Handling Students with ADHD Syndrome in Regular Elementary Schools

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Summary

The aim of this longitudinal research is to explore the way teachers treat students with diagnosed ADHD syndrome within the process of education. The research has been conducted on a sample of 45 students, medically diagnosed with ADHD and attending five elementary schools in the area of the city of Zagreb, in the school year 2008/2009, and 45 control group students from the same schools (∑N=90). The null hypothesis, which assumes there is no statistically significant difference between the students diagnosed with ADHD and the rest of the students regarding the way they are treated by their teachers, has been verified on a 20 variable substrate on an ordinal scale, using the univariate (ANOVA) and multivariate approach to data analysis (discriminative analysis). With regard to certain variables of educational support provision, the gained results, showing the non-existence of differences between the samples indicate that teachers do not provide the ADHD students with suitable specific educational support, even though, given the pedagogical specificum of working with these students, such support is highly needed.

Key words: ADHD, education support, elementary school, treatment, inclusion

Introduction

ADHD syndrome is the most common neuropsychiatric disorder which is, at school age, characterized by developmentally inappropriate and lowered level of attention, hyperactivity, while impulsivity is manifested in approximately 5% of school-age children (Capano et al., 2008). Comorbity is manifested in learning difficulties, planning and organizing difficulties, oppositional behaviour, but also emotional difficulties followed by anxiety and depression (Jensen et al., 1997; Pliszka, 2003).

These symptoms have major developmental aspects and can be significantly changed over a period of time, i.e. a child's maturing (Greenberg & Waldman, 1993; Hart et al., 1995). In the research quoted by Barkley (1997) among younger children taking the executive functions test, approximately 50% of ADHD children were described as having developmental coordination disorder. Some researchers emphasize the maturity dimension as the basic cause of disorder, whereas others like Jonkman et al., (2004) and Smith et al., (2004) state that children with ADHD have brain

function deficits. Gustafsson et al., (2007) draw attention to the research conducted by El Sayed and Steffensson et al., who point out the fact that children with ADHD have patterns of EEG reminiscent of patterns in younger children with more low frequency components, thus supporting the theory that at least some children with ADHD have a slow CNS-maturation that will eventually catch up.

The same authors mention research which proposes that children with ADHD have a different brain function disorder. Furthermore, they quote the researchers who describe quality differences between children with ADHD and children with no difficulties in processing information and motor planning in situations which demand inhibition control and modulation of attention, and indicate that most individuals with ADHD face the same difficulties in mature age, even those that no longer meet the criteria for ADHD diagnosis. When the same demands, such as, 'Sit still! Listen and be quiet! Pay attention and follow the instructions! Concentrate!', are constantly being made on one student, those instructions hardly motivate ADHD children for the required tasks. Not because they are not willing, but because their brains will not let them change their behaviour at the very moment. They often get the blame for all the mischief and problems within the class, often without sufficient argumentation.

Some research argues that boys are diagnosed with ADHD more frequently than girls and most research suggests that the condition is diagnosed four to nine times more often in boys than in girls (Bender, 1997; Hallowell, 1994; Rief, 1997). Although ADHD was assumed for years to be a childhood disorder that became visible as early as age 3 and then disappeared with the age of adolescence, it is a fact that the symptoms may vary according to child's age. In preschool age, a child can, for example, show great psychomotor restlessness and impulsiveness, always running or climbing and switching to another activity without finishing the previous one. At school age, the same child can show symptoms of restlessness by fidgeting in the seat, playing with the chair and/or desk or by not finishing the school task. Adolescents with ADHD tend to be more withdrawn and less communicative. They are often impulsive, reacting spontaneously without regard to previous arrangements and plans (Mannuzza et al., 1998).

Academic success of children with ADHD syndrome

A child's academic success often depends on his or her ability to attend to tasks as well as teacher and classroom expectations with minimum distraction. Such skill enables a student to acquire the necessary information, solve complex problem tasks and participate in classroom activities and discussions (Forness & Kavale, 2001).

