

Attention Deficit Disorder with Hyperactivity in the Academic Cycle: An Integrative Review on Study Techniques that Favor Learning

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**Keywords— Learning; University education;
Attention Deficit Hyperactivity Disorder.**

Abstract— Attention Deficit Hyperactivity Disorder is a neurological condition that begins to manifest itself in childhood and continues to affect the individual throughout development. It is associated with a series of hyperactive and impulsive behaviors that are observed daily by those who live with people affected by this disorder. The predominant symptoms are inattention and hyperactivity-impulsivity, which have widespread impacts on the daily lives of individuals with the disorder. The present work consists of an integrative review, which aims to discuss study techniques that favor learning in the academic cycle for people with attention deficit hyperactivity disorder, through considerations about it and its impact on academic life. . This is an integrative review, in which basic, qualitative, exploratory and bibliographic research was carried out in the following databases: Pubmed, MedlinePlus, Scientific Electronic Library Online (Scielo – Scientific Electronic Library Online) and Google Scholar. Learning strategies are methods that students use to build knowledge, aiming to facilitate the acquisition and storage of information. These techniques can be grouped into three main categories, namely: Cognitive Strategies, which include rehearsal, elaboration and organization of information; Metacognitive Strategies, which involve planning, monitoring and regulating the learning process itself; Resource Management or Affective Strategies, which deal with time management, study environment, effort and seeking external support. In short, learning strategies, which encompass cognitive, metacognitive and affective aspects, play an essential role in the educational process, providing students with tools to acquire knowledge in an effective and autonomous way. However, the effectiveness of these strategies depends on psychological and motivational factors, and educators play a crucial role in encouraging the development of these skills, promoting self-regulation and critical thinking. Therefore, mastering these strategies empowers students to become successful, autonomous learners throughout their lives.

I. INTRODUCTION

Attention Deficit Hyperactivity Disorder (ADHD) is a neurological condition that begins to manifest itself in childhood and continues to affect the individual throughout development. Ferreira (2011) describes that this is associated with a series of hyperactive and impulsive behaviors that are observed daily by those who live with people affected by this disorder. The predominant symptoms are inattention and hyperactivity-impulsivity, which have widespread impacts on the daily lives of individuals with the disorder.

Mattos et al. (2006) explain that ADHD begins in childhood, but can persist into adulthood, causing a series of challenges in the social, professional and, in particular, academic spheres. Trevisan et al. (2021) reinforce that, although there is greater concern about identifying ADHD in children, the prevalence of this disorder in adults is significant, with profound implications for the teaching and learning process, especially in the academic environment. Furthermore, Barreto and Guimarães (2021) highlight that individuals with disorders or disabilities often do not receive adequate attention, which can result in school failure.

It is important to highlight that diagnosing ADHD in adults can be challenging, as the symptoms are often mistakenly associated with psychological problems, as mentioned by Castro and Lima (2018). In the academic context, lack of attention, low performance and dispersion are common and can have adverse consequences for individuals, since many people who do not understand the disorder tend to interpret these symptoms as indiscipline or laziness (TICAS; UCHOA, 2010).

As observed by Silva et al. (2021), the beginning of academic life brings with it several significant changes, including a new social environment, a more hectic routine and a series of pressures regarding the future career. Furthermore, university students in the health field often do not receive adequate training in mental health and face stressful situations on a daily basis, which can lead to mental health problems, risk of suicide and difficulties in caring for patients. .

ADHD in adults is often considered a camouflaged condition due to its ability to mask symptoms, resulting in interpersonal relationship problems, disorganization, mood swings, substance abuse, and comorbidities. This makes diagnosis challenging, especially for women, who are often not diagnosed or treated properly. However, early diagnosis and appropriate treatment can significantly reduce symptoms (LOPES; NASCIMENTO; BANDEIRA, 2005).

Adults with ADHD often report problems with disorganization, difficulty concentrating, forgetfulness, difficulty completing tasks, chronic feeling of activity overload and inability to plan the future. These symptoms

can harm academic and social performance, affecting communication and social participation, in addition to academic success (LEMOS; LOPES; SOBREIRA, 2021).

