

Effectiveness of Physiotherapy Techniques in Children with Attention Deficit Disorder/Hyperactivity

ORIGINAL

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Abstract

Introduction: The Attention Deficit Disorder constitutes a complex behavioral disorder that takes the child to variable degrees of commitment in social, emotional, educational and family life. This disorder is characterized by motor, perceptual, cognitive and behavioral disorders, expressing global difficulties of child development. There is a shortage of physiotherapy work in the area of psychiatry. Some studies conclude that body techniques have much to contribute in mental health care and stresses that physiotherapy must take its place within the new perspectives in mental health care. Thereby, it emerged the concern to assess the importance of physical therapy techniques in children with Attention Deficit Disorder/Hyperactivity Disorder-ADHD.

Objective: This study aimed to evaluate the effectiveness of physical therapy techniques in children with Attention Deficit Disorder/Hyperactivity Disorder.

Methods: The study, from the point of view of its nature, framed in a double blind study with a quantitative approach. The sample consisted of two groups with a total of 10 children, aged from 7 to 11 years. It was composed five children the 1st control group (held 20 sessions of psychology and educational psychology) and the 2nd therapeutic

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group (held 20 sessions of psychology, educational psychology and physiotherapy).

Results: The scores of SNAP-VI questionnaire, applied to the mothers of children by a psychologist in before and after the therapies are going on a score from 0 to 18, where this means maximum of ADHD. It was observed that the control group had improvement in 02 patients (40%), but the therapeutic group had control of ADHD in 05 patients (100%).

Conclusions: With this study, we can see the importance of the implementation of physical therapy in mental health, as well as the interdisciplinary work. It is proposed, then, further studies in the area of physical therapy, once there is a scarce literature.

Keywords

Children; Physiotherapy;
Disorder Attention Deficit
Disorder with Hyperactivity.

Introduction

The attention deficit disorder/ hyperactivity disorder (ADHD) is the most prevalent neuropsychiatric disorder, affecting 5-10% of children in school age, and continuing through adolescence and adulthood in about 30-50% of them [1-2]. The disorder is characterized by inattention, hyperactivity and impulsivity and, for diagnosis, it should begin before 12 years of age [3]. It can compromise different contexts in the child's life and may lead, in case of persistence into adulthood, to significant academic, social, professional and interpersonal difficulties [4].

There are reports of incidence, in the United States, for the disorder, from 2 to 20% in children of primary school, but in Brazil there is a prevalence from 3.5 to 8% [5], it is estimated, in not referred samples, that 3% to 6% of school-age children had ADHD [6], with a higher incidence in boys than in girls with variant ratio of 3 to 1 to 5 to 1 [7].

Most children with ADHD are diagnosed at school age, to be compared with other children by teachers, demonstrating behavioral difference [8], for diagnostic purposes they are classified three subtypes: predominantly inattentive type, predo-

minantly hyperactive/impulsive and the combined type, that gathers features of the two previous (DSM-IV) [9].

The disease has several characteristic symptoms such as: inattention, tendency to distraction, impulsivity and excessive motor activity in inadequate levels to the development stage. Which are apparent before the age of seven, although most are diagnosed after the onset of these for a few years, being able to observe them in situations such as: at school, at home and at work [10-11].

A group of comorbidities for which turns special attention that is found between ADHD and motor problems, also referred to the Coordination Development Disorder (CDD) [9]. Children with ADHD have long been recognized as having greater quantity and different quality motion when compared to controls [12].

The treatment of children with ADHD needs to be multidisciplinary, with emphasis on subtypes and in the comorbidities that are associated [14]. There is currently a shortage of physiotherapy work in the area of psychiatry, in studies performed, it was concluded that body techniques have much to

contribute in mental health care and stresses that physical therapy must take its place within the area of psychiatry. [15].

Through physical therapy, it can be used several techniques, such as massage therapy and breathing exercises to reduce anxiety, stress, muscle tension caused by ADHD and thus promote relaxation and improve the quality of life [16].

This work aimed to evaluate the effectiveness of physical therapy techniques in children with ADHD.

