

Chiropractic Care and other Alternative
Treatments for ADHD: A Literature Review

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ABSTRACT

Objective: The purpose of this literature review is to search out the known alternative treatments in regard to attention deficit/hyperactive disorder, also known as ADHD. Primarily the article will review current research on what chiropractic treatments may do for ADHD. Emphasis will also be placed upon the current allopathic model of pharmaceuticals and their use. Other alternatives such as modifying diet and other non-allopathic therapies will be discussed

Data Collection: A computer search using PubMed and EBSCOHost to locate articles that are relevant to alternative and allopathic care of ADHD. Reference books and online websites were also used to find alternative articles on the subject. The Logan College of Chiropractic library was searched and resulted in pertinent journal articles and books.

Conclusions: Much confusion on this subject exists due to the interest of different party's interest in their own therapies. Aside from that it is shown that pharmacologic treatments are usually only effective on a short term basis, not to mention the side effects. There is definitely a need for more research to be done about the effects of chiropractic manipulation for ADHD. Conservative care has shown to be effective but is it more effective than medication? That is yet to be fully understood and it can also be much more expensive to use alternative approaches, but yet there are not the amount of side effects with allopathic care.

Acronyms: Attention Deficit Disorder/Attention Deficit Hyperactive Disorder, ADHD alternative treatments, Ritalin, nutrition, chiropractic treatments of ADHD, cervical kyphosis and ADHD and Tai Chi

INTRODUCTION

Attention Deficit Hyperactive Disorder (ADHD) has become quite an epidemic in the United States and a large problem in our society. One of the most common childhood psychiatric disorders is ADHD and the DSM-IV states that it affects up to 5% of children. Almost up to 50% of the referrals to mental health services for children are due to ADHD. And for some reason males are 3 times more likely to have ADHD than their female counterparts.¹ The condition is also the most frequently treated childhood disorder and the prevalence has increase four times in the last ten years.²

One of the reasons thought that the condition has skyrocketed in numbers is due to the fact that even for a qualified specialist the diagnosis is difficult to determine. Mostly due to the reason that no one really knows why one kid has it over another. A parent or teacher may be the first to unofficially “diagnose” a child with ADHD that is displaying problems in class. If not done carefully this could harm the child and improperly provide them with a label. The specialist will also have the parents or teacher fill out questionnaires about the child’s behavior.⁶ The questionnaire has nine criteria and the child must be positive for at least six. A very simplistic and only seems to be a very subjective form of diagnosis, which almost anyone could administer. In addition 60% of doctors agree that there needs to be more qualified doctors to diagnose the condition.⁵

Classically the condition is regarded as someone who displays more than usual impulsivity, hyperactivity and inattention.³ It is difficult to pinpoint one direct cause for ADHD. There is no precise mechanism that explains, but some believe that environmental factors may trigger those that have a genetic predisposition for the condition.⁴

Current treatment for ADHD is medication in the form of stimulants, which will be discussed in further detail. Throughout the review the research on the medications reveals a lot of benefits to the therapy, however much seems to be left out about the discussion of side effects. This may be due to the fact that much of the research is performed by pharmaceutical companies.

The best approach for treating and helping those with ADHD seems to be a multi-disciplinary approach. This article will review what chiropractic can do as well as diet modification, supplementation, exercise programs and social help.

DISCUSSION

The diagnosis of ADHD is spelled out in the DSM-IV. The diagnosis is spelled out as a persistent pattern of inattention and hyperactivity-impulsivity that is more frequent and severe than is typically noticed in others at the approximately same level of development. This explanation is quite subjective. Some of the symptoms must be present in at least two different environments. There are a few different types of ADHD. The first is the Inattentive Type wherein 6 of the following symptoms must have been sustained for 6 months: lack of attention to details, lack of sustained attention, failure to follow through on tasks, avoids tasks requiring sustained mental effort, easily distracted,

and loses things, poor organization, poor listener and careless mistakes. The second is the Hyperactive-Impulsive Type and they must have 6 or more of the following: leaving seat, difficulty with quiet activities, excessive talking, can't wait turn, blurting answers, intrusive, on the go, inappropriate running/climbing, fidgeting/squirming. The last is the Combined Type which has to have both inattentive and hyperactive-impulsive criteria checked off.⁷ Again it is noted here that these are difficult definitions to interpret for any practitioner and may be a factor in more and more children with the diagnosis.

