
Interventions on Teacher's Factors for Children with ADHD in the Classroom

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Abstract:

School-related difficulties are commonly associated with attention deficit hyperactivity disorder (ADHD). This article describes effective school-based intervention strategies including behavioral interventions, modifications to academic instruction, home-school communication programs and the importance of the level of information on ADHD, awareness, training of teachers and school psychologists on the types of intervention in class. One overlooked aspect of treatment of children with ADHD is the need to form partnerships among school professionals who can work collaboratively on interventions for children with ADHD. Approaches to developing effective practices of training of teachers in the classroom for school based strategies are presented. Multiple treatment strategies implemented in a consistent fashion across school years can optimize the school success of students with ADHD.

The methodology used to achieve these objectives is based on the implementation of an experiment (quasi), to measure the impact of the use of some effective strategies for teachers and children identified with ADHD in schools. The evolution of the experiment include academic assessment of children before the intervention, training of teachers for the school intervention strategies, measuring instruments setup effectiveness of intervention strategies in school, academic assessment of children after the intervention. This methodology supports the main goal of treatment of children with ADHD in the

classroom through effective techniques on the school premises for their academic work. The Sample participating in the experiment were children diagnosed with ADHD, aged 8-9 y.o, by psychologist or psychiatrist, whose academic results were analyzed. Also teachers were trained to produce change in the academic performance of children.

The results have shown that children with ADHD are faced with many difficulties and often they are misunderstood by their teachers and parents for their symptoms, like intentional behaviors. School-based intervention strategies resulted successfully applicable to children with ADHD symptoms. Although intervention programs for children with ADHD that include a focus on both home and school are beginning to emerge.

Key words: ADHD, School performance, School intervention strategies, Behavioral intervention, Self-regulation, Academic Intervention.

INTRODUCTION

Attention deficit hyperactivity disorder (ADHD) is characterized by pervasive and developmentally inappropriate difficulties with attention, impulsivity, and hyperactivity (American Psychiatric Association, 2000). ADHD symptoms cause significant impairments at home and in school and are associated with a number of behavior difficulties such as aggression and noncompliance (Barkley, 2006). Research also suggests that children with ADHD are more likely than typically developing classmates to be rejected socially and to have greater difficulties with their peers (Hinshaw, 2002). In addition, teachers are more likely to perceive a child with an ADHD label less favorably with respect to intelligence, personality, and behavior (Batzle, Weyandt, Janusis & Devietti, 2010).

Academically, children with ADHD are more likely to have poorer grades, lower scores on standardized tests, greater likelihood of identification for special education, and an

increased use of school-based services, compared to peers without the disorder (Loe & Feldman, 2007). Students with ADHD are also more likely to have a higher absenteeism rate, are three times more likely to be retained during elementary school, and are at a higher risk for dropping out of high school than their peers without ADHD (Barbarese, Katusic, Colligan, Weaver, & Jacobsen, 2007). Students with ADHD who graduate from high school are less likely than their peers to pursue a post-secondary education (DuPaul & Weyandt, 2009). Interestingly, less research is available concerning methods to remediate academic problems associated with ADHD, compared to studies regarding ways to treat behavioral and social difficulties associated with the disorder (Jitendra, DuPaul, Someki, & Tresco, 2008). Given the less-than-favorable prognosis for children with ADHD, it is imperative that empirically supported interventions are implemented early, particularly during the elementary school years.

The most common interventions for students with ADHD include psychotropic medication and behavioral strategies implemented in home and school settings (Barkley, 2006). Although stimulant medication frequently is used to reduce ADHD symptoms, pharmacological treatment rarely is sufficient in addressing the multiple, chronic difficulties faced by students with ADHD (DuPaul & Stoner, 2003). The purpose of this article is to describe effective school-based intervention strategies for children with ADHD including behavioral interventions, modifications to academic instruction, and home-school communication programs. Also discussed are approaches to developing partnerships among school professionals including methods to facilitate collaborative relationships between teachers and school psychologist consultants.

The management of ADHD is multimodal and may include medication, behavioural and academic interventions. Numerous studies have evaluated the efficacy of these therapeutic approaches, and the results from one particularly

thorough research study, the Multimodal Treatment Study of Children with Attention-deficit/Hyperactivity Disorder (MTA), suggested that all three forms of intervention have merit to varying degrees (MTA Cooperative Group 1999a, 2004a, 2004b). The MTA study prospectively evaluated treatment strategies for a group of 579 children with ADHD in a large, randomised controlled trial over a 24-month period. In this study, medication management and the combination of medication management and behavioral treatment, which included parent training, child-focused treatment and a school-based intervention, were found to be superior to behaviour modification therapy alone or usual community care in reducing the core symptoms of ADHD (MTA Cooperative Group 2004a).

