Attention Deficit Hyperactive Disorder

Ashleigh Brown

School of Psychology, Liberty University

PSYC 430: Abnormal Psychology

Professor Jamie Clark

February 27th, 2023

Attention Deficit Hyperactive Disorder

Introduction

Attention deficit hyperactive disorder (ADHD) is one of the most common disorders in children across the world (Brikell et al., 2021). ADHD is classified in the DSM-5-TR as a neurodevelopmental disorder (American Psychiatric Association [APA], 2022). Neurodevelopmental disorders are disorders that occur during early development that make it difficult for an individual to function normally due to differences or deficits in their brain processes (APA, 2022). For an individual to be diagnosed with ADHD, an individual needs to meet five different criteria (APA, 2022). First, they must meet the DSM-5-TR's standard for hyperactive-impulsive and/or inattentive behavior. Second, this pattern of behavior must have been present prior to the age of 12. Third, these behavioral patterns need to be present in at least two different environments. Fourth, these behaviors must reduce the person's quality of life and the quality of their social interactions. Lastly, these behaviors cannot be explained better by another diagnosis. The American Psychiatric Association (2022) has also clarified that these behaviors cannot qualify for ADHD if they occurred during a psychotic disorder. There are several specifications that can be made based ADHD behavioral patterns (APA, 2022). These behavioral patterns can be specified as inattentive, hyperactive/impulsive, or combined. ADHD can also be specified as mild, moderate, severe, or in partial remission. The DSM-5-TR's classifications, criteria, and specifications for ADHD demonstrate that ADHD is a complicated disorder. This research paper will investigate this complexity by addressing the history, cause, treatment, and prevention of ADHD before discussing the cross-cultural approaches to ADHD and the relationship between religious communities and ADHD.

The History of ADHD

The earliest case of ADHD may have been recorded in the mid-19th century by Heinrich Hoffman (Wolraich et al., 2019). Hoffman wrote a children's book that had two characters with ADHD characteristics, Fidgety Phil and Harry Who Looks in the Air. After Hoffman, George Still discussed similar behavioral patterns in a meeting at the Royal College of Physicians in 1902 (Wolraich et al., 2019). George Still believed that it was highly likely that this disorder was caused by moral defects and brain damage, but he also said that this disorder could be influenced by a child's heritage and environment. An influenza epidemic in 1917 and 1918 reinforced this association when children who recovered from influenza exhibited patterns of restless, inattentive, impulsive, and hyperactive behavior (Wolraich et al., 2019). However, the association between ADHD and brain damage diminished when research demonstrated that similar behavioral patterns were possible in individuals without brain damage. Further research into the causes of ADHD revealed that ADHD was mainly caused by genetic factors (Wolraich et al., 2019). When research demonstrated that brain damage was not the cause of ADHD, researchers focused on creating ADHD criteria based on behavioral patterns (Wolraich et al., 2019). These criteria were focused on the hyperactive and impulsive behaviors of ADHD until the 1980s, when studies by Virginia Douglas and others revealed that ADHD could also be characterized by inattentive behaviors (Wolraich et al., 2019). This changed the modern ADHD criteria so individuals with ADHD could have their behavioral patterns specified as hyperactive/impulsive, inattentive, or combined. Now, while the progression of research has changed the professional view, criteria, and cause of ADHD, the treatment and prevention of ADHD has remained the same. Treatments for ADHD have been based on stimulant medication and behavioral therapy since the 1930's (Wolraich et al., 2019). This was after Charles Bradley discovered that Benzedrine, a stimulant, helped improve the behaviors of children with

behavioral problems (Wolraich et al., 2019). In the 1950's, Dextroamphetamine and Methylphenidate stimulant medications could also be prescribed to ADHD patients (Wolraich et al., 2019). In addition to medication, research has demonstrated that treatments based in behavioral interventions, like family therapy and behavioral training, are equally effective in treating ADHD (Wolraich et al., 2019). Currently, there is research into whether other methods, such as dietary changes and cognitive intervention, could also be beneficial to individuals with ADHD (Wolraich et al., 2019). Regarding ADHD prevention, research has clearly demonstrated that ADHD is caused by a combination of genetic and environmental factors (Wolraich et al., 2019). While the environmental factors that cause ADHD can be addressed, there needs to be more research to determine if the genetic factors of ADHD can be addressed. Overall, the history of ADHD clearly demonstrates that the research on ADHD has moved from believing ADHD is caused by moral deficits and brain damage to understanding that ADHD is a complicated, but treatable disorder.

