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Do Early Medications in Cases of ADHD Help Children to Cope with Behavioural Issues?

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ABSTRACT

Diagnoses of Attention Deficit Hyperactivity disease (ADHD), a common neurodevelopmental disease, have increased globally, especially since the 1980s. Until the late 20th century, ADHD was not as often diagnosed in other parts of the world as it is in Western nations like the United States. This study examines how the prevalence of ADHD diagnoses and medication use is rising across a range of demographics, with a particularly noticeable increase seen between 2005 and 2012. The study lists the main causes of ADHD, which include environmental variables, brain damage, prenatal substance exposure, and genetic factors. Although environmental variables including low birth weight and exposure to pollutants certainly play a part, genetics is the primary determinant, with heritability estimates ranging from 70 to 90%. Individuals of all ages are impacted by the wide-ranging effects of ADHD. Among these are increased chances of comorbid ailments like anxiety, depression, sleep disorders, and behavioral problems. Stimulants and other medications are frequently used to treat ADHD, but they can have negative side effects including appetite suppression, sleeplessness, and more severe mental health issues. The fact that people with ADHD are more likely to commit crimes further emphasizes the disorder's wider social and economic effects. ADHD is managed differently over the world; for example, Australia and India have established protocols for diagnosis and therapy. Although pharmacological therapies are frequently employed, non-pharmacological methods including behavioral therapy and cognitive training are becoming more popular due to worries about their long-term effectiveness and potential negative consequences. This essay promotes a comprehensive, tailored strategy for treating ADHD, stressing the significance of addressing the disorder's influencing hereditary and environmental components. This study adds to the continuing discussion about the diagnosis and treatment of ADHD by emphasizing the value of all-encompassing care plans that weigh the advantages and disadvantages of pharmaceutical treatments against non-pharmacological alternatives.

Keywords: Attention Deficit Hyperactivity Disorder, Medication, Behaviour, Treatment, Non-Pharmaceutical, Pharmaceutical

OVERVIEW

Attention deficit hyperactivity disorder has been a widespread disturbed recognition in the United States since 1980 and 1990s in youngsters and adults. However, in other regions of the world, the diagnosis was uncommon.

By the 20th century, the diagnosis of ADHD had become a progressing global occurrence.

(Johns Hopkins University Press research, 2018)

The use of ADHD medications has grown during the past several years in numerous regions. (Burcu et al., 2016)

Young children, adolescents, and adults of all ages have experienced these increases, with use continuing to rise into maturity. (Dalsgaard et al., 2013)

The number of children and teenagers in 2012 that received ADHD medication was as follows:

Netherlands: 5157/131,954;

Germany: 30,747/1,414,623;

Denmark: 18,585/1,203,817;

United Kingdom: 4489/827,906;

United States: 3869/105,188.

From 2005–2006 to 2012, there was a rise in the occurrences of taking ADHD medicine throughout all cohorts.

There was an increase of this disorder throughout the years as between 2007 to 2009 a mean of 9% of kids were diagnosed with ADHD but from the years 1981 to 2000 the percentage was under 7, this concludes in a 2% increase of the disorder which is proven by analysers from the Centers for Disease Control and Prevention in the United States. "We don't have the data to say for certain what explains these patterns, but I would caution against concluding that what we have here is a real increase in the occurrence of this condition," author Dr. Lara J. Akinbami, a medical officer with the National Centre for Health Statistics, said in an Aug. 18 report from the agency regarding her concerns on this disorder. The reason why this holds significance is clearly given above due to its awareness worldwide.

CAUSES

The following are the causes of ADHD:

Brain injury

In comparison to patients without an ADHD diagnosis, patients who sustain mild brain injuries are more likely to develop a moderate disability as a result of the damage.

In the statistical analysis, 45 patients with mild CHI but no ADHD were compared to 48 patients with a mild brain injury and ADHD.

Even after mild traumatic brain injury, patients with ADHD were statistically significantly more impaired than control patients without ADHD.