Due to the complex causes of the described difficulties, students with ADHD pose constant challenge for teachers. They demand extra attention as they talk during the lesson or are motorically restless. Having trouble following instructions, they are unable to follow or perform tasks, which are piling up. These students often forget to write their homework and bring to school all the necessary equipment. As they lack fine motor control, they find it difficult to take notes and to take notice of everything they are required to. ADHD students often have difficulties performing operations that require a sequence of steps, such as solving equations, as well as working on long-term projects. Therefore, students with ADHD often experience scolding and punishment at school, teasing from their peers and generally show low self-esteem.

In the study dedicated to the research of mathematical disability in relation to ADHD, Capano et al. (2008) emphasize that a core deficit in mathematics disorder is hard to identify. Poor development in reading, writing, memory, visuospatial and executive skills is associated with poor mathematical achievements. They also emphasize that, unlike reading, mathematics requires cumulative, qualitative and quantitative changes that occur during and after elementary school education. Therefore, deficits in mathematics can be manifested in different ways during a child's development in the acquisition of this ability. In different schools, there may be a discrepancy related to the validity of success criteria, or even to the definition and classification of children with learning disabilities (Fletcher et al., 2005).

Some children with both mathematics and reading disorder may constitute a specific mathematics disorder subtype, defined as semantic memory reading disorder (Geary, 1993). This group of students is characterized by poor math fact acquisition. Thus the same author classifies these difficulties in two additional mathematics subgroups: procedural and visuospatial. Procedural disorder is characterized by immature strategies, errors in math problem execution, and delay in acquiring arithmetic concepts, while visuospatial disorder includes difficulties with poor aligning of numerical information, confusion in executing math tasks, and misinterpretation of spatially relevant numerical information, such as, place value.

In addition to the heterogeneous cognitive profiles evident in children with mathematics disorder, symptoms of ADHD may be the only cause of math difficulties in children with ADHD (Capano et al., 2008). Capano et al., (2008) quote certain authors who claim that the restless subtype is more strongly associated with mathematics disorder and learning disabilities. On the other hand, it may also be the reflection of the overlap between language development and mathematical abilities in children's development, as language and numerical understanding develop simultaneously (Arvedson, 2002). However, children with specific learning difficulties have

problems with phonological memory, working memory and the automatic retrieval of information stored in long-term memory. Thus, these difficulties may interfere with the learning process and demotivate students when it comes to mathematical activities and mathematical procedural facts needed to solve math problems (Capano et al., 2008). Furthermore, Capano et al., (2008) present results of a study conducted with the main aim of researching the prevalence of mathematics disorder over the reading disorder on a sample of school-age children with ADHD. The research confirmed the hypothesis that the prevalence of mathematics disorder in children with ADHD (in a group of boys) exceeds the prevalence of mathematics disorder observed in the general population of students with reading difficulties, but are not diagnosed with ADHD.

Taking cognitive deficit into consideration and its impact on the association of ADHD syndrome with all aspects of learning, it is hard to fully explain the presence of mathematics deficit. However, it has been determined that increased hyperactivity certainly affects math performance, especially problem-solving. Furthermore, Capano et al. (2008) point out that these academic deficits are not simply a consequence of ADHD and are likely to have a distinct biological origin with implications for intervention and medical treatment. This is why there is a need for school interventions and strategies appropriately adapted to children with ADHD syndrome.

Strategies for the instruction of students with ADHD syndrome

Teachers are the first persons to assess students with ADHD. They know which procedures or strategies would most significantly benefit the students. The characteristics of a specific method, the teacher's personality and the teacher's reports on the student's behaviour play an important role in it. Research has revealed that dedication of time and effort in the needed strategies and the choice of the appropriate intervention method when instructing ADHD students depends on the outcomes of the teachers' previous interventions, i.e. whether they had a positive or negative impact. The teacher's willingness to accept the use of different strategies for different students, his or her education and knowledge about ADHD syndrome, as well as his or her professional experience, should also be taken into consideration (Vereb & Di Perna, 2004).

The teacher's role primarily consists in evaluating every child and his or her individual needs. a student with ADHD needs a lot of patience, creativity and consistency from the part of the teacher. In that case, the teacher can develop strategies that will improve the instruction of students with ADHD by focusing their attention

to the task and keeping them busy to their full capacity, which is often above average (Capano et al., 2008).