The Cause of ADHD

The American Psychiatric Association (2022) lists temperamental, environmental, physiological, and genetic factors as the possible causes of ADHD (APA, 2022). For temperamental factors, it is possible that a child's temperament may lead to a child developing ADHD, but that temperament does not guarantee that the child will develop ADHD (APA, 2022). Environmental factors also contribute to ADHD. A study by Savci et al. (2019) mentioned that research has shown that prenatal exposure to substances, heavy metals, and chemicals can contribute to ADHD in children (Savcı et al., 2019). This study also noted that nutrition and psychosocial factors could also contribute to the development of ADHD. Research has also demonstrated a significant correlation between fetal alcohol syndrome, maternal

smoking, low birthweight, and polychlorinated biphenyl exposure to the manifestation of ADHD in young children (Savcı et al., 2019). For physiological causes, there is speculation that impaired senses, abnormal metabolisms, and poor nutrition could contribute to ADHD (APA, 2022). However, more research is needed to validate this speculation. Of the four factors, it is undisputable that genetics have the biggest impact on whether a child will develop ADHD. A literature review by Brikell et al. (2022) noted that family studies demonstrated that children had four-to-five times the risk of developing ADHD if they had a first degree relative with ADHD (Brikell et al., 2021). It also noted that monozygotic twins had a significantly higher risk of developing ADHD while dizygotic twins had the same risk as normal siblings (Brikell et al., 2021). Overall, Brikell et al. (2021) noted that the consensus among family studies is that ADHD has a 70% to 80% genetic risk factor (Brikell et al., 2021). There also seems to be some gender impact as well, since children with female ADHD relatives had a higher risk of developing ADHD (Brikell et al., 2021). Overall, while there are multiple factors that can contribute to ADHD, it is evident that genetic factors mainly determine a child's risk of developing ADHD.

Treating ADHD

The two main methods to treat ADHD are pharmacological treatments and behavioral therapies. As mentioned earlier, medical professionals usually prescribe stimulant medications to ADHD patients (Savcı et al., 2019). National and international placebo drug tests for stimulants have clearly demonstrated that pharmacological treatments significantly improve ADHD symptoms (Savcı et al., 2019). They also demonstrated that stimulant medications could help individuals with ADHD improve their memory, reaction time, and response inhibition. Behavioral therapies are also beneficial to treating ADHD. One study by Vanzin et al. (2020) demonstrated that acceptance and commitment therapy in a group setting helped children with

ADHD gain a significant improvement in global functioning, behavioral symptoms, and cognitive problems (Vanzin et al., 2020). Another study by Vekety et al. (2020) showed that mindfulness-based interventions can be easily applied in classrooms to help children with ADHD improve their behavioral functioning in educational environments (Vekety et al., 2020). Savci et al. (2019) also noted that engaging in moderate-to-severe exercise can also help people with ADHD manage their executive dysfunction and other ADHD symptoms (Savcı et al., 2019). When comparing pharmacological and behavioral therapies, research demonstrates that both methods are equally effective in treating ADHD (Savcı et al., 2019). Overall, ADHD research demonstrates that there are many ways to treat ADHD. Individuals with ADHD simply have to identify the problems they want to address and find treatments that will help them meet their behavioral goals. However, it is important to note that there is no cure for ADHD. No matter how good the therapy or the medication is, it cannot cure ADHD. So, when an individual seeks treatment, they need to seek pharmacological and behavioral therapies that can best help them to manage their ADHD instead of searching for a therapy that can completely cure their ADHD.