Research related to ADHD in adults, especially in college students, is a relatively recent field. Studies indicate that around 2% to 8% of young adult students report experiencing clinically relevant symptoms of the disorder. These academic difficulties can affect individuals' self-image, making them more introverted and leading to social isolation. Furthermore, they may be at risk of completing their courses successfully or may take longer to graduate compared to their peers without the disorder (LOPES; NASCIMENTO; BANDEIRA, 2005).

The present work consists of an integrative review, which aims to discuss study techniques that favor learning in the academic cycle for people with attention deficit hyperactivity disorder, through considerations about it and its impact on academic life. .

II. METHODOLOGY

The work consists of an integrative literature review, which is characterized as a modality that enables a broad methodological approach regarding reviews. In this type of review, a diversity of research is included, such as experimental and non-experimental, which allows an understanding of the phenomenon analyzed, also combining data from theoretical and empirical literature (SOUZA; SILVA; CARVALHO, 2010).

To this end, basic, qualitative, exploratory and bibliographical, in the following databases: Pubmed, *MedlinePlus*, Online Scientific Electronic Library (SciELO – *Scientific Electronic Library Online*) and Google Scholar. To this end, the following descriptors registered in the Health Sciences Descriptors (DeCS) were used: Learning; University education; Attention Deficit Hyperactivity Disorder. Afterwards, the appropriate crossings were carried out, using the Boolean operators AND and OR.

The following inclusion criteria were used: articles, monographs, dissertations and theses that addressed the topic in question, all published in Portuguese and English, and that were available in full in the databases used. And, as exclusion criteria: works in formats other than those mentioned above, research published in languages other than those mentioned above, which did not address the topic and which were not available in full in the databases already mentioned.

III. ATTENTION DEFICIT DISORDER WITH HYPERACTIVITY

ADHD is a chronic clinical disorder, widely recognized by professionals in the field. Both the international classification system, the International Statistical Classification of Diseases and Related Health Problems (ICD-10), and the Diagnostic and Statistical Manual of Mental Disorders (DSM-V), identify it as a set of symptoms that affect individuals from the initial phase of development and extends into adulthood. These symptoms, characterized by attention deficits, hyperactivity and impulsivity, have been identified as one of the main causes of academic failure in the Brazilian context, becoming a public health problem (ARGOLLO, 2003).

To treat ADHD, neurotransmitter-stimulating drugs have been considered the most effective approach. These substances, supposedly absent in certain synapses in individuals with the disorder, include methylphenidate, sold as Ritalin and Concerta. Although there is ongoing research, there are still significant gaps in the understanding of ADHD, which makes social interaction, academic performance, and development for these individuals challenging (CALIMAN, 2008).

Historically, ADHD was initially called minimal brain injury, in Brazil in the 1940s and 1960s, to describe symptoms associated with school failure. In the 80s and 90s, there was greater global awareness about it, and methylphenidate was introduced as a treatment. In 1994, ADHD was officially recognized as a disorder in the DSM-V. This historical view helps to contextualize its current presence in culture, both in the educational system and in the pharmaceutical industry (COUTO; MELO-JÚNIOR; GOMES, 2010).

Given that development plays a crucial role in observing ADHD, analyzing this aspect can help in identifying the disorder. Symptoms include difficulty concentrating, agitation, disorganization, frequent loss of materials and other behaviors that make school life difficult and can lead to academic failure. Argollo (2003) highlights the importance of psychotherapy, medication administration and parental guidance in effective management. In the school environment, strategies such as short activities interspersed with physical exercise are recommended.

The diagnosis of ADHD generally occurs around the age of seven and is based on reports from parents and professionals who interact with the child at school. However, it is a clinical diagnosis that depends on current symptoms, especially in children, or a combination of current symptoms and clinical history in adults. In recent years, there has been a movement towards multidisciplinary diagnosis, although there is still a lack of comprehensive investigation of the

possibilities for learning regardless of behaviors that do not fit the pattern (GOMES et al., 2007)

The treatment of ADHD is multimodal, involving psychosocial and psychopharmacological interventions. School has been a fundamental place for observing symptoms, as the inability to perform certain tasks opens up space for investigation of the disorder. However, issues such as dependence on medications and their side effects have generated debates about educational practices and child development (GOMES et al., 2007).