Teachers with good results in the education of ADHD children use three different strategies. They start by identifying the child's specific needs. For example, the teacher determines how, when and why the student becomes inattentive, impulsive and/or hyperactive. The teacher then chooses different educational methods, i. e. an individualized approach to academic and behaviour interventions and classroom accommodation, which will suit the child's needs. Finally, the teacher includes these methods into the individualized education program (IEP), or any other individualized plan that will make up the whole program of educational activities for each particular child.

A successful individualized education program for students with ADHD includes three components: a) seating them away from the door and the window (to focus their attention to active learning), b) using the most suitable teaching methods and c) accepting, showing positive attitude and motivating students. Positive attitude and partner relationship with the students will make teachers perceive their better side. Students should be aware that their good behaviour and quality work is important to the teacher. Thus, even the smallest effort and accomplishment should be reinforced with immediate and sincere praise. Finally, the teacher should look for ways to motivate students with ADHD by offering rewards, such as giving students the possibility to choose activities according to their wishes, will and interests.

Individualized education programs should reflect the annual goals and the specific short-term objectives in accordance with the necessary education support, as well as the specific tools and procedures necessary to accomplish the set goals. Furthermore, a plan of the support needed to accomplish the goals should be made. The plan should integrate educational activities scheduled for ADHD students with the activities scheduled for the rest of the students. The structure and consistency of this plan is very important for ADHD students. They need to have a clear understanding of what they are expected to do and of the consequences of not following the instructions. Besides making special arrangements for the assessment of a child's knowledge, the teacher should restrain from expressing differences between children with ADHD syndrome and the rest of the students, as well as from sarcasm and criticism.

There are no two children manifesting all the ADHD symptoms in the same way, so it should be kept in mind that no individualized education program or strategies will suit all students, but they should be designed on an individual basis. The teacher should prepare all didactic materials a child with ADHD needs during the lessons and instruct him/her to use them. Verbal instructions should be kept simple,

as well as the choice and arrangement of worksheets. Worksheets and written tests should initially contain fewer tasks and their number should be constantly increased in shorter time periods. By doing so, the teacher will allows the student to perform tasks on time and productively. Students with ADHD should be allowed frequent breaks, during which they could squeeze a small rubber ball. If necessary, students with ADHD should be tested orally and provided with constant feedback during the test.

When choosing the suitable teaching concepts of work, it is important to use audiovisual materials along with a lot of visual aids, such as maps, pictures, etc. Pointers or bookmarks are also needed. Students should be given instructions and divided into smaller groups where each is assigned a specific task and the ADHD student is assigned the least complex one. This student should be given a note with instructions and highlighted key segments of how to perform the task. Key words should also be highlighted so that the student can focus on the steps needed to perform the task. Strategies like ''Think-Pair-Share'', where the teacher asks students to work on a specific topic, and then they discuss it with their partner and present the ideas to the group (Slavin, 2002), are also useful.

For students with ADHD to improve their skills in solving maths tasks, they should be constantly reminded to read the task at least twice in order to solve the problem, i.e. calculate or answer. In this process, the students' attention should be drawn to the words which indicate the calculation task needed for problem solving, for example, words like "sum," "total," or "altogether''. Asking questions is also important for problem-solving tasks. Students should be taught to ask guiding questions in solving word problems. For example: What is the question asked in the problem? What operation should you use to compute the answer? Students should be provided with a calculator or specialized didactic materials for gaining mathematical skills (charts, graph paper, sticks, etc.).

Many students with ADHD get easily distracted and have difficulty focusing their attention on assigned tasks. In helping them improve their organization of daily school assignments and homework tasks, the teacher can designate one student as the ADHD student's advisor or coordinator and set the basic rules of their cooperation. The student should be allowed to set, plan and organize certain activities with the advisor on a weekly basis. Both of them would meet the teacher and report on the progress they made and the problems they faced in the previous week. This kind of activity and pair work organization can be applied to any other field.

Working with a multidisciplinary team and the child's parents is important in the assessment of both academic and behavioral needs of an ADHD child. Both formal diagnostic assessment and informal classroom observation should be taken into con-

sideration. Assessment, such as learning style evaluation, can be used to determine an overall strategy for a successful treatment of students with ADHD.