(Christopher M. Bonfield, 2022)

Alcohol and tobacco use during pregnancy

One such high-risk situation where children of alcoholics are disproportionately more likely to suffer the progression of disorders like ADHD is prenatal substance vulnerability. The evidence for a significant genetic correlation points to a place, especially for AUD, this is true even though it is known that prenatal alcohol exposure and genetic influences play separate roles in determining the risk of the disorder.

(Valerie S. Knopik, 2006)

Environmental factors

ADHD has been observed to occur more frequently in children who are born underweight or incredibly low weight, with preterm delivery being a key risk factor.

One of the environmental causes of ADHD that is most frequently cited is contact with toxic heavy metals. Children (ages 6-7) with ADHD demonstrated increased levels of mercury in their saliva, per a study on schoolchildren.

Gender

In girls and women, attention deficit hyperactivity disorder (ADHD), which is frequently diagnosed in males, is often a "hidden condition." The fact that the symptoms are less obvious in females can help to explain why this lack of recognition exists.

(Patricia O. Quinn, 2005)

Gender is a factor in subtypes of the condition because boys have it 2.3 times more often than girls do. (José J. Bauermeister, 2007)

HERITABILITY

There is an 80–90% chance of children being born with this disorder due to their genetics making it a high risk, which has resulted in being the most common cause of this disorder. (Gilger et al., 1992)

In twin and family studies, significant genetic impacts on the prevalence of ADHD in childhood and adolescence have repetitively been discovered. Twin studies on ADHD in children have been the subject of meta-analyses, and heritability estimates range from 70% to 80%. (Nikolas et al., 2010), very little proof that common environmental factors influence how differently each person experiences their ADHD symptoms. Instead, the majority of the causes of the disorder appear to be genetic and non-shared environmental factors. (Burt, 2009). The heritability of ADHD does not appear to have changed significantly from infancy to early adulthood, according to a meta-analysis of longitudinal twins research, which suggests that genetic factors on the variability in ADHD symptoms in childhood and adolescence are largely stable. (Bergen et al., 2007). At least two twin studies have demonstrated that hereditary variables account for a considerable portion of the stability of ADHD. (Larsson et al., 2004; Kuntsi et al., 2005).

From the above research studies it is clear that the primary cause of Attention Deficit Hyperactivity Disorder (ADHD), a complex neurodevelopmental disease with many contributing factors, is genetic which is proven through several statistics.

Given that research indicates ADHD tends to run in families, heritability is important. There is a strong genetic component to ADHD, since children who have a parent or sibling with the disorder are more likely to develop it themselves. ADHD has been related to specific genes that regulate dopamine, a neurotransmitter associated with attention and impulse control.

Environmental factors including prenatal exposure to pollutants, premature birth, or low birth weight can also have an impact, but they are typically regarded as secondary to genetic impacts, even though genetics plays a major role.

Overall, there is strong evidence that ADHD is a heritable disorder.

CONSEQUENCES

The following are the consequences of ADHD:

When this disorder is diagnosed, patients have been seen to experience a variety of long-term negative side effects after taking medication, such as depression, anxiety, suicidal behaviour, bipolar disorder, tics, seizures and sleep disorders.

The prevalence of delayed sleep phase disorder is among the highest, affecting between 73 and 78% of both adolescents and adults with ADHD.

The sleep inclination cycle and the daily cycle are postponed in this disease, which causes higher sleep disturbances and diminished mental performance.

DISORDERS

Children with ADHD may only experience intellectual difficulties or autism spectrum disorder in their early years. By late adolescence, conduct disorder, major depressive disorder, and bipolar disorder are more common in adolescents, and children with ADHD relative effects with special needs, mental illnesses, tic disorders, and disruptive mood dysregulation disorder. Finally, some children with ADHD may grow into adults with psychological disorders or drug addiction difficulties. (Masahide Usami MD, 2016)

Adverse Effects

Patients with ADHD who receive either a stimulant or non-stimulant pharmacological medication can encounter adverse effects. The most common negative effects of these drugs are as follows:

Appetite (28.6%/14.2%)

