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Impact of a Neuropsychopedagogical Parental Program for Children with Attention Deficit Disorder and Hyperactivity

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Abstract:
Background*: Attention Deficit Hyperactivity and Disorder (ADHD) is a disorder described in the Manual of Mental Illnesses (DSM-V) that significantly compromises the social, academic and family life of individuals who have their symptoms. The purpose of this study was to evaluate, through a bibliographic review of the topic, the impact of a parental program with guidelines for parents of children with ADHD as part of an effective treatment for these patients. The bibliography points out that this strategy has been shown to be very important, as such a program reduces family conflicts, improves academic learning, reduces the intensity and frequency of symptoms and is generalized to other areas.*
Materials and Methods: *The study methodology used to help ensure the achievement of the objective of this article was an exploratory study through bibliographic research to conduct an integrative review of the literature of scientific articles.*
Results: *The research points out that Attention Deficit Hyperactivity Disorder significantly compromises its patients and family members, generating conflicts and an important social inadequacy. The literature review points to the sense that parental programs, as part of treatment, bring relevant contributions to the reduction of symptoms and inappropriate behaviors.*
Conclusion: *After a bibliographic review of Attention Deficit Hyperactivity Disorder and its impacts, it is concluded that in addition to drug treatment and cognitive behavioral therapy, the performance of a parental program is indicated as part of the treatment, as it is efficient in improving symptoms and reducing inappropriate behaviors.*
Key Word*: Attention Deficit Hyperactivity and Disorder (ADHD); Parental program; Neuropsychopedagogical.*

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I. Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is characterized as a neurobehavioral disorder of inattention and / or hyperactivity / impulsivity that compromises the functioning and development of the individual and occurs persistently[1]. It can be of the combined type, predominantly inattentive or predominantly hyperactive / impulsive. These symptoms occur at higher and more persistent levels than in individuals of the same age [2, 3].

ADHD has an etiology that encompasses several factors, the manifestation of its symptoms being a combination of elements: genetic, environmental, social and cultural, with changes in brain functioning[4,5]. Its incidence varies according to the country, with the economic and social level[3] and occurs, on average, around 3% to 7% of school-age children. Regarding its prevalence, there is a greater number in males[1]. In the occurrence in girls, the predominant picture is that of inattention[6].

Neurophysiological, academic, social and emotional impairments and their symptoms can persist into adulthood[3], such as: school failure, motor disorders, social and family inadequacy and learning difficulties, the latter appearing as in 20% of children with ADHD[7].

Treatment for ADHD may include medication, behavioral psychotherapy, help with academic life, and guidelines and techniques for managing the child in the classroom and at home. As parents understand the behavior of ADHD patients and are equipped with management techniques, it is expected that there will be an improvement in the family environment, a decrease in conflicts between family members and the child, enabling a favorable environment for the organization and contributing, in this way. , for the other areas of your life[8].

Based on the previously mentioned study, the objective was to establish a critical and dialectical reflection on the impacts of a neuropsychopedagogical parental program aimed at children with ADHD, as a complementary possibility to the treatments they perform.

II. Material And Methods

The study methodology used in order to help ensure the achievement of the objective of this article was an exploratory study, as exploratory studies allow the researcher to increase their specific experience, searching for antecedents, and then to plan descriptive or research. experimental type.

In order to make this study technically and instrumentally operational, it was decided to carry out bibliographic research. This is because the purpose of this research is to ensure the achievement of the objective of this article, the thoughts of authors who address the impact of ADHD on the child's life and the importance of a parental program to minimize the effects of the disorder will be visited.

Therefore, an integrative literature review was carried out through scientific articles, mainly using the Pubmed, Scielo, Science Direct database, with the following keywords: "Impacts of ADHD on the daily lives of children" and "Parental Program for children with ADHD

III. Results

ADHD is one of the specific disorders of the development of school skills described in the diagnostic and statistical manual of mental disorders[1] and by the international disease code[9]. ADHD is characterized by a pattern of persistent and inappropriate inattention to age and / or hyperactivity / impulsivity that can result in a significant impairment in quality of life[10].