Regardless of the fact that ADHD syndrome is diagnostically based on neurologic development disorder, within schools it is usually manifested in various contexts. School classrooms are usually the places where ADHD symptoms are taken into consideration more seriously, due to special demands put on students, such as attention, learning, self-control and willingness to cooperate. Lauth et al., (2006) emphasise the role of teachers as the main participant in the learning and behavioural outcomes of an ADHD student. Many types of behaviour of ADHD students, such as oppositional behaviour, influence the assessment of hyperactivity and inattentiveness. This suggests that such disruptive behaviour can carry more weight than the behaviour of other students within the class. The authors point out that teachers mostly notice disruptive behaviour of students with ADHD syndrome in situations which require performing a task, while specific events, such as school trips, show the lowest level of this kind of behaviour. This research assumes the need for shifting from one activity to another as a feature of interactive teaching dynamics inside and outside the classrooms.

Data available on this subject offer somewhat limited advice on the behaviour of students with ADHD which can generate specific classroom situations. When dealing with disruptive behaviour which distracts other students, the teacher should work out a couple of warning signals with the student who has ADHD syndrome. It can be a hand signal, a calming pat on the shoulder or a short note placed on the student's desk. If it is necessary to talk to the student about his/her behaviour, it should be done with this student only and with eye contact established. The setting and the context in which certain impulsive behaviour is manifested should be considered and evaluated.

Traditional teaching and individual ''silent'' work of every student at his/her desk, result in more disturbing situations and the inability to solve structured tasks followed by disruptive behaviour. Teachers' reports point out the fact that in most cases teachers are not concerned with students' bad grades, as long as they remain calm during lessons. This can lead them to the wrong conclusion that a passively inattentive student is actually concentrated and/or motivated. These observations indicate additional possibilities in creating new ways of instructing students with ADHD. Besides, different approaches to task performance during the lesson should be equally, or even more important than suppression or control of disruptive behaviour within the classroom (Barkley, 1994; Lauth & Schlottke, 2002). Sensitised teachers can use these possibilities to change the approaches and encourage them to

work more productively during lessons, which would eventually affect the academic success of the students.

Empirical part of the research

Research aim

The aim of the research is to explore the way teachers treat students with diagnosed ADHD syndrome within the process of education.

Research hypothesis

A null hypothesis has been set up in the research.

H 0 - There is no statistically significant difference between the students diagnosed with ADHD and the rest of the students regarding the way they are treated by their teachers.

Research methodology

Participants

The total sample is comprised of 45 students medically diagnosed with ADHD and attending one of five elementary schools in the area of the city of Zagreb, during the school year 2008/2009, and 45 control group students from the same schools ($\sum N=90$). The number of students chosen for the control group within one class was the same as the number of children diagnosed with ADHD taken as a sample from the same class. All the students diagnosed with ADHD had the necessary diagnostic documentation issued by authorized doctors and were included in individualized education programs.

This being a longitudinal research, an individual questionnaire was designed in order to monitor the sample over a period of two years, with regard to the phenomenological approach used and the way students diagnosed with ADHD syndrome were treated by the teachers. A questionnaire with 3 sets of variables was designed: socio-demographic features, forms of behaviour and teachers' treatment of students. Considering the fact that the questionnaire was designed using the internal consistency method, its reliability was tested. A low level of Cronbach alpha ($\alpha= 0.60$) indicates low reliability of the questionnaire. In statistics (in social sciences) $\alpha =0.70$ or higher is a commonly-accepted rule of reliability (according to Leung 2001:84). However, considering basic (Nunnally, 1978) and medical research (Leung, 2001), a test should have Cronbach alpha 0.90 or 0.95 in order to be reliable. The unreliability of the questionnaire is connected to environmental factors (modality of samples:

size, homogeneity, sample selection, scale of measurement used and similar). Therefore, the results obtained in this research represent an incentive to further research rather than a generalisation.

A set of variables regarding certain educational specificities concerning the way students are treated by their teachers, are extracted for the purpose of this research. The set consists of 20 plots which express agreement with a certain statement. The plots are stipulated on a negatively polarized four-point Likert-type scale: (1- not true at all, 2-mostly not true, 3-partially true, 4-completely true). All the prerequisites of anonymity and children's rights protection were fulfilled in accordance with the ethical code of research in education.

Data analysis

The data are analysed at the manifest and multivariate level. Descriptive statistics and variance analysis were applied to the manifest level.

To investigate the latent area we performed a multivariate data analysis – a discriminant analysis. The aim was to determine the latent dimensions responsible for the differences between the groups of participants. Statistical data analysis was done with the use of the statistical package SPSS statistics, ver.17.00.

