Current Research on the Effective Treatment of

Attention-Deficit/Hyperactivity Disorder

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Abstract

This paper will explore Attention-Deficit/Hyperactivity Disorder (ADHD), providing a brief history and overview, while primarily focusing on effective treatment methods.
Introduction

Statistics show that Attention-Deficit/Hyperactivity Disorder (ADHD), also known as Attention Deficit Disorder (ADD), is the most commonly diagnosed mental health disorder in children and adolescents. It is estimated that between three and seven percent of American school-age children have some form of ADHD (Gillberg, 2006). With such prevalence, the need for safe, effective treatments is paramount. The most effective treatment plan will comprehensively address the individual’s physical, mental, emotional, and social well-being. However, current research has identified several different treatment options for children and adolescents suffering with ADHD, which will be discussed at length.

History and Brief Overview of ADHD

Attention-Deficit/Hyperactivity Disorder, as it is currently known, was first described by Dr. Heinrich Hoffman in 1845, while writing a book of poems and short stories for children (“History of ADHD,” 2008). One story in his book, “The Story of Fidgety Philip,” provided a remarkably accurate account of a child who would, in modern times, be diagnosed with ADHD. However, it was not until 1902 that the medical community began to study these characteristics, a work that was primarily carried out by Sir George F. Still until he created, and published, a series of lectures on ADHD for the Royal College of Physicians in England (“History,” 2008). Since that time, there have been countless studies performed and papers written about the diagnostic characteristics, pathology, and treatment of ADHD.

As described by Dr. Hoffman and Sir George, ADHD is characterized by notable impulsivity, significant behavior problems, and of course, marked deficits in the ability to focus on specific tasks. Today, however, the definition of ADHD is somewhat better defined. The Diagnostic and Statistical Manual for Mental Disorders (2000) states that the primary feature of
Attention-Deficit/Hyperactivity Disorder (ADHD) is a, “…persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development (p. 85).” This pattern may manifest itself in a variety of symptoms, not all of which are listed here. Inattention may include often failing to give close attention to details or making careless mistakes in schoolwork, or often avoiding or is reluctant to engage in activities that require sustained mental effort. Individuals with ADHD may often appear to not be listening when spoken to directly, or may be easily distracted or often forgetful. Symptoms of hyperactivity-impulsivity may manifest as excessive fidgeting, running about, or talking. Also, some individuals may display both inattentive and hyperactive-impulsive symptoms, while others are predominantly one or the other.

In addition to these criteria, it is important to note that a diagnosis of ADHD can only be made if some symptoms were present before the age of seven, symptoms are present in two or more settings, and most importantly, there must be clear evidence that the symptoms are causing significant impairment in social or academic functioning (American Psychiatric Assoc, 2000). There are many children who exhibit some symptoms of Attention-Deficit/Hyperactivity Disorder, but without this accompanying impairment, a formal diagnosis is not appropriate. Additionally of note, ADHD is not considered a learning disorder, although its symptoms may manifest in scholastic impairment.

At this time, there is no definitive research on the causes of Attention-Deficit/Hyperactivity Disorder, but it has been suggested that genetics play a substantial role in the development of this disorder. ADHD has been found to be more common in first-degree biological relatives, like parents or siblings, of children with ADHD than in the general population (Glicken, 1997). However, school, peer, and other social influences also play a large
role in the severity of impairment present in this disorder, and should not be ignored. While research into these areas is fairly new, diet and television-watching are being touted as additional risk factors for developing ADHD (Christakis, Zimmerman, DiGuisepppe, & McCarty, 2004).

Another unique factor in the development and course of Attention-Deficit/Hyperactivity Disorder is the tendency for some children diagnosed with this disorder to go into a full or partial remission as they age.

Treatment Methods

Medication

There is a distinct relationship between Attention-Deficit/Hyperactivity Disorder and the areas of the brain that control impulse and attention, and more specifically, dopamine and norepinephrine. Thus, medication is often considered a necessary component of the overall treatment plan for individuals with this disorder. Three types of medications are usually prescribed: stimulants, non-stimulants, and anti-depressants.

Although it may sound illogical to prescribe a stimulant for someone who is hyperactive, clinical trials have shown that these drugs actually have the opposite effect on individuals with ADHD. This is primarily due to the lack of normally functioning neurotransmitters and receptacle sites, which these medications correct. Currently, there are several stimulants that have been FDA approved for use in children, including Ritalin, Aderall, and Vyanase. Several studies have reported stimulants are the most effective medication in the treatment of ADHD (Kollins & Langberg, 2008). On the other hand, non-stimulants may also work well for some individuals. The most recent non-stimulant drug on the market is Strattera, and although it has been approved by the FDA, more research is needed to determine its true efficiency in treating ADHD.
The use of anti-depressants to treat Attention-Deficit/Hyperactivity Disorder is also very popular. These medications work on the dopamine receptors in the brain, and when these are not functioning properly, anti-depressants can correct this problem because typical anti-depressants are not generally used for ADHD treatment. Most clinicians prefer tricyclic anti-depressants, Wellbutrin, or Effexor. However, there are some questions regarding the safety of these drugs when given to children. Additionally, although several studies have suggested that extended use of medications is alone sufficient to manage and treat Attention-Deficit/Hyperactivity Disorder, many parents and clinicians are hesitant to give medications to children, or to rely solely upon the drugs’ effects for treatment (dosReis & Myers, 2008).

