

DIAGNOSTIC STRATEGIES FOR ATTENTION DEFICIT HYPERACTIVITY DISORDER IN EARLY CHILDHOOD

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Abstract: Attention deficit hyperactivity disorder (ADHD) is a neuropsychiatric condition characterized by symptoms of impulsivity, hyperactivity and inattention, with wide-ranging repercussions in the cognitive, academic, behavioral, emotional and social domains. As outlined in the DSM-5 classification, ADHD is stratified into three levels of severity, correlated with the number of symptoms presented and their influence on the individual's daily functionality. It is important to note the predilection for diagnosis in men and its notable prevalence during the school phase, highlighting the relevant role of pediatrics in addressing this phenomenon. The early identification of ADHD is of paramount importance, considering the challenges faced by affected children, not only in the educational sphere, but also in their socio-family development. This study aimed to analyze the impact of early diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) in children, exploring how such a diagnosis can positively influence prognosis and intervention strategies. The results presented support the assertion that the presence of ADHD exerts an adverse influence on the lives of sufferers, substantially compromising their quality of life. In conclusion, the importance of early diagnosis and treatment is emphasized as fundamental elements in mitigating the acute and long-term repercussions of ADHD, aiming to provide a better quality of life for individuals affected by this neuropsychiatric condition.

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is a neuropsychiatric condition that manifests itself through symptoms of impulsivity, hyperactivity and inattention, significantly impacting the cognitive, academic, behavioral, emotional and social domains. The detection of these symptoms,

often noticeable by caregivers and educators, assumes diagnostic and clinical relevance.

Among the subtypes of ADHD, the hyperactive-impulsive subtype, predominantly identified at early ages, stands out as the most prevalent, reaching its peak of severity around seven years of age. Although symptoms of hyperactivity may decrease in adolescence, impulsive symptoms tend to persist throughout life. Behaviors correlated with hyperactivity, such as restlessness and difficulty waiting, coexist with impulsivity, negatively influencing the social environment.

At the same time, the inattention subtype, characterized by a reduction in cognitive speed and ability to concentrate, has an increased prevalence in children born with a gestational age of less than 32 weeks. Associated symptoms, such as lack of attention to details and distraction by irrelevant stimuli, may persist, compromising academic and social development.

The prevalence of ADHD in children, subject to diagnostic criteria and population characteristics, varies between 9% and 15% in the school age group. Standing out as one of the most common childhood pathologies, especially among boys, the importance of ADHD in pediatric practice is undeniable. Studies indicate a ratio of 4:1 in the inattentive population and 2:1 in the hyperactive population, with a global prevalence of 14% in men and 6% in women, indicating increasing attention to early identification of this condition. Despite the non-specific etiology, genetic and environmental factors exert considerable influence on the development of ADHD. Neuroanatomical anomalies, such as reverse asymmetry or absence of the caudate nucleus and changes in brain volume, associated with gray matter dysfunction, stand out in children with ADHD.

Furthermore, abnormalities in prefrontal structures and basal ganglia are directly

related to deficits in executive functions. In environmental terms, factors such as insufficient sleep and prenatal smoke exposure demonstrate a significant connection with the exacerbation of ADHD symptoms, while dietary influences appear to have a limited impact. Understanding these aspects contributes to early identification, effective diagnosis and intervention, providing a comprehensive approach to managing ADHD in children.

In the assessment of Attention Deficit Hyperactivity Disorder (ADHD), it can be established in children from the age of four, when symptoms such as inattention, hyperactivity, impulsivity, recurring complaints of a drop at school performance or difficulties in the social sphere appear. This procedure demands a comprehensive and multidisciplinary approach, encompassing caregivers, doctors, psychologists, educators and other health professionals, aiming to confirm not only the presence and persistence of the main symptoms, but also to evaluate future complications and comorbidities, such as anxiety and mood disorders, learning and sleep. Conducting the assessment, preferably in different environments, recommends the use of specific behavior scales for ADHD as a supporting instrument.

Within the scope of medical consultation, detailed investigation of prenatal exposure to drugs, perinatal infections, traumatic brain injury, recurrent otitis media and medication use is of crucial importance, as well as the analysis of positive family history for the disorder. Information pertinent to sleep disorders and heart disease, both for children and their families, is highlighted due to its extreme relevance in preventing iatrogenic disorders during drug treatment.