Many theories have been proposed on what causes children to develop ADHD. One such is lack of stimulation to the frontal cortex through various means. Due to this theory the main pharmaceutical treatment is stimulant medications. One of the reasons these are given is that they are shown to be effective in up to 90% of children to increase psychological and educational abilities. Ritalin, Dexedrine, Adder all and Cycler are most commonly used to treat ADHD and these medications increase the level of activity in the frontal cortex by inhibiting other functions of the brain.⁸

Ritalin has been the most common form of treatment and it works by blocking the reuptake of nor epinephrine and dopamine into presynaptic neurons, which in turn stimulates the cerebral cortex and subcortical structures. The interesting note is it does this in a similar manner that amphetamines work.⁹ Sometimes, Ritalin has to be taken for life once people begin therapy. Of course with most drugs the individual compensates for the dose and ends up needing higher doses to achieve the same effect. A noted side effect is that Ritalin is an addictive substance. If you take a look at the molecular structure and the action of Ritalin it is not too different from cocaine.⁵

Some of the many side effects of this type of psychostimulant are abdominal discomfort, insomnia, anxiety, irritability, headaches and anorexia. Practitioners should be aware that when children are first placed on psychostimulants that pulse and blood pressure seem to rise, so they need to be monitored.¹⁰

One certain therapy that is not researched enough is the effects of chiropractic manipulation and how those manipulations affect ADHD. There exists a few articles and those will be discussed in this section of the discussion.

One of the few articles about chiropractic and ADHD was done by Anthony Bastecki published in the Journal of Manipulative and Physiological Therapeutics. Bastecki stated that there may be a link between ADHD and individuals with severe cervical kyphosis. This article was a case study about a 5 year old that was given the diagnosis of ADHD by their pediatrician. This 5 year old had been through normal pharmacological treatments of Ritalin, Adderall and Haldol for approximately a three year span and had not received benefit from the therapy. The 5 year old was admitted to a chiropractor for chiropractic evaluation and had a cervical x-ray performed. Upon radiographic examination a 12 degree kyphosis from C2-C7, meaning there was not a normal lordosis that normally exists and should exist in the cervical spine. The chiropractor gave a course of 35 chiropractic treatments during an 8 week timeframe. After the treatment period ended the chiropractor took a post-treatment x-ray and noted a 32 degree lordosis in the C2-C7 cervical spine. The 5 year old also was told by his pediatrician that he no longer displayed the symptoms of ADHD and his behavior had

markedly changed.¹¹ This of course is only one case study and there is cause here to evaluate and research this through more research.

The upper cervical spine and adjusting that area of the spine tends to have a strong impact on the whole physiology of the body and is not yet quite understood how it works. There was a case study done where National Upper Cervical Chiropractic Association adjustments were used to help improve mental and motor deficits in a 14 year old girl. This case study was performed by Thomas and Wood. This 14 year old girl had a history of bad behavior, not paying attention in class and poor test scores since she was a little kid. She was prescribed a psychomotor seizure medication only after being given an EEG examination which showed little amounts of abnormalities. She also had a history of a left arm which was flaccid and 3rd grade language ability. The NUCCA adjustments were begun and she was treated for 2 weeks. After 2 weeks of treatment she was able to complete full sentences that she was not able to do in the past. It was also observed that her posture improved and she gained better use of her left arm. Interestingly, chiropractic treatments were then stopped and within only 6 weeks she began to go backwards and display similar symptoms as before. This study was not done specifically for ADHD but it does show that chiropractic treatments may have an ability to improve mental and behavioral function.¹²

An additional study using diversified, Gonstead and upper cervical adjustments to only correct subluxations were used to see if these treatments would help 7 children who were diagnosed with hyperactivity. These children were anywhere from 7 to 13 years old. The study showed that there was a decrease in overt behavioral activity in 5 of the 7

children. 4 of the 7 children's x-rays were improved based upon chiropractic findings also using electrodermal testing autonomic activity was improved, and in ratings of hyperactivity as observed by their parents.¹³

If the theory behind ADHD being lack of stimulation to the frontal cortex of the brain is correct that must mean that somehow these case studies show that in some way the chiropractic adjustment is providing that stimulation. However, there is no explanation or research on the neurophysiology of how the adjustment can provide that stimulation to the brain. Thus this form of treatment would allow for the lack of need of psychostimulant medication.