Methodology

The study, from the point of view of its nature, framed in an experimental research, with a quantitative approach and double blind study. It was chosen as the setting of this research a Children Psychosocial Care Center (CAPS), located in a municipality on the high backlands of Paraiba. Since the beginning of the application of research in the first half of 2015, after being approved by the Research Ethics Committee of Patos Integrated College (FIP).

The study consisted of children with Attention Deficit Disorder/Hyperactivity Disorder (ADHD) met at the Childrem Psychosocial Care Center (CAPS) in the chosen city. The sample consisted of two groups with a total of 10 children, as research participants, 9 males and 1 female, aged 5 to 10 years, totaling all cases of ADHD that were being served at the time of the research. It was composed the 1st control group: 5 children and the second, therapeutic group, the other five 5 children, chosen based on the pathology studied and the groups were distinguished by raffles, being a probabilistic sampling.

For the inclusion criteria, it was required of children having the diagnosis of Attention Deficit Disorder/ Hyperactivity Disorder (ADHD), participate of the initial evaluation by a psychologist and have 5-12 years of age, for the reverse it was dismissed those that the mother or guardian did not sign the

consent form free and clarified and not be a user of the CAPSi chosen.

After the consent of the responsible, signing the Consent Form Free and Clarified, the 10 children were initially evaluated by a psychologist who did not work in the sector where they were treated, and also did not know the final evaluation which the children participated in each group, to not influence the study.

For the initial evaluation, and after 20 sessions, the mothers responded to SNAP-VI questionnaire to the psychologist, inside it was possible to see the scores before and after the therapy, important to emphasize that the mothers did not know if the children were or not doing physical therapy in CAPSi.

After the initial evaluation the 1st group did 20 psychology sessions and educational psychology by the sector professionals, as the 2nd group did the same procedures of the first, as well as 20 physical therapy sessions, including relaxation techniques, massage therapy, hydrotherapy, breathing exercises and play therapy.

In hand the scores delivered by the psychologist before and after the therapy and the reports of mothers, the data were analyzed and discussed between the researcher, the guiding teacher and professionals involved in the study. Based on the results obtained, being analyzed structurally in an approach by means of tables and graphs, statistically and describing relevant in light of the literature concerning the matter, and through Microsoft Excel 2010 version.

As the survey research involved human beings, it was followed the rules of Resolution 466/12 in the National Health Council.

Results and Discussions

With the development of the study, participated in the study 10 children, 9 males (90%) and 1 female (10%). In other studies the data obtained confirmed

that the incidence of ADHD is higher in males, from 3 to 1 to 5 to 1 [7], the search results is shown in **Figure 1**.

The Group 1, called control group, performed 20 sessions of psychoeducation and psychology. While the group 2 had 20 sessions of psychoeducation, 20 of psychology and 20 of physiotherapy (**Figure 2**).

It is the teacher's duty to understand and comprehend signs and symptoms of ADHD and how to deal with these problems for not to cause harm to their students. [17] The effectiveness of psychotherapy with the use of drugs, improving the outcome of children with ADHD primarily on cognitive behavioral [18]. Psychologists realize the improvement in ADHD patients with psychotherapy, whether or not associated with the use of medication, and note that it is through shortened the use of drugs [19].

Physical therapy has not worked frequently in ADHD to be little included in interdisciplinary teams for the treatment of them, therefore, needs studies to identify possible changes of the disorder, so that the physiotherapist intervene [20].

In physiotherapy sessions, there were held 10 sessions out of the pool and 10 water sessions.

In the aquatic sessions, it was used the Watsu method and breathing techniques. And in the sessions out of the pool, there were used stretching, massage therapy, respiratory re-education, coordination training and balance through play.

Camprio [21] states that the Watsu decreases the muscle tension and pain, by affecting all physical, psychological and emotional levels, and also reduces stress, anxiety and fatigue. Accordingly Watsu is useful for children, because it is fun, allowing facilitating the movement, stimulating further the child to treatment [22].

Stretching reduces muscular tension and promote relaxation [23]. Massage is an important resource for the improvement of hyperactivity, reducing stress and anxiety, providing better behavior and psychological effects [24]. To CuriaCos [16] adjust

Figure 1: Prevalence according to sex in children with ADHD.