The urgency of evaluating situations involving suicidal ideation in children is highlighted, demanding immediate attention

given the seriousness of the condition. Furthermore, reassessment plays a crucial role in the face of emerging symptoms or worsening of existing ones, providing dynamic adaptability to intervention strategies. This continuous evaluation process contributes substantially to the optimization and personalization of therapeutic approaches over time, outlining a more precise and grounded trajectory in the care of pediatric patients with ADHD.

The diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) is eminently clinical, strictly adhering to the regulations outlined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR), ICD 11 and ICD 10, the latter categorizing it as hyperkinetic disorder. The criteria established by DSM-5-TR, characterized by their high reliability, constitute a solid foundation for the precise identification and distinction of this disorder, safeguarding against possible underdiagnosis and diagnosing accurately.

Within the scope of this formal assessment, it is imperative to highlight the inadmissibility of using stimulant medications as a means of inducing responses, positive or negative, with the aim of corroborating a diagnosis. Such practices are not aligned with the standards established by formal medicine, where the diagnostic basis rests on validated clinical criteria and ethical procedures.

The different manifestations of ADHD, categorized as predominantly inattentive, predominantly hyperactive-impulsive and mixed, are subjected to a careful, dynamic analysis throughout the patient's life course. Differential diagnosis, integrating variations in child development, behavioral and emotional disorders, as well as psychosocial and environmental factors, is conducted meticulously, reflecting the highest standards of formal medicine. The emphasis is on a

focused and structured diagnosis, essential for clinical precision and adequate guidance of the therapeutic plan, in accordance with the guidelines and ethics of medical practice.

Treatment encompasses therapeutic approaches, both pharmacological and non-pharmacological, with the aim of realistically improving psychosocial behavior and school performance. The choice of therapy requires a joint analysis between the patient, the caregiver(s) and the doctor, who must thoroughly evaluate the risks and benefits to determine the ideal propaedeutic. The simultaneous management of comorbidities is essential, as they influence the treatment of ADHD.

Pharmacological therapy is recommended for children aged six years and over, and in preschool children (four to five years) who have not achieved a satisfactory response with non-pharmacological interventions alone. Before starting pharmacotherapy, it is crucial to evaluate criteria such as cardiovascular history, screening for risk factors for bipolar disorder, comorbidities and substance abuse in adolescent patients.

The choice of the initial drug depends on several factors, including pharmacokinetics, presentation of the medication, time at which the target symptoms manifest, coexisting emotional or behavioral conditions, adverse effects, history of drug abuse, price, among others. Stimulants, such as methylphenidate, dexamethylphenidate, amphetamine, dextroamphetamine, and dextroamphetamine-amphetamine, are considered first-line agents due to their rapid onset of action, proven safety, and efficacy. Selective Noradrenaline Reuptake Inhibitors (atomoxetine, viloxazine) represent alternatives for patients with a history or concerns of caregivers related to the abuse of illicit substances.

Furthermore, it is essential to highlight

that the prognosis of Attention Deficit Hyperactivity Disorder (ADHD) not only varies depending on the age group, but is also intrinsically linked to the moment in which treatment begins and the early detection of symptoms. Therapeutic intervention in the early stages of life manifests impacts of magnitude, exerting a positive influence on the unfolding of the condition throughout the patient's development.

Considering that early diagnosis plays a crucial role in the trajectory of ADHD, this study proposes an updated review with the aim of highlighting how early identification can constitute a potentiating agent to substantially improve the prognosis, especially in pediatric patients. The detailed analysis of cases and scientific evidence will help to elucidate the importance of quickly identifying symptoms, allowing for a more effective and personalized therapeutic approach.

By exploring the correlation between the time of treatment initiation and the evolution of ADHD, we aim to provide valuable insights for health professionals, educators and caregivers. An in-depth understanding of this nexus can not only inform clinical practices, but also raise awareness about the relevance of early surveillance, highlighting how preventive measures can contribute to more auspicious outcomes in the adult lives of diagnosed patients.