The impact of teacher attitudes, beliefs and practices on treatment, behaviour and education of children with ADHD is not well understood. Saxe and Kautz (2003) found that teachers and other school personnel were often the first to suggest the diagnosis of ADHD and that the use of medication may be influenced in part by the teacher having suggested the diagnosis. In another study, Sgrok et al. (2000) found significant differences between school boards in the percentages of children who were diagnosed with ADHD and the percentages of children who were on medication, both of which may have been influenced by school board policies. A number of studies have been published describing teacher attitudes, beliefs and practices when working with children with ADHD; however, there is very little information available on how these factors affect outcome (Fairbanks and Stinnett 1997).

ACTUAL RESEARCH

Child development field of study is very extensive, and increasingly is growing attention to children with ADHD, whose problems are too big nowadays. There are many studies

done on these children that comprise about 8 to 10% of children attending primary school. These studies have given their contribution in exploration of the programs and more efficient treatments for supporting these children's needs.

Complementary general goals of research were to provide an overview of the symptoms of the disorder of attention with hyperactivity in children attending primary schools in Tirana. At the same time to explore the possibilities easing symptoms of attention disorder with hyperactivity in the classroom with the support of trained teachers, with a focus on their academic performance.

The main objectives were:

1. To explore the unknown a good view of the diversity of symptoms of children diagnosed with attention disorder with hyperactivity.
2. To explore and evaluate current challenges of educating children with ADHD in areas lacking attention of professionals.
3. To expand knowledge on elements of working memory in children with ADHD and its relevance to academic performance in school.
4. Analyze how children cope with their challenges regarding the difficulty to remember information in mind (working memory).
5. To develop new practical techniques for the classroom for children with ADHD.
6. To train teachers who care about the education of children in the classroom about the characteristics of the ways of working in the classroom with children with ADHD.
7. To find out whether the training of teachers with information package on the techniques of working with children diagnosed with ADHD increased their academic performance and facilitates their performance in the classroom.

8. To provide some recommendations on how to work with children who have been diagnosed with ADHD at school but necessary for teachers and other professionals

METHODOLOGY

The choice of methods for data collection is determined by the hypothesis or research questions and research aspects of the topic are the main focus of the research. Research approach to the problem of choice is empirical methodology including the combination of qualitative and quantitative methods for data collection. This in turn not only to draw a statistical result about the search results, but also to give the opportunity to explore in greater depth some of the issues or factors affecting or arising from the quantitative data. To measure and maintain the quality and validity of the research will were triangolare methods of collecting qualitative and quantitative data. Triangolare method includes quasi-experimental realization of the experiment in natural conditions practically in classes in schools), intervention and observation. There are three ways that will provide data collection and above all to make this research as valid. Also, it is anticipated that looking the part of the pilot, which was a stage that aimed to standardize instruments and provided more information on training techniques, more efficient and borrowed into Albanian in the most accurate possible.

Sample

As research approach is focused on children diagnosed with ADHD, meaning that representatives in the sample is small, but that allows the search to explore in depth the hypothesis and not only. The sample were deliberate usually referred to studies specified small-scale models of research that rely on the selection of qualitative and quantitative data focusing on the exploration and interpretation of experiences and perceptions.

Children with ADHD are selected on the basis of characteristics or experiences related directly to the area of interest and research question is chosen. Total is intended that 32 children respectively aged 8 or 9 years old, in grade 2 and 3, were part of the quasi-experiment (training of teachers and parents towards the administration deficits on performance development displayed by children ADHD).

Children were selected in the elementary school age because children with ADHD can be identified after age 7 years and second grade or third is the age where children develop the skills of writing, reading and understanding as well as the age where the symptoms of ADHD were more visible. It was selected a purposeful homogeneous sample, children with ADHD that belong to the same group and will have the same features, so children with attention disorder with hyperactivity in selected schools randomly. Also, intentional part of the sample will be teachers who will be trained.

Research methodology will be built in accordance with the need of gathering information regarding variables and relationships between them.

Procedure

Quasi-experiment consists in separating the case into two groups of control and experimental groups. Experimental group included 15 children where teachers once they were informed and trained on ADHD guidelines in classroom and were observed on the facilitation techniques of these features in children with ADHD will apply these techniques to the children to see the effect. While in the control group included 16 children, teachers applied techniques or exercise routine that usually implemented in the classroom. The period of implementation of this process was 3 months and after this phase quasi-experiment will be repeated again to measure the validity of the research and its credibility. But to understand the factors that may affect these results and to understand the

terms and conditions that may affect and may interfere with the confirmation of the hypothesis is the analysis difference of the academic performance of the children before and after intervention.

