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The Rise of ADHD in Adolescents and Alternative Treatment

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Attention deficit hyperactivity disorder (ADHD) is a syndrome that makes it difficult for people to focus, control behavior and become overactive. Many with ADHD move constantly and are impulsive. They cannot seem to follow directions and are easily bored or frustrated with tasks. Although these behaviors are normally observed in children, they are more severe in those with ADHD. The symptoms of ADHD make it difficult for children to function at school and home. ADHD may occur at childhood and can continue through adulthood. The exact cause for ADHD is unknown, but there are some factors that can contribute the condition. One factor is that children may inherit ADHD tendencies from their parents. Poor nutrition, infections or substance abuse during pregnancy may cause a child to be born with ADHD. Exposure to toxins, injury to the brain and imbalance of neurotransmitters can affect the development of the brain (LeFever, Arcona & Antonuccio, 2003). The most common way to treat ADHD is through medication. In fact, “approximately 66% of children diagnosed with ADHD take daily medication to treat the symptoms (CDC, 2010)” (Wegrzyn, Hearrington, Martin, and Randolph, 2012, 1). ADHD is a complex disorder that has a number of variations, which is why many adolescents are being misdiagnosed with ADHD. Over diagnosis of ADHD is rooted in the lack of a clear biological marker in patients (LeFever, Arcona & Antonuccio, 2003). Further research on the actual cause of ADHD still needs to be done in order to justify medications for patients, especially children. Misdiagnosis and treatment of ADHD in an adolescent is harmful and regulations need to be put in place for more specific criteria for diagnosis. Alternative treatment such as games designed for those with ADHD and family education should be recommended because of the potential risks involved in medicating a child.

Until 1960, treating childhood behaviors problems with medication was rare. Methylphenidate and Ritalin became the first common psychostimulants used to control

symptoms of ADHD. Over the last three decades the rate of drug treatment for ADHD has increased to 5-6 million American children annually (LeFever, Arcona & Antonuccio, 2003). As stated in LeFever, Arcona & Antonuccio's (2003) research on ADHD in schoolchildren; "Beginning with the conservative estimate that 50,000 American children were treated annually for ADHD in 1960, there was a six-fold increase in psychostimulant treatment between 1960 and 1975"(6). The sudden increase of medication for children with ADHD is evidence of parents as well as doctors were using medication as a first option treatment. LeFever, Arcona & Antonuccio (2003) also mention the concerns of Psychologist Alan Sroufe and psychiatrist Mark Stewart, who warned that increased use of psychotropic medicines will lead to "possible reduction in parent and teacher motivation to take other steps to help children, inadequate monitoring of drug treatment, and possible development of low self-esteem and drug abuse among individuals treated with stimulants" (6). Though their statements were overlooked at the time, the concerns voiced by Sroufe and Stewart remains relevant today (Lefever, Arcona & Antonuccio, 2003).

Increased prescriptions for Ritalin and other psychostimulants show that healthcare providers are more reliant on medication to regulate symptoms of ADHD, even though there is not a consensus on a clear way to diagnose a patient (LeFever, Arcona & Antonuccio, 2003). Medication treatment can have negative consequence on adolescents especially if they do not suffer from severe symptoms. It may cause them to be reliant on drugs, as well as promoting substance as an immediate answer to mental health. Because of the complexity of symptoms, diagnosis for ADHD cannot be done by a single test. First, a specialist will look for common symptoms of ADHD or look at past medical records. They then examine a child's behavior during different situations. After gathering all this information, if the child meets the criteria for ADHD, he or she will be diagnosed with the disorder and likely given medication. Lately,