Different forms of exercise have been shown to aide those with hyperactivity and reduce those symptoms found in ADHD patients. One form of exercise that has demonstrated success is Tai Chi. This form of exercise uses specific stances and fluid motion of the body with specific breathing. The exercise requires great amounts of focus and discipline to perform the complex motions. A study was done by Hernandez-Reif in 2001 where they used 13 patients and put them through Tai Chi exercises for thirty minutes at each session and twice a week for a 5 week duration. Not only were Tai Chi exercises performed but specific breathing exercises were done through this 5 week trial. The participants pre and post trial were graded for behavior by the Conners scale. Once the trial was complete it was noted by the observers that the participants had a significantly lower score on the Conners scale. They also noted decreased hyperactivity, improved mood and better behavior overall. Tai Chi has been also studied and recognized its ability to lower blood pressure and improve mood and balance. The study also showed

no negative side effects to the exercises. The patients were followed up on two weeks post trial after the breathing exercises and Tai Chi was no longer being performed and the participants still showed the same level of improvement.¹⁴

Another exciting therapy for improving many functions of the body and also its possible effects for ADHD is eyelight therapy. Eyelight therapy is done by placing glasses on the patient which have areas above and below the eye which flash lights into the patient's eyes. They work by targeting the weaker functioning side of the brain via the non-dominant eye. This stimulation by light to the non-dominant brain causes excitatory stimulants to travel to the mesencephalon, thus increasing function at the cellular level. With this therapy both sides of the brain are treated, but most treatment will be directed toward the non-dominant side of the brain, where dysfunction usually first occurs. Research shows that light therapy can have an effect on hormones, emotions, stress levels, sleep and brain function. How does this help with ADHD? Research has suggested that many symptoms of ADHD are similar to those associated with binocular vision problems, like convergence insufficiency and accommodative problems. The light therapy used in eyelights causes an excitatory stimulation to the whole brain which increases the levels of serotonin and dopamine along with other neurotransmitters. These studies show that this can have a profound effect along with color therapy to improve behavioral and learning problems. These two therapies can also reduced symptoms found in ADHD, attention span will increase and even improve speed and accuracy of projects performed.¹⁵

Another study has been done on the efficacy of electroencephalogram biofeedback. Basically EEG is the recording of electrical activity along the scalp produced by the firing of neurons within the brain. Multiple and various electrodes are placed on the scalp and electrical activity is measured over about a 30 minutes period. The main purpose in neurology for the use of EEG is in the cases of epilepsy, during epileptic events it creates abnormal readings on an EEG. [16] Many that have been diagnosed with ADHD and behavioral problems show abnormalities as well in EEG readings. For the purpose of using EEG for improving behavioral problems the participants are hooked up to an EEG and learn to manipulate the readings by enhancing desirable frequencies and suppressing the negative frequencies. A study was performed on 111 participants who were given 40 sessions of 30 minutes each session of biofeedback treatments. After the treatments were finished, the subjects showed improvements in their EEG readings and reduction in abnormalities. They also showed improvements in behavior and full scale IQ was improved.¹⁷

Another alternative treatment to be discussed will be the influence that nutrition has on behavioral problems. Many nutritionists recommend not only children with ADHD but also everyone should avoid processed foods and refined foods. That many of these foods have additional chemicals added to them and are excessively loaded with sugars and non-natural sugars. It is proposed that many of these man-made chemicals have not even been study to how they affect us. In the book Prescription for Healing, Third Edition it is proposed that we change the individuals diet to do all the things above and also include specific herbs. The book also recommends that all fruits and vegetables

be devoid of salicylates. Salicylates are commonly found in breads, cereals and crackers that contain only oats and rice. Fatty acid supplementation in the form of DHA is also an important nutrient in the development of the brain tissue. Increasing the amount of proteins is a great idea and also again removing all processed foods which have artificial flavoring or other preservatives.¹⁸

CONCLUSION

The cost associated with taking care of this condition is skyrocketing. The disease is becoming more and more prevalent in our country. This article serves to propose that there are other choices and options for parents than only pharmaceuticals. Unfortunately many are not aware because there general practitioners are not aware of these alternatives and how safe they are for the children. All of these alternative treatments as well as many others are not quick fix approaches. These treatments take time, dedication and even may be more expensive than allopathic care. In this society we want results now and do not want to wait, drug therapy has been so popular due to its ability to deliver results quickly. But as shown here in this article and many other research papers the allopathic care is not a good route for long term use. Once individuals go off the medications there problems return and nothing was ever fixed.

It is time to stop covering up the systems and get down to naturally helping these children with alternative treatments ranging from chiropractic, exercise and nutrition. Alternative treatments do seem to provide the best outcomes due to the fact that there are little to no side effects and they provide results that last over a long period.

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