Problems with Preventing ADHD

It is almost impossible to prevent ADHD because the development of ADHD is determined by an individual's genetics (Brikell et al., 2021). Research has also demonstrated that ADHD is not caused by a single gene, but rather caused by a variety of genomic regions, including regions related to brain regulation and functioning (APA, 2022). Environmental factors are the only other factor that could be properly addressed, since research on temperamental and physiological causes of ADHD is limited (APA, 2022). Environmental factors like prenatal substance use and chemical exposure could be addressed ethically through community education and social movements. However, addressing the environmental factors that cause ADHD may

not be enough because research has demonstrated that genetic factors are the main determining factor in whether a child will develop ADHD (Brikell et al., 2021). This makes it clear that there really is no way to prevent ADHD. Furthermore, even if methods like gene editing were developed enough to address the genetic factors of ADHD, these methods could inadvertently encourage practices like eugenics. Instead, it would be better to educate people with ADHD on the genetic risk factors associated with ADHD and equip them to make the best decision for themselves. If they do not want children, that is their decision. If these individuals want to have children, or end up having children, then it would be important to ensure that their families have access to the resources they need to assist the child if the child develops ADHD. In the end, this decision should be left up to the individuals and their families about what to do with their ADHD diagnosis, just like individuals and their families are left to decide what to do with the diagnosis of any other genetic illness or disorder. In summary, while there are ways to address the environmental factors that cause ADHD, there is no way to currently address the genetic factors in ADHD, so the decision of ADHD prevention should be left to individuals with ADHD and their families.

ADHD and Cross-Cultural Research

Currently, there is an international interest in ADHD research. This is unsurprising because studies estimate that ADHD occurs in 1.0% to 20.0% of children worldwide (Savcı et al., 2019). This has led to foreign national and international studies on ADHD genetics, behaviors, and treatments. International ADHD studies on genetics are important because studying common genetic factors for ADHD across nationalities can help researchers develop a complete and equitable understanding of ADHD (Brikell et al., 2021). Then, studies on ADHD behaviors in other countries can help establish the difference between behaviors caused by an

individual's ADHD and behaviors caused by an individual's culture. This can be seen in a national Chinese study focused on comparing preschool children with ADHD to preschool children without ADHD (Zhang et al., 2018). This study concluded that the Chinese preschoolers with ADHD had multiple developmental delays in areas like personal inhibition, planning, organization, instruction comprehension, and emotional control (Zhang et al., 2018). This study highlights how children with ADHD experience similar delays and struggles across the world, despite their differences in nationality and culture. When comparing cultural approaches to ADHD, international studies and literature reviews are very helpful because they can highlight multiple cultural differences in one journal article. This can be seen in a literature review done by Whitely et al. (2018) that investigated the rates of ADHD prescriptions for children with late birthdates in different school systems across the world (Whitely et al., 2018). This literature review revealed that younger children in classrooms were often diagnosed with ADHD and given ADHD medication, even in school systems that had lower rates of prescription (Whitely et al., 2018). This was only different in nations like Denmark, since the parents in Denmark often delayed putting their child into the school system if they thought their child needed more time to mature (Whitely et al., 2018). So, it could be implied that these children could have been misdiagnosed with ADHD because they did not meet the standards for age-appropriate behavior when compared to their classmates. This literature review highlights how different culture's view child appropriate behaviors and how they deal with children that do not meet their culture's standards for behavior. Overall, current foreign national and international research on ADHD has helped researchers understand ADHD on a global scale, but more research is needed to fully understand how different genetic and cultural factors impact ADHD.

ADHD and Religious Communities

When discussing mental illness, sometimes the conversation focuses on curing an individual of their mental illness. However, people with neurodevelopmental disorders like ADHD can learn to function well in society without being cured of their mental illness. So, when working with individuals who have ADHD, it is important to focus on helping that individual reach their full potential instead of trying to fix them. Religious communities need to understand this if they want individuals with ADHD to thrive in their communities. This was demonstrated in a study on individuals with ADHD in an Ultra-Orthodox Jewish community in Israel (Novis-Deutsch et al., 2021). This study revealed that people with ADHD often struggle in religious communities (Novis-Deutsch et al., 2021). However, these communities can also help individuals with ADHD improve their ADHD symptoms (Novis-Deutsch et al., 2021). Whether an individual struggled or thrived in a religious community was entirely dependent on how the religious institution worked to integrate the individual with ADHD into the community. If the integration was smooth, people with ADHD could benefit from belonging in a religious community. Religious leaders could help ensure a smooth transition if they were understanding towards and educated about ADHD so they could provide helpful accommodations to individuals with ADHD (Novis-Deutsch et al., 2021). Overall, this study indicates that it is very possible for individuals with ADHD to join and thrive in religious communities if these communities take the time to be understanding towards individuals with ADHD while also working to smoothly integrate individuals with ADHD into their religious community.