diagnosis for ADHD in adolescents has risen. In 2011, compared to 2003, adolescents between the ages 4 to 17 diagnosed with ADHD raised by 2 million (Visser et al., 2014). This article explains the increasing prevalence of parent-reported attention-deficit/hyperactivity disorder (ADHD) diagnosis and treatment by health care providers. The steady increase in diagnosis suggests parents are perhaps the cause. It is difficult to care for a hyperactive child, and some parents see the medications as a easy solution. The symptoms of ADHD are very broad and at a certain point, every child will most likely display one or more of the symptoms. This brings up the important question of when does this become a disorder. In a study of the overtreatment of ADHD, LeFever, Arcona & Antonuccio (2003) highlight, “There is no pathognomonic biological marker for ADHD (Barkley, 1999; Todd, 2000) and no clearly defined and widely accepted ADHD assessment method (Kessler, 1980), making it impossible to know precisely how many children are actually affected by the disorder (Godow, 1997).” (4). The lack of pathognomonic biological marker leads to many being unnecessarily diagnosed. The fact that a consensus has not been reached for ADHD is also a reason for doctors to be wary of quickly prescribing medication to patients.

ADHD has been increasingly misdiagnosed in recent years. The controversy of under diagnosis versus over diagnosis of bipolar disorder, ADHD and major depressive disorder in adolescents is a result of medications being the first method of treatment for a patient. Researchers studied of sixty-four children and adolescents between the ages 7 and 18 that were diagnosed and treated for bipolar disorder, ADHD and major depressive disorder (Chilakamarri, Filkowski & Ghaemi, 2011). Their findings showed that ADHD was over diagnosed. All patients with ADHD were rightfully diagnosed, but 38% of patients with major depressive disorder and 29% of patients with bipolar disorder were also diagnosed for ADHD. The evidence suggests

that test for the disorder, ADHD, should be more specific because most display one or more of the symptoms. The fact that patients with other disorders were falsely diagnosed highlights a need for a more specific method of diagnosis. There are patients who really do need ADHD medication to function because of this disorder, but we cannot ignore the idea of patients being diagnosed and medicated for ADHD at such a high rate.

Prescription Medication is the most common way to treat ADHD. With the over diagnosis of ADHD, adolescents are receiving medication that are not needed, because of the possible alternatives. This can be harmful to a child, causing one to have substance abuse disorder at an early age. Julie Dopheide (2005) focuses on the on the appropriate use of medications in the treatment of attention-deficit/ hyperactivity disorder in pediatric patients. She discovered in a survey that 72% of children living in a particular rural community were receiving medication for ADHD when they did not meet the diagnostic criteria. The surprising percentage shows lack of oversight of prescriptions to patients. A possible solution to this would be further regulate the diagnosis criteria to make sure a patient is really in need of medication. Giving medication to children who do not need it can have negative consequences. Levy et al, (2014) compares the risk for development of substance abuse between adolescents with ADHD and those without. They examined the relationships between childhood ADHD; adolescent- onset SUD (substance use disorder), substance *abuse* and substance *dependence* in adulthood by using a structured neuropsychiatric interview with modules for SUD and a psychosocial questionnaire. They found that patients with ADHD are likely to have a SUD diagnosed in adolescence and are more likely to have alcohol and drug dependence in adulthood. Exposing an adolescent with ADHD to medication early increases risk of potential abuse, because they are already susceptible to substance abuse (Levy et al, 2014). Research also highlights the increased risk of abuse when

patients were given medication after 13 years old; “The combined risk for either adult drug or alcohol dependence was higher among subjects who had received at least some stimulant treatment after age 13 years”(Levy, et al, 2014). The findings are not surprising because in a way, giving a child medication daily and telling them they ‘need’ it, promotes a mentality that they need substances to feel normal. Focusing on non-medication based behavioral therapy in early adolescence can potentially lead to an overall drop in substance abuse.

The current methods of treating ADHD with medication need to be reassessed because there is no evidence of its positive impact on patients. Long-term benefits have not been observed and the drugs have not been around long enough for researchers to know the true impact on mental and physical health. (LeFever, Arcona & Antonuccio, 2003) LeFever, Arcona & Antonuccio (2003) highlight the fact that the rates of teenage depression and suicide have increased since treatment became popular; “Since the 1970s, when ADHD treatment began, teenage depression has skyrocketed, the rate of adolescent suicide has doubled (Centers for Disease Control and Prevention, 2000)” (30). The fact that depression and suicide rates have not changed for the better highlights the need for a re-evaluation of the treatment methods of ADHD. Using stimulants on pediatric patients also has potential physical side effects: “High dosages of a stimulant over extended periods may increase the risk of growth delay, although one study showed a decrease in growth velocity with methylphenidate 20–80 mg/day” (Dopheide 2005, 24). The fact that methylphenidate has the potential to cause long term physical side effects highlights a need for a re-evaluation of treatment methods for ADHD, especially children.