Some theoretical approaches suggest that child psychopathology emerged to meet society's demands in search of a perfect child. This led to the development of diagnostic categories in the DSM-V and the emergence of new forms of treatment and drugs to make children fit this social ideal.

IV. IMPACT OF ATTENTION DEFICIT DISORDER WITH HYPERACTIVITY ON THE ACADEMIC CYCLE

The topic in question represents a challenge for some people, as, over time, individuals tend to adapt their lifestyle and choose professions or work roles that suit their personal difficulties. The main symptoms of ADHD can have a significant impact on people's academic lives. As confirmed by Advokat et al. (2011), this issue has been the subject of studies, both nationally and internationally.

Impulsivity, inattention and hyperactivity can affect the academic's ability to manage their time and tasks, as mentioned by Rabiner et al. (2008). According to Oliveira (2017), university students face challenges in academic adaptation, and those with ADHD often experience difficulties in reading, writing, social interaction in the classroom, relationships and impaired self-esteem. Lack of concentration, reluctance to read and difficulties in understanding represent additional obstacles in the lives of people with this disorder.

Barkley (2002) and Mattos et al. (2003) observe signs of impairment in executive functions, particularly in analysis and synthesis. Although reading and writing can be challenging for students with ADHD, these skills are essential for participation in society.

However, the need for college students with ADHD to acquire knowledge related to their areas of study or information about their courses can be a major challenge, as they may lack the support necessary to organize and plan the use of information specific to their areas (RABINER et al., 2008).

Symptoms of anxiety and depression tend to increase among students with ADHD due to the difficulties

encountered at the institution. Furthermore, the lack of support from colleagues to deal with these issues, as pointed out by Masini and Bazon (2005), makes the situation even more difficult. In the Brazilian context, some teachers report difficulties in implementing the inclusion of students with ADHD, as they often lack professional preparation in psychological, pedagogical and technical aspects.

Inclusion is not a mere idea; it materializes as educators believe that their pedagogical practices can be transformed into planning, attitudes, actions and evaluations. This way, the student can learn at their own pace, which is essential for dealing with the specific demands of ADHD.

V. ADAPTED STUDY TECHNIQUES FOR ATTENTION DEFICIT DISORDER WITH HYPERACTIVITY

Learning strategies are methods that students use to build knowledge, aiming to facilitate the acquisition and storage of information. These techniques can be grouped into three main categories, namely: Cognitive Strategies, which include rehearsal, elaboration and organization of information; Metacognitive Strategies, which involve planning, monitoring and regulating the learning process itself; Resource Management or Affective Strategies, which deal with time management, study environment, effort and search for external support (BORUCHOVITCH, 1999).

Specifically, cognitive strategies refer to behaviors and thoughts that influence the learning process in order to make information storage more efficient. They can be subdivided into rehearsal strategies, which involve the active repetition of the material to be learned through writing or speaking; elaboration strategies, which consist of establishing connections between the content to be learned and previous knowledge; and organization strategies, which seek to create subdivisions in a structure to identify relationships between concepts (BORUCHOVITCH, 1999).

On the other hand, metacognitive strategies are procedures that individuals employ to plan, monitor, and regulate their own thinking. They can be grouped into planning strategies, which encompass the organization and programming of study activities; monitoring strategies, related to the capacity for self-reflection and the evaluation of the learning process itself; and regulation strategy, which cover the coordination of the functioning of the learning process.

Affective strategies, finally, are related to the management of unpleasant feelings that can harm the learning process, such as anxiety, motivation and study environment. As Boruchovitch (1994) notes, the effective

use of learning strategies generally depends on psychological and motivational factors.

VI. CONCLUSION

Learning strategies, which encompass cognitive, metacognitive and affective aspects, play an essential role in the educational process, providing students with tools to acquire knowledge effectively and autonomously. However, the effectiveness of these strategies depends on psychological and motivational factors, and educators play a crucial role in encouraging the development of these skills, promoting self-regulation and critical thinking. Therefore, mastering these strategies empowers students to become successful, autonomous learners throughout their lives.

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