Nausea (7.9%/10.3%)

Headache (14.5%/20.8%)

Insomnia (12.3%/8.6%)

Nasopharyngitis (6.0%/7.1%)

Dizziness (5.1%/10.0%)

Abdominal pain (7.8%/11.5%)

Irritability (9.3%/6.9%)

Somnolence (4.4%/34.1%)

(Pievsky, M.A., 2018)

A systematic review of the side effects of methylphenidate in children and adolescents found that one in 100 patients report serious adverse events (such as death, cardiac problems, and psychiatric disorders) after receiving treatment. This is despite the fact that more than half of patients treated with methylphenidate experience one or more adverse events.

A systematic evaluation of the drug's potential side effects, which may include suicidal ideation, violence, psychosis, seizures, and decreased growth, found evidence that atomoxetine is safe to use in ADHD patients.

(Yang, R, 2017)

Criminal activities

The results show that both unresponsive and hyperactive symptoms in childhood increase the likelihood of engaging in a variety of criminal behaviours. In many cases, these increases in risks are significant and relatively more dangerous than other consequences.

It plays a role in determining the actions of adolescents and adults with the disorder and is proven to be worse than negative side-effects or disorders as there are casualties involved in these criminal activities that are majorly affected.

According to research, people with ADHD are more prone to commit both minor offences like speeding and traffic violations as well as serious crimes that could land them in jail. It has been shown that certain behaviours, such as stealing items, concealing a weapon, possessing illegal drugs, and being admitted to a juvenile detention facility, are positively correlated with ADHD status. Nevertheless, these findings all imply that increasing criminality is one way that ADHD has an economic impact.

(Jason Fletcher, 2012)

The above research shows that the propensity of committing crimes is one of the most alarming implications of ADHD, and it can have a big impact on a person's life. Impulsivity, poor decision-making, and emotional regulation issues are the hallmarks of ADHD that can make it more difficult for people to obey rules and conform to social standards. Those with ADHD may engage in dangerous behaviours like stealing, substance misuse, or violent acts as a result of these impulsive tendencies and a failure to consider long-term effects.

According to research, adults and adolescents with ADHD are more likely than their peers without the disease to run afoul of the law or be imprisoned. Additionally, having ADHD can make it harder to succeed academically and find work, which can make social isolation worse.

GLOBAL AND NATIONAL PERSPECTIVE

India:

These recommendations should be read in conjunction with the previous iteration of the Indian Psychiatric Society's 2007 treatment guidelines for ADHD. The purpose of this guideline is to establish standards for thorough and efficient ADHD diagnosis, treatment, and evaluation. It makes an effort to revise the earlier recommendations in light of the most recent data that can influence clinical practice. According to the guidelines, the doctor must try to get a general idea of how severe ADHD is based on the number and severity of symptoms as well as the level of impairments brought on by the symptoms. Furthermore, some related issues might exist

that should not be regarded as proof of ADHD on their own, but if they do, they should be included when making management plans. Defiant or non compliant behaviours, impatience, mood swings, anger, temper tantrums, sleep issues, clumsiness, and moderate speech and language impairments are some of these issues.

Building a working therapeutic alliance with the child and family, getting their input on treatment preferences and perceptions, and providing them with information about the diagnosis and course of treatment are all crucial steps before beginning any kind of treatment for ADHD.

Medication treatment has certain drawbacks, even with evidence of its short-term effectiveness. These include side effects, poor adherence, unproven long-term efficacy and cost-effectiveness, partial or no response in some cases, and unfavourable opinions of drugs held by family members and medical professionals. On the other hand, if done correctly and naturally, nonpharmacological therapies can help with symptoms and function in various areas. (Shah, January 2019)

Australia:

Draft Guidelines for diagnosing and treating ADHD were released by the Australian National Health and Medical Research Council in 2009. A diverse expert reference panel reviewed the evidence-based literature before developing the guidelines. For preschool-aged children with ADHD, the guidelines advise against using medication as a first-line treatment. Instead, stimulants should be used sparingly, in short-acting forms, and in close coordination with behavioural interventions that are appropriate. If using stimulants to treat severe ADHD in school-aged children is in accordance with the child's and parent or caregiver's choices, it is regarded as a first-line treatment. Adults are also subject to similar recommendations, provided that the adverse effects of the medicine are not intolerable. (Stephen P. Hinshaw, Ph.D., May 2011)

COURSE OF ACTION

Reasons in support of early medications:

Pharmacological treatments for ADHD

The NICE ADHD Guideline Group discovered a dearth of scientific evidence demonstrating that young people's experiences with stimulant drugs were generally more favourable than negative.