Evidence suggests that medication is not an effective way to treat adolescents with ADHD (LeFever, Arcona & Antonuccio, 2003). Researchers continue to find ways to treat mild ADHD without medication. Wegrzyn, Hearnington, Martin, and Randolph (2012) conducted an

investigation to see if a potential non-pharmaceutical alternative would control ADHD. Their study consisted of students between 5th through 11th grade and asked them to play "brain games" for a minimum of 20 minutes each morning before school for 5 weeks. They used an electroencephalogram, parent and teacher reports, researcher observations, and participant self-reports to measure how engaged a student was to the "brain games" at three points in time. They found that daily use of brain games could help strengthen focusing ability and executive functioning in adolescents with ADHD. The use of prescription drugs should not be first line of treatment. If early use of prescription drugs can cause substance use disorder in adolescents, alternative treatment such as brain games are highly recommended. Behavioral therapy could eliminate the need for prescription medication in most cases of ADHD. The Wegrzyn, Herrington, Martin, and Randolph (2012) study found, "out of the nine participant journals that were completed, six showed some sort of pattern or evidence of increased engagement from the pretreatment to the post-treatment period and decreased engagement during the follow-up period"(16). The evidence in the study suggests that brain games improve the overall well being of the patient when using the brain games. Using stimuli such as a game to counteract the ADHD is safer than using a chemical stimulant on a patient, because of the lack of physical side effects.

As ADHD continues to be researched, it is important for the public to be aware and educated about the disorder and how it should be treated. It is apparent parents also need to be more informed of the potential misdiagnosis of ADHD and the side effects of the medication. Parents and health care providers need to be more patient with their child and assess the severity of the ADHD. Alternative treatments should be used for moderate cases of the disorder. A more stringent way of diagnosis is needed to prevent misdiagnosis of ADHD. Educating parents on ADHD proves to have benefits. A community in southeastern Virginia established a program to

care for and further educate the public on the disorder and its treatments. (LeFever, Arcona & Antonuccio, 2003). Educating the community on ADHD helps them better care for those suffering from the disorder. The criteria of being diagnosed with ADHD should be more strict, and medication should be prescribed only in appropriate cases. Adolescents are being misdiagnosed with ADHD because of a lack of oversight. LeFever, Arcona & Antonuccio (2003) also suggest surveillance of identification and diagnosis of ADHD as well as monitoring treatment methods and results used to treat mental disorders. Medication treatment for misdiagnosis in adolescent can cause a child more harm, promoting substance dependence. It is important to monitor the use of medication by patients with ADHD because they are more prone to drug addiction; “adults with childhood ADHD are more susceptible than peers to developing *drug dependence*, a disorder associated with neurological changes in the brain”(Levy et al, 2014, 4). Behavioral therapy and family counseling are the least harmful ways to treat a patient with ADHD. Stimulants and other psychotropic medications should be the last option for treatment because of its potential harm to a patient, and the fact that less invasive alternative treatments are now available. The most promising non-medication based treatment for pediatric patients are the ‘brain-games.’ Companies like Nintendo are now making games to help those with ADHD (Wegrzyn, Herrington, Martin, and Randolph, 2012). More attention should be placed on keeping a patient with ADHD occupied to promote activity in the pre-frontal cortex (Wegrzyn, Herrington, Martin, and Randolph, 2012). It is important that a clear diagnostic method is established, as well as a strict oversight on the treatment and its side effects. The public needs to be informed of any emerging alternative treatments that do not involve stimulants. The overall quality of life will improve as patients are treated with less invasive and non-pharmaceutical methods.

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