The World Health Organization (WHO) has shown the historical trajectory of changes in the ADHD nomenclature, which was once named as minimal brain dysfunction, then had its nomenclature changed to childhood hyperactivity syndrome and only after the seventies was it classified as ADHD[11]. It is important to add that in 2014 there was the publication of the DSM-V, which in its latest version brought some changes related to ADHD pointing out that it is possible to make your diagnosis even in the presence of an autism condition. This manual also indicates that the onset of symptoms must be present before the age of twelve, modifying the previously established one which was seven years old. In addition, the term "subtypes" was replaced by "presentations", keeping the subdivisions of predominance inattentive, impulsive and combined.[1,5].

Therefore, ADHD should be seen as a mental health problem, which is usually identified in childhood, being qualified by the constant presence of inattention and hyperactivity / impulsivity, capable of negatively interfering in the person's life. Such a disorder can present itself in three ways: predominantly inattentive, predominantly hyperactive / impulsive and combined[1,12]. It should be noted that although the symptomatic triad complicates various aspects of a person's life, it can be modified over the years, and symptoms can present themselves in more flexible ways, with the possibility of reducing some of the symptoms.

As a neurodevelopmental disorder[1], it has been characterized that ADHD is associated with macroanatomical changes in multiple brain regions, resulting from interrupted neural development mechanisms. In the largest image meta-analysis to date, Hoogman et al.[13] demonstrated significantly lower volumes in cases of ADHD for the acumbent nucleus, caudate, putamen, amygdala, hippocampus, as well as the reduction of intracranial volume as a whole, and changes previously identified in the functioning of the cerebellum. Although these studies identify regions with changes in their volumes and functioning in individuals with ADHD, the way these changes are manifested has not yet been elucidated. In addition to changes in cortical volume, thickening in the prefrontal areas is delayed in ADHD, taking about 2.5 to 5 years longer than controls to achieve normal cortical thickness[14,15,16].

Studies carried out with magnetic resonance imaging (MRI) indicate that there is a reduction in neural activity in the frontal region, anterior cingular cortex and basal ganglia[17]. In studies by Castellanos[2] it was noticed that children with ADHD have a lower brain volume in all their structures. In addition, dopaminergic neurotransmission systems are compromised, reduced catecholamine production, and dysfunctions in serotonin mechanisms.

Several studies highlight that the changes observed in the CNS of individuals with ADHD are the result of a deficient developmental process during pregnancy and / or in early postnatal life, as the migration of newly formed neurons would not occur as expected and, therefore, Thus, there would not be the establishment of adequate connection networks, including short-range connections with neighboring neurons in the same region and long-range projections to other regions, for example, between the thalamic nuclei and the neocortex, including the motor and sensory and areas responsible for higher-order cognitive-motor functions and basal and cerebellar nuclei[18,19,20,21].

In addition to decreased activity in tasks that require attention and inhibition of response, both directly related to the ADHD phenotype, a number of other activities / functions are interrupted in ADHD. These include reduced activity in the striatum in reward anticipation tasks[22], in the cerebellum in cognitive tasks and in the motor cortex at rest[23,24,25]. In general, brain volumes consistently decreased and the hypoactivation of regions known for their roles in inhibitory control and attention are consistent with the behavioral phenotype of ADHD.

Such compromises, from the striatum in anticipation of rewards, from the cerebellum in cognitive functions, from the neocortex in relation to inhibitory control and attention, result in severe symptoms and impairments in the executive functions of individuals with ADHD, which compromises their family, social and academic. The difficulty to complete activities, perceive details, sustain attention when they speak to you; the lack of organization and planning, the inability to follow instructions or remain in your wallet during classes, the inability to play silently, wait for your turn, inhibit behaviors or hasty responses and aggressive reactions and low tolerance to frustration[9,10,26,27], are some of the countless examples of how the disorder generates an important dysfunction in executive skills and daily compromises its development and living environment. Miotto[28] also mentions the impairment of the following aspects in the EF of children with ADHD: inhibition of responses, sustained attention, non-verbal and verbal working memory, planning, notion of time, regulation of emotion, perseverance and in verbal and non-verbal fluency.