INTERVENTION TECHNIQUES (TEACHER TRAININGS)

Self-Regulation Interventions

Self-management (or self-regulation) interventions encourage students with ADHD to monitor, evaluate, and/or reinforce their own behaviors, often in conjunction with or following the successful application of teacher-mediated behavioral approaches. As is the case for behavioral interventions, self-regulation strategies directly address the impaired delayed responding that theory has posited to be the core deficit underlying the disorder. As an example of self-regulation, students with ADHD may be taught to evaluate their classroom behavior and work performance at regular intervals using a Likert scale (ranging from *poor* to *excellent*). Teachers use the same Likert scale to evaluate student performance. Students then receive reinforcement depending on their self-evaluated performance and the degree to which self-evaluation ratings match teacher ratings. As students demonstrate success in matching teacher ratings and improving classroom behavior, the frequency of required matches to teacher ratings is gradually reduced, and eventually only self-ratings are used. A recent meta-analysis showed that self-evaluation and other self-regulation interventions lead to relatively large, positive effects on the on-task behavior and academic performance of students with ADHD (Reid, Trout, & Schartz, 2005).

A particularly effective and feasible strategy is to teach students with ADHD to monitor their own behaviors. Sometimes the act of consistently monitoring behavior results in improvements. For example, Gureasko-Moore, DuPaul, and White (2007) found that training several middle school students

with ADHD to monitor their homework and classroom preparedness led to quick and durable improvements in organizational skills. Self-monitoring has been used successfully to promote other behaviors (e.g., on-task, classwork completion) and with a variety of age groups; this is a particularly effective strategy for students with milder levels of ADHD (for review, see Reid et al., and 2005).

Academic Interventions

Although stimulant medication and behavioral interventions typically lead to significant reductions in ADHD symptoms and improvements in classroom behavior, these treatments have minimal effect on academic achievement (DuPaul & Stoner, 2003). Thus, interventions that directly address academic skills are needed for many students with this disorder. One effective academic intervention is to provide teacher-mediated direct instruction in relevant skills that require remediation. For example, Evans, Pelham, and Grudberg (1995) showed that middle school students with ADHD showed improved note-taking and test performance following direct instruction in taking notes during teacher instruction.

Academic interventions can also be delivered through computer technology and classroom peers. Several studies have shown that computer-assisted instruction in math (Mautone, DuPaul, & Jitendra, 2005) and reading (Clarfield & Stoner, 2005) leads to significant improvements in on-task behavior and academic performance for students with ADHD relative to written seatwork conditions. Similarly, classwide peer tutoring in math, reading, or spelling can be used to enhance task engagement and test performance for all students, not just those with ADHD (e.g., DuPaul, Ervin, Hook, & McGoey, 1998). The combination of academic intervention and self-regulation strategies may actually promote maintenance and generalization of academic skills gains beyond teacher-

computer-, or peer-mediated interventions, although this premise has yet to be demonstrated empirically.

Interventions Addressing Social Relationship

Children with ADHD often experience difficulties with peer relationships, including making and keeping friends (DuPaul & Weyandt, 2006; Weyandt, 2007). Further, children with this disorder are more likely than their classmates to respond to interpersonal problems in an aggressive manner. Given the frequent association of ADHD with social relationship difficulties, interventions designed to address peer relations must be implemented for a sufficient duration to counteract the high risk for problematic outcome.

Unfortunately, interventions that target social knowledge and the acquisition of prosocial behaviors in group therapy formats (i.e., traditional social skills training) have not been found to lead to durable changes in interpersonal functioning in real-world environments (Gresham, 2002). The lack of maintenance and generalization of traditional social skills training has led to proposals for a more comprehensive approach to social relationship intervention for children with disruptive behavior disorders (for a review of social skills strategies, see Gresham, 2002).

Relatively few studies of social relationship interventions for children with ADHD have been conducted, especially in school settings. Most prior investigations of social skills training have been conducted in outpatient clinic settings with minimal school outcome data beyond teacher ratings. Results of these clinic-based studies are equivocal with respect to efficacy (e.g., Pfiffner & McBurnett, 1997). Outcomes of these interventions are enhanced when specific strategies are included to program for maintenance and generalization of effects. For example, peers without ADHD could be involved in all phases of a social relationship intervention to encourage generality of outcomes.