**Alternative Treatments**

For those parents that are reluctant to give their children medications, there are alternative biological treatments available. The two main alternatives for ADHD are herbal therapy and biofeedback. Herbal therapy may be the most widely practiced, with over 24% of children diagnosed with ADHD in the U.K. receiving some sort of herbal supplement to treat their disorder (Coulter & Dean, 2007). However, many of these homeopathic remedies have not been thoroughly tested, either for safety or for effectiveness.

Biofeedback is another biological alternative, albeit not a particularly popular one. During this treatment, brainwaves are measured through an EEG, or electroencephalogram, and the focus is on controlling the brainwaves (Doggett, 2004). However, there is very little evidence that this technique works, and such evidence has provided only minimal levels of improvement in symptoms when utilizing this method.

**Therapy**
Perhaps the most researched of the treatment methods for Attention-Deficit/Hyperactivity Disorder is therapy. Because ADHD is primarily classified as a mental disorder, the functional and developmental aspects of this diagnosis deserve some attention. Indeed, a diagnosis of ADHD cannot be made without significant impairment in functioning. Therapeutic techniques used in the treatment of ADHD most often fall into three categories: behavioral therapy, supportive counseling, and family-initiated therapies.

Behavioral therapy has been proven, by a very large body of research, to be the most effective therapeutic intervention in the treatment of Attention-Deficit/Hyperactivity Disorder (DeNisco, Tiago, & Kravitz, 2005). During the course of this therapy, individuals are taught coping skills, practice controlling impulses, and encouraged to take responsibility (insofar as one can) for their symptoms. Supportive counseling, conversely, focuses primarily on bolstering the individual’s self-esteem and self-image, and working toward building better, more understanding relationships between the individual with ADHD and their parents, teachers, and peers.

There is currently no formal research available on family-initiated therapies, or what could be called family coping mechanisms. These types of interventions are most often the way the family has arranged itself around the child with ADHD in efforts to control or manage behaviors and impulses, including changes in diet, routine, or social systems. However, the informal, non-scientific structure of these therapies does not indicate that they are ineffective. In fact, because of their highly individualized approach and the way they seek to promote solid family relationships, they can be more effective alone than many other formal measures (Teeter, 1998).

Comprehensive Overview
Although medications, alternative treatments, and therapy have all been found effective on their own, an overwhelming body of research indicates a significant increase in positive outcomes when a comprehensive treatment plan, including both biological and psychological methods, is utilized. In 1995, the National Institute of Mental Health initiated its very first clinical study, known as the MTA, that focused on a childhood disorder, Attention-Deficit/Hyperactivity Disorder, and thus became the first to research a multimodal treatment plan (National Institute of Mental Health (NIMH), 2008).

The MTA study included 579 elementary school boys and girls with ADHD, who were randomly assigned to one of four treatment programs: (1) medication management alone; (2) behavioral treatment alone; (3) a combination of both; or (4) routine community care (NIMH, 2008). For the first 14 months of the study, the medication-only group, the behavior treatment-only group, and the combination treatment group were treated using the specified method, and the fourth group was referred for community treatment. Periodic reassessment throughout the study depended upon the cooperation of the children’s parents and teachers, because both rated the children on inattention, hyperactivity-impulsivity, and symptoms of anxiety or depression, as well as social skills.

Children in the behavior therapy-only group, met with a behavior therapist, mostly in group sessions with their families, up to 35 times. The behavior therapists also repeatedly visited the children’s schools to supervise a special aide that was assigned to each child in the group, and check with their teachers regarding assessment of symptoms. In addition, the children attended a special summer program for 8 weeks, where they worked on social and academic skills. More intensive behavioral therapy was also delivered during this program with the goal of assisting the children in improving their behavior.
The children in the medication-only and combination treatment groups were seen by physicians for one-half hour per month. During these medication visits, the doctor met with the child, and spoke with the parents in order to discover any concerns that the family might have regarding the medication or the child’s ADHD symptoms, and advised parents when necessary. The physicians gathered information from the teachers on a monthly basis as well.

The children in the combined therapy group received all the same treatment that the medication-only and behavioral therapy-only groups received. In the fourth group, the group referred to community care, the children saw the doctor of their parents’ choice one to two times per year for short periods (NIMH, 2008). The community-treatment doctor did not have any reported interaction with the children’s teachers.

The results of the study indicated that combination treatments and medication-management alone were both superior to intensive behavioral treatment alone and current routine community treatment (NIMH, 2008). Most importantly, however, in some areas, including anxiety, academic performance, relationships, and social skills, the combined treatment was usually most successful. “Another advantage of the combined treatment method was that children could be successfully treated with lower doses of medicine when compared with the medication-only group (NIMH, 2008).”

Because of these pioneering efforts, combined treatment is the standard today, and several other studies have undertaken to confirm these findings, and to evaluate which particular aspects of the treatment were most effective.

Conclusion

Despite the controversial nature of diagnosing and treatment, Attention-Deficit/Hyperactivity Disorder is a very real disorder that affects millions of American children.
Additionally, although many believe it is a relatively new disorder, the findings on ADHD date back to the 1800s, and have been consistently updated. As previously mentioned, any treatment plan should address the individual holistically, taking into account the physical, mental, emotional, and social aspects of the person. While medications like Ritalin and Strattera have formed the foundation of ADHD treatment for quite some time, there is a call to move toward a more comprehensive treatment plan and address children like the individuals they are, and research indicates that combining medications and behavioral therapy is the most effective way to do this.
References