In the family, ADHD is perceived as causing many daily problems. Parents generally complain that the child "does not listen", "not to be quiet", does not follow directions, is aggressive, lazy, rude and inconvenient. The family routine is reported as stressful, where simple situations like taking a shower, doing the homework or eating are almost impossible to do. The delay in performing tasks leads to family exhaustion and the loss of leisure time. This scenario generates frustration, depression, marital problems and low self-esteem in parents[27]. The family has a preponderant role in the child's mental and emotional health, which can generate development or worsening of ADHD when combined with genetic and physiological factors[29]. Aspects such as social and economic level, marital disagreements and family psychopathologies are factors that increase the risk of developing the disorder[30]. The relationships between the individual with ADHD and the family are severely affected, as inappropriate behaviors are seen as infractions and generate punishment, in addition to promoting a high emotional burden[31]. The family is also considered by several authors as a protective factor, being able to minimize symptoms or practically extinguish them[2,32,33,34]. Therefore, discussing ADHD, its diagnosis and treatment, involves the need to consider the role of the family, its context and its role in the development and evolution of the disorder.

Rocha and Prette[33], the quality of the family context is decisive for how the child will experience his difficulties with ADHD and what mechanisms he will have to overcome them. Parents and family dynamics represent a central aspect in the development of children with ADHD and in the reduction of their symptoms. Some authors have researched psychoeducational processes for parents of children with ADHD and have developed parental guidance programs for perceiving their effectiveness when associated with drug treatment[35]. Parental programs began to be used in the 1980s to transmit knowledge to family members and psychotic patients and in the 1990s to other groups of patients with various disorders[36]. Several studies point out that the development of a parental program for parents of children with ADHD is effective in improving behavioral and internalizing symptoms and in reducing parents' stress[35,37]. Such programs generate positive changes in their social skills and promote a significant reduction in problematic behaviors[34]. By reducing the symptoms of ADHD, reducing parental and parent-child conflicts, a child-friendly environment is provided, being a relevant and necessary intervention model[37,38,39], since such an intervention, in addition to promoting positive impacts, allows generalization to other spheres[40].

A parental program can be developed in several ways and cover a number of aspects. In a study by Ferreira et. al.[34], 14 meetings were held, divided into five stages lasting one hour and thirty minutes each, with groups of parents of children from public schools who were diagnosed with ADHD. In the meetings, it was about the presentation of the proposal, initial evaluation, sessions for the development of social skills, post-intervention evaluation and referrals. 85% of participating parents reported perceiving benefits of the parental program in relation to the improvement of the child's social skills and 92% observed a decrease in problematic behaviors[34]. That is why it is essential to consider the parental program as an additional valid intervention for the treatment of ADHD[41].

Another study presents the possibilities of approaching the program, which can be individual or group, in lectures, conversation circles, manuals, videos or guided readings[42]. Regarding the content, it needs to include, in addition to a theoretical foundation about ADHD and treatment methods, parental skills necessary to relate to the child and strategies for the management of symptoms[36].

The literature highlights the relevance of studies already carried out on the benefits and positive impacts of the parental program for parents of children with ADHD, but indicates the need for new research related to the format and resources (internet, social networks and booklets) to be used and their effectiveness[36].

IV. Conclusion

After a bibliographic review of Attention Deficit Hyperactivity Disorder and its impacts, it is concluded that the disorder significantly affects the lives of the children affected by it and that it is extremely important to seek effective actions to improve the living conditions of its individuals.

In addition to drug treatment and cognitive behavioral therapy, carrying out a parental program is indicated as part of the treatment because it is efficient in improving symptoms and reducing inappropriate behaviors.

Several studies indicate that as parents understand ADHD, how it influences their child's life and receives instructions on how to guide, live with and manage the child's behaviors, there is a significant decrease in symptoms and a more favorable academic and social situation for both the child and their parents. Thus, a parental program for parents of children with ADHD as part of the treatment is necessary and important for the reduction of their symptoms.

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