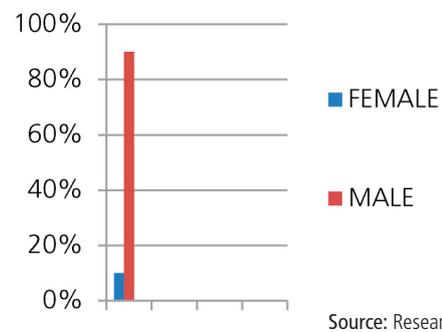
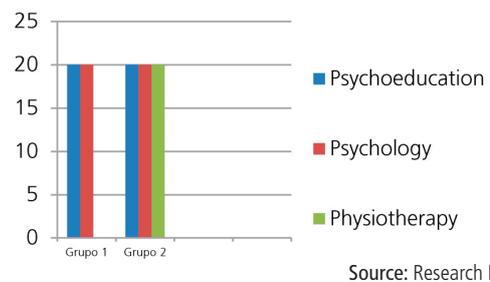


Figure 2: Division of groups according the therapies.



the breathing pattern will consequently decrease stress, anxiety, anguish, and shortening of the respiratory muscles, thus having improved quality of life. Barros [25] states that the play therapy, within the educational process, favors the growth, development and general movements.

The scores of the questionnaires applied by psychologist before and after the therapies were a score from 0 to 18, where this means a maximum of ADHD. Questions were applied punctuating 0-9 of hyperactivity and 0 to 9 of attention deficit, which score 6 already means one of the disorders installed as **tables 1** and **2**, respectively of group 1 (control group) and group 2 (therapeutic group).

The control group results showed improving in 04 patients, 1 patient with improvement in the deficit of inattention and hyperactivity worse. However, only 02 patients had scores below 06 after treatment, in accordance with the test, has control of ADHD.

However, the results of therapy group, showed ADHD control in 05 patients (**Table 2**).

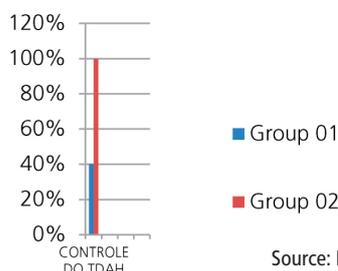
Table 1. Scores of hyperactivity and attention deficit disorder before and after the Group 1 therapy.

Patient	Before Therapy		After Therapy	
	Hyperactivity	Attention deficit	Hyperactivity	Attention deficit
1	8	8	7	7
2	9	9	6	3
3	9	6	4	4
4	9	9	1	4
5	6	9	7	7

Table 2. Scores of hyperactivity and attention deficit disorder before and after the therapy of Group 2.

Patient	Before Therapy		After Therapy	
	Hyperactivity	Attention deficit	Hyperactivity	Attention deficit
6	6	4	0	4
7	9	9	3	0
8	9	9	4	5
9	9	6	4	4
10	8	7	5	5

Figure 3: Control of ADHD according to the groups.



Source: Research Data, 2015.

It can be seen that the control group had improvement in 02 patients (40%), but the therapeutic group had control of ADHD in 05 patients (100%) (Figure 3).

With this, agrees the speech of Furtado [15], stating that physical therapy can contribute to mental health, mainly with body techniques. The more correct and satisfactory form for the evaluation and

treatment of the disorder is the knowledge of a multidisciplinary team. [26]

The benefits of physical therapy intervention to assess 28 children diagnosed with ADHD associated with disorders of Motor Coordination (DDC) with a mean age of 9 years and 3 months, using as a therapeutic modality the training of motor perception, sensory integration therapy, kinesiotherapy and neurobehavioral performance. [27]. A motor intervention program lasting 25 sessions, twice a week in a 10-week period, significant improvements in balance, fine motor skills, body image and temporal organization in children with ADHD [28].

Conclusion

With this research, it can be seen that ADHD is a fairly common condition in childhood; results were obtained showing the importance of the implementation of physical therapy in mental health, as well as interdisciplinary work.

It is proposed, then, further studies in the area of physical therapy, once there is scarce literature.

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