Teenagers highlighted a variety of ways that their medicine had benefited them, and medication use was predominantly mentioned in terms of how it affected social behaviour rather than academic performance and school-related functioning. Young people with aggressiveness issues regularly and most clearly described the therapeutic effects of medication.

The ability of young people to form and maintain friendships was seen as being positively impacted by these beneficial outcomes. Although young people frequently suffered drug side effects, including appetite suppression and insomnia, they were not the main topics of the talks. The experiences of the young people with formal and informal non-pharmacological therapies were different. In their collective opinion, medication was the only truly effective treatment option for ADHD. (Irina Singh, 2010)

The biomedical model that prevails in most countries depicts ADHD as a chronic neuro-genetic disorder with several negative repercussions. However, in the absence of distinct biological indicators, this model is sustained through the belief that this diagnosis (a) is consistent through time and different populations and (b) is one that has a lifelong need of medicinal management (for example, Ritalin). The purposes of these two ideas in the context of the society of Israel are examined in three other studies. The findings suggested that the diagnosis of ADHD was not accurate. Reported prevalence was higher than 20 percent which is much higher than the agreed estimate of 5 percent and it was unreliable across populations due to the high variability. Further, the diagnosis did not also characterize a life-long debilitating disorder that would warrant ongoing treatment with pharmacological medication. In fact, the prevalence of prescribed drugs was very high, suggesting that the biomedical paradigm was dominant. In actuality, though, drugs were only taken sparingly, mostly in school or college, to enhance academic performance. These results challenge the biomedical understanding of ADHD, as does a critical assessment of the state of the physiological literature on the disorder. The clinical diagnosis of ADHD appears to be a modern social phenomenon where children's normative qualities are being medicalised, primarily in reaction to demands from the outside world related to school, rather than an objective chronic brain condition. (Ophir, 2021)

Reasons Against Early Medications

Non-pharmacological treatments for ADHD

Behavioural Parent Training

Cognitive Behavioural Therapy

Attention Training Techniques

Neurofeedback

The greatest treatment for toddlers is parental training.

A first line of treatment for school kids with minor deficiencies may be cooperative parental training programmes and classroom behavioural therapies, according to certain studies.

For school-aged children with significant deficiencies, interventions are more successful when taken in conjunction with prescription stimulants.

Children in middle school and adolescents appear to benefit from multifunctional therapies, which most likely results from using home and school treatment strategies.

Adults are often first treated with stimulant drugs, although CBT has been shown to be effective in addressing the diverse needs of this population.

(Susan Young, 2010)

EVALUATION

The sources in this report come from various research papers, results from organisations and from medical professionals making this report reliable and highly credible, such as, (NICE ADHD Guideline Group), (clinical article), (Cambridge University Press). However some of the sources could be outdated such as, (Gilger et al., 1992). This would result in the research not including new and relevant material that could potentially alter its findings because of the publication year being obsolete. On the other hand, the research paper does make use of longitudinal studies such as, (Christopher M. Bonfield, 1944-2022) which helps in producing accurate results due to it considering changes in the environment and presenting them in their study. This increases the validity and reliability of the research findings. This report supports the claims made by providing a wide range of verifiable evidence and opinions.

REFLECTION

My initial impression of ADHD was influenced by the widespread belief that it was a simple illness primarily characterised by children's hyperactivity and inattention, frequently managed with stimulant-like drugs. I thought that ADHD was mostly a childhood problem that would either go away on its own or be treated with medication. The idea that ADHD was merely being identified and treated more successfully overtime appeared to be supported by the global increase in ADHD diagnoses and the corresponding growth in medication use, especially in the US.