Research results and discussion

By constructing the initial hypothesis we wanted to determine if there are any differences between students with ADHD and other students regarding certain educational specificities in the way they are treated by their teachers. We paid special attention to the distribution of data and dispersion measurement, since the sample in question is relatively small (Table 1).

The results of descriptive statistics show measures of central tendency and dispersion (Table 1). The ratio of standard deviation and arithmetic mean obtained by the results of individual variables is in several cases within the ratio which indicates a value of dispersion within some variables.

In accordance with the H0 hypothesis, we assumed that there was no statistically relevant difference between the students diagnosed with ADHD and the rest of the students regarding the way they were treated by their teachers. Using the Univariate Approach: Analysis of Variance (ANOVA) we examined the differences between the arithmetic mean of samples belonging to the students diagnosed with ADHD and the control group. The basic condition for the use of ANOVA, the test of homogeneity, was tested by Levene's test. The resulting p-value of Levene's test the above is higher than the critical value ($p>0.05$), which indicates homogeneity of variance. The aim

Table 1: Element values of descriptive statistics

Variables		N	Mean		SD	Var.
		Stat.	Stat.	Std. Er.	Stat.	Stat.
1. Most teachers understand my needs.	ADHD	45	2,87	,141	,944	,891
	Cont.Gr.	45	2,98	,121	,812	,659
2. My class teacher understands my needs.	ADHD	45	3,18	,153	1,029	1,059
	Cont.Gr.	45	3,24	,128	,857	,734
3. When I do something bad, most teachers yell at me.	ADHD	45	2,36	,139	,933	,871
	Cont.Gr.	45	2,18	,166	1,114	1,240
4. When I do something bad, most teachers insult (humiliate) me.	ADHD	45	1,47	,126	,842	,709
	Cont.Gr.	45	1,24	,085	,570	,325
5. When I do something bad, most teachers send me out of the classroom.	ADHD	45	1,58	,129	,866	,749
	Cont.Gr.	45	1,29	,099	,661	,437
6. Most teachers help me when I need help.	ADHD	45	3,09	,138	,925	,856
	Cont.Gr.	45	3,33	,105	,707	,500
7. My class teacher mostly helps me when I need help.	ADHD	45	3,16	,149	,999	,998
	Cont.Gr.	45	3,33	,127	,853	,727
8. The school counsellor helps me when I ask for help.	ADHD	45	3,40	,144	,963	,927
	Cont.Gr.	45	3,13	,170	1,140	1,300
9. Due to my behaviour, I often go to talk to the school counsellor /head teacher.	ADHD	45	1,98	,160	1,076	1,159
	Cont.Gr.	45	1,49	,137	,920	,846
10. I am afraid to ask my teachers for help.	ADHD	45	1,73	,144	,963	,927
	Cont.Gr.	45	1,71	,144	,968	,937
11. I arrange my daily plan of activities with my teachers.	ADHD	45	1,98	,178	1,196	1,431
	Cont.Gr.	45	1,89	,163	1,092	1,192
12. When I do something good, most teachers praise me.	ADHD	45	3,44	,103	,693	,480
	Cont.Gr.	45	3,33	,139	,929	,864
13. Most teachers complain to my class teacher about my behaviour.	ADHD	45	2,16	,159	1,065	1,134
	Cont.Gr.	45	1,69	,155	1,041	1,083
14. When I wish to ask them something, most teachers say they do not have time.	ADHD	45	1,82	,132	,886	,786
	Cont.Gr.	45	1,69	,130	,874	,765
15. Most teachers do not give me the opportunity to show what I know.	ADHD	45	2,18	,157	1,051	1,104
	Cont.Gr.	45	2,00	,159	1,066	1,136
16. When I do something well, most teachers do not notice it.	ADHD	45	2,27	,157	1,053	1,109
	Cont.Gr.	45	2,09	,148	,996	,992
17. I feel most teachers pay enough attention to me.	ADHD	45	2,69	,162	1,083	1,174
	Cont.Gr.	45	2,87	,151	1,014	1,027
18. Most teachers compare me with other students.	ADHD	45	1,93	,163	1,095	1,200
	Cont.Gr.	45	1,89	,163	1,092	1,192
19. Most teachers discourage me.	ADHD	45	1,69	,145	,973	,946
	Cont.Gr.	45	1,64	,150	1,004	1,007
20. Most teachers give me bad marks without justification.	ADHD	45	1,67	,123	,826	,682
	Cont.Gr.	45	1,78	,174	1,166	1,359

Cont. Gr. – Control Group, Stat. – Statistics, Var. – Variance

of univariate analysis of variance is to determine the differences between the groups of participants with certain characteristics: as the distance between the arithmetic means grows, so do the expected differences of the samples (Table 2).

