



Attention Deficit Hyperactivity Disorder (ADHD) Student Facts

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Abstract: The study aimed to analyze facts related to ADHD students through international publication trends based on the Scopus database with publishers Springer, Taylor, Elsevier, and Hindawi. This study used a systematic literature review method with a qualitative approach. Studies have shown a gap between knowledge of early warning signs of ADHD and effective preventive interventions. Early interventions, such as behavioral training, are effective in reducing ADHD symptoms and improving some aspects of executive function. In addition, exposure to psychosocial stress, nutritional stress, immunological stress, and organic pollutants during early development may increase the risk of ADHD. Several treatment strategies, including the use of psychostimulants and psychosocial interventions, are effective in reducing ADHD symptoms. Factors such as age, disorder severity, and underlying health conditions should be considered when selecting a treatment, with periodic evaluations to monitor response to treatment and possible side effects.

INTRODUCTION

At first, Attention Deficit Hyperactivity Disorder (ADHD) was discovered in the United States. Although not a trend in the country, the literature shows that physicians have noticed problems in concentration and hyperactive behavior in the 18th, mid-

19th, and early 20th centuries. Serious scientific research on the subject of concentration began in the early and mid-20th century period. ADHD, identifies major behavioral problems that include barriers to executive function, time awareness, management,



and behavior that is not directed toward goals.

Over the past few decades, ADHD has become an intensely discussed subject in the fields of mental health and education. Scientific research and current understanding of ADHD have helped improve the identification, diagnosis, and management of this disorder, introducing a variety of treatment approaches, such as behavioral therapy, pharmacological approaches, as well as educational approaches tailored to meet the needs of individuals with ADHD.

Attention Deficit Hyperactivity Disorder is a neurobiological disorder that generally appears in childhood and can progress into adolescence and adulthood. This disorder is characterized by patterns of behavior that include inattention, hyperactivity, and impulsivity that interfere with a person's social, academic, and work functioning. ADHD children are children who have special needs, experience attention and behavior disorders that interfere with daily life, affecting many aspects such as social adaptation and academic performance (Prakoso & Novami, 2023). Attention Deficit Hyperactivity Disorder

is a condition in which brain function is disrupted, causing difficulties in controlling impulses, inhibiting behavior, and difficulty maintaining attention focus or easily distracted (Nurfadhillah et al., 2021).

A medical practitioner, Dr. George F. Still, provides a more scientific explanation of the medical view by stating that children who have "impaired moral control" are less likely to be diagnosed with ADHD or ADHD with conduct disorder. This behavioral disorder is usually characterized by aggressive and disruptive behavior patterns. In the book written by Pullen (2014), mentions that the asusinvestigated by Still has a significant resemblance to the common condition that occurs in most individuals today who have ADHD, at least in five ways, namely 1). It is still thought that many of these children have mild brain abnormalities; 2). Many children have normal levels of intelligence; 3). This condition is more common in men than women; 4). There is evidence that the condition has heredity; and 5). Many children and their family members also face other physical or psychological

problems, such as depression and muscle spasms.

The development of science and research results on ADHD is important and needs to be considered by various parties, including parents and teachers, to improve the educational process. This is important because up-to-date information about ADHD helps improve understanding of the condition. More informed parents and teachers have a better chance of helping students with ADHD in an educational setting. This allows teachers to adapt methods, models, tools and learning media according to the needs and learning styles of students who have ADHD. It is important for a teacher to pay special attention in strengthening the memory of ADHD students in order to become more focused on an object and be able to focus his attention on something that interests him (Birda et al., 2016). A teacher also receives training to improve his ability to become an inclusive teacher in dealing with students with special needs in the school environment (Rasmitadila et al., 2021).

Many benefits are obtained by teachers, parents and schools if they know in this way the facts related to

students suffering from ADHD in providing treatment, intervention or special attention in order to be able to maximizing the potential of ADHD students to support their development. This study aims to provide information related to the latest facts of ADHD students.

METHOD

This study used a systematic literature review method with a qualitative approach. The population of this study was obtained through the trend of international publications based on the Scopus database with publishers Springer, Taylor, Elsevier, Hindawi and with the help of the Publish or Perish application as many as 200 articles from 2018 to 2022 with the keywords "ADHD facts" and "symptoms of Attention Deficit Hyperactivity Disorder" with details namely 67 reviews, 1 note, 1 book chapter, 1 short survey and 130 articles. From the population, 23 samples were taken according to the criteria and research needs. The article selection process shows the trend of facts related to ADHD students. After that, further analysis was carried out to find out the facts of ADHD students which will be

able to help teachers and schools to identify students in the class then prepare various appropriate treatments in order to maximize the potential of ADHD students to support their development.