I became more wary about the long-term use of pharmacological therapies after reading about the possible side effects of ADHD medication. The possibility of serious side effects like depression, insomnia, and even suicidal thoughts made me more receptive to alternative treatments and the significance of a comprehensive strategy that incorporates behavioural therapy and environmental interventions, even though i had previously supported the idea of medication as the main treatment. I now view it as a multifaceted, intricate condition that calls for a nuanced strategy that takes cultural, environmental, and genetic elements into account. I also recognise how critical it is to investigate non- pharmacological therapies like behavioural therapies, particularly in view of the possible hazards connected to chronic pharmaceutical usage. The increasing global awareness of ADHD has made me more conscious of the need for a more thorough, customised treatment strategy that takes into account the disorder's wider social and psychological effects in addition to its symptoms.

CONCLUSION

To conclude on whether taking medication can help with ADHD deal with behavioural challenges is a subject of debate however there is more evidence proving that medication does benefit and help children with ADHD to cope with behavioural issues.

The NICE ADHD Guideline Group discovered a dearth of scientific evidence demonstrating that young people's experiences with stimulant drugs were generally more favourable than negative.

Teenagers highlighted a variety of ways in which medication had benefited them, its use was predominantly mentioned in terms of how it affected social behaviour rather than academic performance and school-related functioning.

Young people with aggressiveness issues regularly and most clearly described the therapeutic effects of medication.

In order to best care for children and youth with ADHD and achieve the best long-term psychological health, behavioural, and economic outcomes, it is common to look at medication therapy. However, pharmacological interventions offer long-term, sustainable and greater benefits but are known to be uncommon.

(Iliana Singh, 2010)

REFERENCES

- [1] Meredith R. Bergey, Angela M. Filipe, Peter Conrad, Iliana Singh. Johns Hopkins University Press, 01-Jan-2018
- [2] Burcu et al., 2016, Dalsgaard et al., 2013, Visser et al., 2014
- [3] Dalsgaard et al., 2013, Johansen et al., 2015
- [4] clinical article, by, Christopher M. Bonfield, Sandi Lam, Yimo Lin, Stephanie Greene
- [5] Cambridge University Press, 31 May 2006
- [6] Gilger et al., 1992
- [7] Christopher M. Bonfield, Sandi Lam, Yimo Lin, Stephanie Greene 1944-2022
- [8] Munoz, M.P.; Rubilar, P.; Valdes, M.; Munoz-Quezada, M.T.; Gomez, A.; Saavedra, M. 2020
- [9] Chamorro, M.; Lara, J.P.; Insa, I.; Espadas, M.; Alda-Diez, J.A. 2017
- [10] Wajszilber, D.; Santiseban, J.A. 2018

- [11] Patricia O. Quinn, 18 February 2005
- [12] José J. Bauermeister, 03 August 2007
- [13] Susan Young, J. Myanthi Amarasinghe, 2010
- [14] Ilina Singh, Tim Kendall, Clare Taylor, Alex Mears, Chris Hollis, Martin Batty, Sinead Keenan
[15] 17 May 2010
- [16] Pievsky, M.A.; McGrath, R.E. 2018
- [17] Yang, R.; Li, R.; Gao, W.; Zhao, Z. 2017
- [18] Jason Fletcher, Ph.D. and Barbara Wolfe, Ph.D, 2012 Jul 16
- [19] Masahide Usami MD, PhD, 08 April 2016
- [20] Nikolas et al., 2010
- [21] Burt, 2009
- [22] Bergen et al., 2007
- [23] Larsson et al., 2004; Kuntsi et al., 2005
- [24] Social History of Medicine, Volume 30, Issue 4 by, Matthew Smith, 18 January 2017
- [25] Ophir, Yaakov, 2021 Dec 2
- [26] Stephen P. Hinshaw, Ph.D., May 2011