Table 2: Basic values of ANOVA

Variables	Groups	N	Mean	Std. Dev.	F	Sig.
1. Most teachers understand my needs.	ADHD	45	2,87	,944		
	Cont. Gr.	45	2,98	,812	,359	,551
	Total	90	2,92	,877		
2. My class teacher understands my needs.	ADHD	45	3,18	1,029		
	Cont. Gr.	45	3,24	,857	,112	,739
	Total	90	3,21	,942		
3. When I do something bad, most teachers yell at me.	ADHD	45	2,36	,933		
	Cont. Gr.	45	2,18	1,114	,674	,414
	Total	90	2,27	1,026		
4. When I do something bad, most teachers insult (humiliate) me.	ADHD	45	1,47	,842		
	Cont. Gr.	45	1,24	,570	2,148	,146
	Total	90	1,36	,724		
5. When I do something bad, most teachers send me out of the classroom.	ADHD	45	1,58	,866		
	Cont. Gr.	45	1,29	,661	3,164	,079
	Total	90	1,43	,780		
6. Most teachers help me when I need help.	ADHD	45	3,09	,925		
	Cont. Gr.	45	3,33	,707	1,984	,163
	Total	90	3,21	,828		
7. My class teacher mostly helps me when I need help.	ADHD	45	3,16	,999		
	Cont. Gr.	45	3,33	,853	,824	,366
	Total	90	3,24	,928		
8. The school counsellor helps me when I ask for help.	ADHD	45	3,40	,963		
	Cont. Gr.	45	3,13	1,140	1,437	,234
	Total	90	3,27	1,058		
9. Due to my behaviour, I often go to talk to the school counsellor /head teacher.	ADHD	45	1,98	1,076		
	Cont. Gr.	45	1,49	,920	5,364	,023
	Total	90	1,73	1,026		
10. I am afraid to ask most teachers for help.	ADHD	45	1,73	,963		
	Cont. Gr.	45	1,71	,968	,012	,913
	Total	90	1,72	,960		
11.I arrange my daily plan of activities with my teachers	ADHD	45	1,98	1,196		
	Cont. Gr.	45	1,89	1,092	,136	,714
	Total	90	1,93	1,140		
12. When I do something good, most teachers praise me.	ADHD	45	3,44	,693		
	Cont. Gr.	45	3,33	,929	,414	,522
	Total	90	3,39	,817		
13. Most teachers complain to my class teacher about my behaviour.	ADHD	45	2,16	1,065		
	Cont. Gr.	45	1,69	1,041	4,420	,038
	Total	90	1,92	1,073		

Variables	Groups	N	Mean	Std. Dev.	F	Sig.
14. When I wish to ask them something, most teachers say they do not have time.	ADHD	45	1,82	,886		
	Cont. Gr.	45	1,69	,874	,516	,474
	Total	90	1,76	,878		
15. Most teachers do not give me the opportunity to show what I know.	ADHD	45	2,18	1,051		
	Cont. Gr.	45	2,00	1,066	,635	,428
	Total	90	2,09	1,056		
16. When I do something good, most teachers do not notice it.	ADHD	45	2,27	1,053		
	Cont. Gr.	45	2,09	,996	,677	,413
	Total	90	2,18	1,023		
17. I feel most teachers pay enough attention to me.	ADHD	45	2,69	1,083		
	Cont. Gr.	45	2,87	1,014	,646	,424
	Total	90	2,78	1,047		
18. Most teachers compare me with other students.	ADHD	45	1,93	1,095		
	Cont. Gr.	45	1,89	1,092	,037	,848
	Total	90	1,91	1,088		
19. Most teachers discourage me.	ADHD	45	1,69	,973		
	Cont. Gr.	45	1,64	1,004	,046	,832
	Total	90	1,67	,983		
20. Most teachers give me bad grades without justification.	ADHD	45	1,67	,826		
	Cont. Gr.	45	1,78	1,166	,272	,603
	Total	90	1,72	1,006		

As can be seen from Table 2 (analysis of variance), on a substrate of 20 variables related to teachers' treatment of students, only two variables indicate the existence of differences between the two groups of participants. Thus, the variables related to teachers' treatment of students are not characteristic for a specific group, in this case ADHD students, but are common to all students from the sample.

