, don't forget that they, too, are drugs. To prevent harmful interactions with prescribed medications, inform your health care provider of any alternative medication used.

Controversial Treatments for AD/HD

Dietary Intervention

Over the years, proponents of the Feingold Diet have made many dramatic claims. They state that the diet — which promotes the elimination of most additives from food — will improve most (if not all) children's learning and attention problems. They claim that the diet will lead to improvements in school, and report a deterioration in learning and behavior when the diet is not followed.

In the past 15 years, dozens of well-controlled studies published in peer-reviewed journals have consistently failed to find support for the Feingold Diet. While a few studies have reported some limited success with this approach, at best this suggests that there may be a very small group of children who are responsive to additive-free diets.

A large number of studies have also examined the relationship between sugar and hyperactive behavior, but most of them are difficult to interpret. A few well-designed studies have found that sugar does have some effect on behavior, but this effect is very small and only a small percentage of those with AD/HD seem to be vulnerable. At this time, it has not been shown that dietary intervention offers significant help to children with learning and attention problems.

Megavitamins and Mineral Supplements

The use of very high doses of vitamins and minerals to treat AD/HD is based on the theory that some people have a genetic abnormality which results in increased requirements for vitamins and minerals. The theory postulates that when these higher-than-normal requirements are not met, various forms of illness result, including AD/HD.

Although vitamins are virtually synonymous with health, there is a complete lack of supporting scientific evidence for this treatment. There are no well-controlled studies supporting these claims, and of those studies in which proper controls were applied, none reported positive results. Both the American Psychiatric Association and the American Academy of Pediatrics have concluded that the use of megavitamins to treat behavioral and learning problems is not justified.

Anti-Motion Sickness Medication

Advocates of this theory believe that there is a relationship between AD/HD and problems with coordination and balance, attributed to problems in the inner-ear system (which plays a major role in balance and coordination). Advocates of this approach recommend a mixed array of medications including anti-motion sickness medication. They claim a success rate in excess of 90 percent in a group of 100 children with AD/HD children but — these results were not published and cannot be verified.

This approach is not consistent in any way with what is currently known about AD/HD, and is not supported by research findings. Anatomically and physiologically, there is no reason to believe that the inner-ear system is involved in attention and impulse control in other than marginal ways.

Candida Yeast

Candida is a type of yeast which lives in the human body. Normally, yeast growth is kept in check by a strong immune system and by “friendly” bacteria, but when the immune system is weakened or friendly bacteria are killed by antibiotics, candida can overgrow. Advocates of this model believe that toxins produced by the yeast overgrowth weaken the immune system and make the body susceptible to AD/HD and other psychiatric disorders. They tout the use of antifungal medication and a low-sugar or elimination diet as treatment.

There is no evidence from controlled studies to support this theory, and it is not consistent with what is currently known about the causes of AD/HD.

EEG Biofeedback

Proponents of this approach believe that children with AD/HD can be trained to increase the type of brain-wave activity associated with sustained attention and to decrease the type of activity associated with daydreaming and distraction.

While the theory underlying EEG biofeedback as a treatment for AD/HD is consistent with what is known about low levels of arousal in frontal brain areas in individuals with AD/HD, its effectiveness is not demonstrated at this time. Several studies have produced impressive results, but these studies are seriously flawed by the use of small numbers of children with ambiguous diagnoses, and the lack of appropriate control groups. This is an expensive, unproven approach, and parents are advised to proceed with caution.

Applied Kinesiology

Advocates of this approach — also known as the Neural Organization Technique — believe that learning disabilities are caused by the misalignment of two specific bones in the skull which creates unequal pressure on different areas of the brain, leading to brain malfunction. This misalignment is also said to create “ocular lock,” an eye-movement malfunction which contributes to reading problems. Treatment consists of restoring the cranial bones to the proper position through specific bodily manipulations.

This theory is not consistent with either current knowledge of the cause of learning disabilities nor knowledge of human anatomy, as even standard medical textbooks state that cranial bones do not move. No research has been done to support the effectiveness of this form of treatment. It has no place in the treatment of children with learning-disabilities.

Optometric Vision Training

Advocates of this approach believe that visual problems — such as faulty eye movements, sensitivity of the eyes to certain light frequencies and focus problems — cause reading disorders. Treatment programs vary widely, but may include eye exercises, educational and perceptual training, biofeedback, nutritional counseling and family therapy.

Scientific studies of this approach are few in number and flawed in design. In 1972, a joint statement highly critical of this optometric approach was issued by the American Academy of Pediatrics, the American Academy of Ophthalmology and Otolaryngology, and the American Association of Ophthalmology. In the absence of supporting evidence for its effectiveness, this approach should not be employed in the treatment of AD/HD. Parents are advised to proceed with caution.

Suggested Reading

Ingersoll, B. (1993). ADD and LD — *Realities, Myths and Controversial Treatments*. New York, New York: Doubleday Publishing Group.

Zametkin, A. Current Concepts: Problems in the Management of Attention-Deficit Hyperactivity Disorder. *The New England Journal of Medicine*, 340: 40 - 46.

This article first appeared as CHADD Fact Sheet No. 6, Spring 2000.

(Printed with permission from CHADD)