Conclusion

When people first discovered ADHD, they believed it was the result of brain damage and moral deficits. Now, researchers understand that ADHD is a more complicated mental disorder caused by an individual's genetics and prenatal environment. There are several different

pharmacological and behavioral therapies that can be used to effectively treat ADHD. However, there is no cure for ADHD. It is also impossible to prevent ADHD beyond addressing a child's prenatal environment. There are many foreign national and international studies on ADHD because researchers are interested in discovering cultural influences and the genetic diversity involved in the development of ADHD. When examining the relationship between religious communities and ADHD, research demonstrates that a smooth integration into a religious community can be very beneficial to individuals with ADHD. When considering future research for people interested in ADHD, it may be beneficial to focus on gender differences in ADHD. Currently, research has demonstrated that there are gender differences in ADHD symptoms (APA, 2022). So, expanding researching on how gender impacts the heritability of ADHD and how ADHD impacts women may be beneficial to understanding more about the development of ADHD. Regardless, it is clear that while ADHD can be a difficult disorder to manage, there are multiple therapies that can help individuals with ADHD thrive in modern society.

References

American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.). https://doi.org/10.1176/appi.books.9780890425787

Brikell, I., Burton, C., Nina, R. M., & Martin, J. (2021). Insights into attention-deficit/hyperactivity disorder from recent genetic studies. *Psychological Medicine, 51*(13), 2274-2286. https://doi.org/10.1017/S0033291721000982

Novis-Deutsch, N., Dayan, H., Pollak, Y., & Khoury-Kassabri, M. (2021). Religiosity as a moderator of ADHD-related antisocial behaviour and emotional distress among secular, religious and Ultra-Orthodox jews in Israel. *International Journal of Social Psychiatry*, *68*(4), 773–782. https://doi.org/10.1177/00207640211005501

Savcı, U., Tufan, A. E., Öztürk, Y., & Cansız, M. A. (2019). Executive Function Problems and Treatment in Children and Adolescents with Attention Deficit and Hyperactivity Disorder. [Dikkat Eksikliği ve Hiperaktivite Bozukluğu Olan Çocuk ve Ergenlerde Yürütücü İşlev Sorunları ve Tedavisi] *Psikiyatride Guncel Yaklasimlar, 11*(2), 223-238. https://doi.org/10.18863/pgy.424793

Vanzin, L., Valentina, M., Valli, A., Pozzi, M., Giovambattista, P., Annalisa, O., Arianna, R., Massimo, M., & Nobile, M. (2020). Clinical Effects of an ACT-Group Training in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder. *Journal of Child and Family Studies, 29*(4), 1070-1080. https://doi.org/10.1007/s10826-019-01546-x

Vekety, B., Logemann, H. N., & Takacs, Z. K. (2020). The effect of mindfulness-based interventions on inattentive and hyperactive–impulsive behavior in childhood: A meta-

analysis. *International Journal of Behavioral Development*, *45*(2), 133–145. https://doi.org/10.1177/0165025420958192

Whitely, M., Raven, M., Timimi, S., Jureidini, J., Phillimore, J., Leo, J., Moncrieff, J., & Landman, P. (2018). Annual research review: Attention deficit hyperactivity disorder late birthdate effect common in both high and low prescribing international jurisdictions: A systematic review. *Journal of Child Psychology and Psychiatry*, *60*(4), 380–391. https://doi.org/10.1111/jcpp.12991

Wolraich, M. L., Chan, E., Froehlich, T., Lynch, R. L., Bax, A., Redwine, S. T., Ihyembe, D., & Hagan, J. F. (2019). ADHD diagnosis and treatment guidelines: A historical perspective. *Pediatric Collections: ADHD: Evaluation and Care*, 75–83. https://doi.org/10.1542/9781610024129-part01-adhd

Zhang, H.-F., Shuai, L., Zhang, J.-S., Wang, Y.-F., Lu, T.-F., Tan, X., Pan, J.-X., & Shen, L.-X. (2018). Neuropsychological profile related with executive function of Chinese preschoolers with attention-deficit/hyperactivity disorder. *Chinese Medical Journal*, *131*(6), 648–656. https://doi.org/10.4103/0366-6999.226893