RESULT & DICUSSION

Facts of Life Development

Neurological disorders begin early in ADHD and develop with a variety of varied developmental pathways. Likewise, neurocognitive and behavioral signs that appear in the early years of life can predict the development of ADHD that may require rapid intervention. Children between the ages of 0 to 5 who show or begin to exhibit ADHD tend to experience a number of difficulties in neurocognitive and behavioral functioning. These include patterns of excessive activity, inhibitions in executive function, and unusual sensory processing.

Executive function refers to a set of high-level cognitive processes that include decision-making, planning, and working memory. Research shows that children with ADHD have problems in executive function such as behavioral inhibition, motivation, working

memory and IQ ability. This can be observed through IQ levels that are below the population average. However, the results of other studies suggest there is a clear gap in turning knowledge of these early signs into effective preventive interventions. Early interventions, especially behavioral training programs for the elderly, have shown some success in reducing ADHD symptoms and improving some aspects of executive function. Such a treatment model may be the most suitable approach for infants and toddlers who show signs of the disease or are at high risk of ADHD. Providing interventions can improve understanding of social neurocognitive function based on students with ADHD. It also serves as a hypothetical for future research related to executive function. Control in restraint, working memory, cognitive flexibility ability, and attention focus, where restraint ability shows a closer relationship with executive function. However, future steps need to be taken to increase its effectiveness to the maximum. The above facts of life development are the results of a literature review from Frankea et al.,

2018; Pineda-alhucema et al., 2018; Posner et al., 2020; Shephard et al., 2021.

Health and Medicine Facts

The early days of life are crucial phases in the process of human development that determine patterns of health and disease throughout life. There is a strong epidemiological link between suboptimal conditions in early life and a number of other diseases. The epigenetic action aspect of exposure in the early stages of life is divided into four key elements: psychosocial stress, nutritional stress, immunological stress, and exposure to pollutants. Sustained exposure to low doses of organic pollutants during early development can have a variety of consequences for nervous system development. Exposure to these types of pollutants has been linked to ADHD.

Attention Deficit Hyperactivity Disorder (ADHD) is a common disorder that interferes and affects children, adolescents, and adults. There are several treatment strategies available that have successfully reduced symptoms, ranging from medication use to dietary changes. Psychostimulants are one of the most effective treatment methods available to treat ADHD.

Compared to other psychiatric drugs, psychostimulants have proven to be more effective. Meanwhile, non-stimulant options tend to be less effective and should be considered in special cases. Psychosocial interventions, especially for children who are very young or have mild symptoms, are particularly beneficial. In some cases, it may be used in conjunction with other treatments to increase effectiveness or reduce the dose required. The choice of the type of treatment should be based on collaboration between the doctor and the patient in the decision-making process. Important factors that doctors should consider include the age of the patient, the severity of the disorder, and the underlying health condition.

Patients should be monitored regularly to evaluate response to treatment, possible side effects, as well as persistence or decrease in symptoms of the disorder.

The majority of professionals rely on the Diagnostic and Statistical Manual (DSM) of the American Psychiatric Association (APA) in determining the criteria for whether someone has ADHD. Currently, the DSM classifies three subtypes of ADHD: (1) Predominantly

Inattentive ADHD; (2) Hyperactive-Impulsive ADHD; and (3) ADHD type Combined. The criteria used to classify each of these subtypes involve: (1) difficulties in attention such as difficulty paying attention to details, difficulty maintaining focus, problems in setting, and being easily distracted; (2) in hyperactivity, including symptoms such as restlessness, frequent leaving of the seat, and excessive talking; (3) In impulsivity, there is difficulty in waiting your turn, as well as a tendency to interrupt others. The facts about health development and medication use for ADHD students above are the results of literature reviews from various sources, namely Caye et al., 2018; Frankea et al., 2018; Grova et al., 2019; Pullen, 2014; Rodríguez-Pérez et al., 2020; Waddington et al., 2018; Xu et al., 2018.

CONCLUSION

Attention deficit hyperactivity disorder (ADHD) is a neurological disorder that develops in early childhood through a variety of developmental pathways. Neurocognitive and behavioral signs from the early years of life, such as hyperactivity, executive function inhibition, and unusual sensory

processing, may be predictors of the development of ADHD, which requires early intervention. Executive function, which involves higher-order cognitive processes such as decision-making and working memory, is often impaired in children with ADHD. Exposure to stress and environmental pollutants during early development may increase the risk of ADHD. Treatment of ADHD, whether through the use of psychostimulants or psychosocial interventions, needs to be tailored to the individual, taking into account age, severity, and underlying health conditions. Regular monitoring is essential to evaluate the effectiveness of treatment and reduce the risk of side effects. Further research is needed to optimize existing intervention strategies and deepen understanding of the link between early developmental factors and ADHD.

The facts of various studies conducted on children with ADHD become an important foundation in understanding and dealing with their challenges and needs in the social environment and education. Teachers, parents, and schools must comprehensively understand ADHD

students' condition to create an inclusive and supportive learning environment for child development.

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