GOAL

Address the importance of early diagnosis in the treatment process of attention deficit hyperactivity disorder.

METHODOLOGY

The present work consists of a literary review that sought to address results found in research on the topic in question, whether in a comprehensive, orderly or systematic way. To carry out the work, the following steps were

followed:

- 1) Selection of corresponding themes;
- 2) Selection of samples found and used;
- 3) Analysis of the characteristics of the original research;
- 4) Analysis of the results obtained;
- 5) Carrying out the review.

The databases of scientific literature and techniques used in carrying out the review were Google Scholar, Scientific Electronic Library Online (SciELO), Virtual Health Library, Latin American and Caribbean Literature in Health Sciences (LILACS), in English and Portuguese.

Thus, the present work seeks not only to analyze the neurological interface, but also to highlight the different contents on the topic in question, aiming to shed light on an educational path, establishing a correlation with pediatric patients who can benefit from early diagnosis.

DISCUSSION

ADHD, or Attention Deficit Hyperactivity Disorder, is a multifactorial neuropsychiatric condition that manifests itself through consistent patterns of inattention, hyperactivity, impulsivity and disorganization, requiring the presence of these symptoms in at least two different contexts to impact the individual's routine.

The epidemiology of ADHD is complex, with neurological, genetic and environmental influences. Changes in brain regions such as the prefrontal cortex, superior medial frontal and anterior cingulate gyrus are associated with the disorder. Genetically, there is a significant increase in prevalence in family members of carriers, with a risk of 2 to 8 times greater compared to the control group.

Environmental factors, although non-specific, show a gene-environmental relationship, highlighting the influence of prenatal, perinatal and social conditions.

The global epidemiology of ADHD reveals an increase in recent years, ranging from 3% to 9% of the world's population, with 11% of children in the US meeting diagnostic criteria.

ADHD often persists throughout life, with 75% of children maintaining symptoms into adolescence and 50% into adulthood. Around 70% of children with ADHD have comorbidities, highlighting its clinical complexity and association with various mental disorders.

Clinical manifestations begin in childhood, before the age of 7, with attention difficulties and hyperactivity predominant in different age groups. Poor academic performance is a recurring complaint, associated with challenges in reading, calculations and impulsive behaviors, increasing the risk of negative consequences, such as low self-esteem, depression and anxiety.

The diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) requires the integration of clinical manifestations and the meticulous exclusion of other pathologies. As recommended by the International Statistical Classification of Diseases and Related Health Problems (ICD-10), fundamental criteria include the early onset of symptoms, evident in the first five years of life, as well as poor performance in activities that demand cognitive and global disorganization with a propensity to move between activities without complete completion.

In turn, the Diagnostic Manual of Mental Disorders (DSM-5) stipulates an age range for the onset of symptoms, between 7 and 12 years old, and classifies ADHD into mild, moderate and severe levels. Early detection plays a crucial role, considering the substantial impact on the learning, social and family development of affected children.

During the diagnostic process, a thorough assessment includes obtaining information about gestational history, school performance

and family dynamics. The Primary Health Care (PHC) doctor must suspect the presence of ADHD in patients between 4 and 18 years old, especially when there are complaints related to academic and behavioral problems and specific symptoms of lack of attention, hyperactivity or impulsivity.

Following DSM-5 guidelines, the diagnostic criteria require the persistence of symptoms for at least 6 months, with a degree of interference inconsistent with the level of development, without explanation by other diagnoses. The classification of the disorder considers different presentations, such as combined, predominantly inattentive or predominantly hyperactive/impulsive, in addition to gradations according to intensity, namely: mild, moderate or severe.

Documentation of symptoms and impairment in multiple environments, obtained through detailed reports from parents, teachers and health professionals involved in the care of the child or adolescent, is essential to support the diagnosis. Differential diagnoses are also crucial, aiming to rule out other causes that may present similar symptoms.

Before beginning the pharmacological approach, it is imperative to understand that norepinephrine and dopamine signaling play a crucial role in ADHD. Neuroimaging studies using positron emission (PET) indicate higher dopamine transporter activity in individuals with ADHD. Treatment aims to optimize neurotransmission, with randomized clinical trials highlighting significant benefits of stimulant drugs, derivatives of methylphenidate and amphetamines, in reducing symptoms of inattention, hyperactivity and impulsivity.