CONCLUSIONS

What was achieved on the basis of statistical analyzes and those interpretative it is:

1. A higher level of knowledge about the ADHD features and symptoms and their identification in natural conditions in the classroom.
2. Perspectives and new insights regarding the evaluation of children with ADHD specifically in classroom conditions.
3. Training of teachers and parents with a set of exercises and techniques for managing the situations where children with ADHD show low academic performance in the classroom.
4. Reduction of symptoms and therefore academic progress as well as the facilitating role of working memory that affects performance in school.
5. Mirroring a reflection of how this target group of children facing learning difficulties when display these deficits.
6. It is considered the most important is the construction of a set of techniques and exercises in the form of a manual with recommendations for teachers as well as parents to help children cope with learning difficulties and contribute to their education.
7. Information on a wide scales for the features and characteristics of children with ADHD and thus facilitates the process of identification and intervention at the right moment.

DISCUSSIONS

This article highlights two major points. First, teacher factors, broadly defined, can significantly impact a variety of outcomes among students with ADHD. Teachers' use of gestures, their

tolerance of classroom behaviours, their level of training and their views about treatment acceptability can influence students' performance on specific tasks, their ADHD symptoms, and their perceived social acceptance. Second, there are too few sources that directly assess the important link between various teacher factors and many critical cognitive, health, social and academic outcomes. Certainly the literature supports the existence of such a link, but more work is needed to establish causal relations and effective interventions. There is a large body of research that is categorised as relevant but not directly related to two main goals. For example, some sources addressed the importance of teachers' perspectives for treatment implementation, but examined such links with samples of children who had a variety of diagnoses, such as ADHD and oppositional defiant disorder. Other sources were related to part of the main goals. For instance, two doctoral dissertations from the past decade relate to the influence of teacher factors on aspects of referral and attitudes towards ADHD. These studies highlight the link between style of teaching and likelihood to refer (i.e. less directive teaching styles were correlated with a lower likelihood of referral: Shraver 1999) and teacher factors, such as perceived stress, on acceptance of various treatment interventions (Doak 2003). Some important teacher factors appear to be tolerance (of particular behaviours), teaching style, experience with students who have ADHD, communication style (particularly the use of gestures), time involvement for treatment delivery and acceptability of treatment options in relation to student characteristics such as gender.

Sensitivity to the complex interactions between student characteristics and teacher factors, and even family demographics and beliefs, ought to be a primary goal of all relevant health-care providers and educators. There are gaps in the literature that merit further research to better understand the relations between teacher factors and specific child

outcomes. For example, the role of gesture use by teachers, and the effects of this communication technique on particular academic and social domains for children with ADHD, has only been examined with very limited methodologies. By manipulating the type, frequency and relevancy of gestures, and studying the impact on academically relevant domains such as mathematics or science, researchers could determine the most effective and beneficial method for instructing students with ADHD in the classroom. Such studies could be conducted one-on-one in laboratory settings, as well as with large groups in the natural, classroom setting.

This line of research could potentially have direct and immediate impact on classroom instruction for young students with ADHD. Should classroom studies be conducted, we recommend that thorough descriptions of the sample be provided, including ADHD subtype classifications, the proportion of children with ADHD who are receiving particular treatments or are under specific individualised education plans (IEPs), and other factors that may potentially modify the results. In summary, how teachers react to and view ADHD behaviours and various treatments can influence student behaviour, how the children view themselves in relation to their peers, and social and academic outcomes. Treatments involving less time are typically favoured over those that demand high amounts of supervision or teacher support, but students' gender can influence how acceptable teachers rate particular interventions. Teacher factors associated with student success include patience, knowledge of intervention techniques, an ability to collaborate with an interdisciplinary team, use of gestures when communicating with students and a positive attitude towards children with special needs.

Some of the difficulty with interpreting research in the area of teacher factors is that it is a relatively new field, with little empirical work. Other work remains to be done, including a better understanding of the relationships between teachers'

knowledge of ADHD and the availability of treatment options, students' self-perceptions, academic performance and utilisation of multidisciplinary resources. Similarly, large-scale studies that help clarify the interactions between teacher factors, child characteristics and family contexts would be instrumental in deciding optimal treatments and enhancing desired health, behavioural and educational outcomes for young students with ADHD. Clearly how educators view ADHD, as well as various treatment options, can influence the type of information and options families receive and the variety of interventions implemented (Sherman, Rasmussen and Baydala 2006). Teacher factors remain an important, and relatively under-explored, area of research in the study of ADHD.

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