The choice of sustained-release medications is preferred, considering that they allow administration of a single morning dose for symptomatic relief throughout the entire

school day, minimizing common side effects such as loss of appetite and delayed sleep.

Non-stimulant medications, notably atomoxetine, play a considerable role in the treatment of Attention Deficit Hyperactivity Disorder (ADHD), especially when stimulants are contraindicated or have significant adverse effects. However, a study involving children diagnosed late with ADHD and subjected to high doses of atomoxetine or methylphenidate, as an exclusively medicinal approach, revealed a significant increase in heart rate and blood pressure.

In addition to pharmacotherapy, effective therapeutic approaches for managing ADHD include parent training, implementation of contingencies in the school environment, and a combined approach to these strategies. It is important to highlight that, although no treatment provides a cure, they all offer a temporary reduction in the symptoms and challenges associated with the disorder, such as sadness, low self-esteem and below-average academic performance.

When ADHD coexists with comorbidities, such as depression or conduct disorder, it is recommended to refer the patient to individual psychotherapy. This resource must also be considered even in the absence of comorbidities, especially when the suffering is clinically relevant for the child or family, in the face of complex secondary problems that are difficult to resolve in the school, home or social environment. It must be noted that not all children with ADHD require psychotherapy, but guidance for parents is essential to facilitate family life and provide management and prevention tools.

Care for children with ADHD requires prominent interaction with the family or caregivers, recognizing that the child's health is intrinsically linked to the social, emotional and physical characteristics of the parents, as well as parental practices. The school's active

participation in treatment is a contemporary challenge, but crucial to optimizing results.

Guidance for parents aims to facilitate family life, understand the behavior of people with ADHD and teach management and prevention techniques. School guidance aims to improve the interaction of children with ADHD with their peers and prevent lack of interest and abandonment of studies, scenarios frequently observed in this population. Parent training, in turn, has been shown to be beneficial in addressing behavioral problems presented by children with ADHD.

CONCLUSION

The literature analysis highlights that the presence of Attention Deficit Hyperactivity Disorder (ADHD) has adverse implications for daily life, resulting from the psychological and social changes presented by those with this disorder. These manifestations include considerable difficulties in learning and development, both in the family and social

spheres. At the same time, challenges are observed that include family problems, poor school performance, conflictual relationships and an increased predisposition to the development of psychiatric disorders, negatively impacting quality of life.

To mitigate these repercussions, both in the short and long term, it is crucial to implement early diagnosis and treatment. Appropriate management requires the integration of drug therapy with behavioral therapy, aiming not only to alleviate symptoms, but also to overcome the difficulties faced by children with ADHD. This approach not only contributes to strengthening interpersonal relationships, but also facilitates the adaptation of these children to challenging environments, allowing them to achieve personal goals.

Thus, early diagnosis and treatment of ADHD are not only imperative for symptomatic relief, but constitute fundamental elements for a significant improvement in the quality of life of children affected by this disorder.

REFERENCES

1. ALMEIDA, Simoni Alves Pereira. REFLEXÕES SOBRE ASPECTOS DA APRENDIZAGEM DA CRIANÇA COM TDAH. Revista Primeira Evolução, v. 1, n. 25, p. 113-116, 2022.
2. CALIMAN, Luciana Vieira. Notas sobre a história oficial do transtorno do déficit de atenção/hiperatividade TDAH. Psicologia: ciência e profissão, v. 30, p. 46-61, 2010.
3. CASTELLANOS, FRANCISCO XAVIER. TDAH e Neurociência. 2013.
4. DE CARVALHO, Jair Antonio et al. TDAH: Considerações sobre o transtorno do déficit de atenção e hiperatividade. Revista científica do ITPAC, Araguaína, v. 5, n. 3, 2012.
5. PANDE, Mariana Nogueira Rangel et al. Medicalização, diagnósticos e prescrição de psicotrópicos para crianças na primeira infância: práticas discursivas de médicos que trabalham com crianças. 2016. Tese de Doutorado.
6. OLIVEIRA, Lorena Gomes de. Transtorno déficit de atenção e hiperatividade-TDAH. 2010.