This information is indicative in two aspects. The first aspect implies the existence of an inclusive approach, which is commendable, as teachers do not make any difference in treating (communicating with) students. The variables which would indicate the absence of inclusion, i.e., a certain discrimination and segregation, such as: most teachers discourage me; they compare me with other students; when I want to ask them something ,most teachers say they do not have time; etc., are not characteristic for students with ADHD. However, the second aspect refers to the inadequate educational activities concerning students with ADHD disorder, even though, given all the specific difficulties, such help is needed. It is indicative that only two variables are statistically relevant, those being:

– due to my behaviour, I often go to talk to the school counsellor/head teacher (p=0,023)
– most teachers complain to my class teacher about my behaviour (p=0,038)

However, what surprises is the fact that instead of the above mentioned variables, those like: most teachers help me when I need help; most teachers praise me when I do something good; most teachers understand my needs; etc., are not applied to students who actually need extra professional pedagogical help. Moreover, the role of the school counsellor in providing help is not applied to these students. Providing adequate professional pedagogical help to students with ADHD obviously consists of sending them to talk the counsellor/head teacher or complaining about their behaviour to their class teacher. It is obvious that teachers do not respond adequately to the needs of students with ADHD symptoms, but forward the problem to the head teacher, the school counsellor or their colleagues.

Discriminant analysis was used to determine the latent dimensions responsible for the factors which establish the differences between groups of participants (Table 3).

Table 3: Basic statistical values of discriminant analysis

Function	Eig.	% of Variance	Cumul. ve %	Canon. Correl.	Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	,0.266*	100,0	100,0	,459	1	,790	18,409	20	,561

* First 1 canonical discriminant functions were used in the analysis
Eig – Eigenvalue, Cumul – Cumulative, Canon. Corel. – Canonical Correlation

In accordance with the result of variance analysis, discriminant analysis is not statistically significant, and the groups of samples are not different in terms of students' treatment variables (p=0.561). Considering the fact that the level of statistical significance (p=0.05) is higher than the upper level, we cannot make statistical conclusions about the existence of differences between entities. According to the above stated, there is no statistically significant difference between the students diagnosed with ADHD and the rest of the students regarding the way they are treated by their teachers. As stated before, this result is two-sided, as it indicates the presence of a positive inclusive approach in treatment of students with ADHD, but at the same time, based on only two mentioned variables statistically characteristic for ADHD students, it does not assure an appropriate model of providing specific educational support to students who are in need of such support (students with ADHD syndrome).

Conclusion

In the last couple of years an interesting discussion has been going on regarding the ways in which different educational systems across the world work within schools. John Thacker (in Des Forges, 2001) claims that all individuals have to gain a productive insight of themselves as people within society. They should create an image of themselves which stimulates their personal development and socialized life. This kind of education is called ''personal and social''. It is the foundation of virtue on which we base knowledge. Taking into consideration qualities like respect, acceptance and non-possessive warmth, leads to c non-possessive care for the student. It is an acceptance of another individual as a separate person, worthy by him/herself, which also refers to students with ADHD syndrome. It is a basic trust, a belief that this other person is somehow fundamentally trustworthy. For example, the teacher can completely accept a student's inhibitions and hesitation while facing a new task, regardless of his/her motor restlessness. In this way, the teacher considers and shows respect for the student as an imperfect human being with many feelings, difficulties in his/her adaptive behaviour, but also with many potentialities. Twenty-first-century teachers should be skilled in the use of technology and educated as reflective practitioners. They are required to be able to reflect on the differences within one class in various ways, on various learning styles, special educational needs, cultural differences, racial differences, teaching styles and personality of each child, on other teachers and cooperation with them, students' parents and the whole community, etc.

Teachers often mention continuous anxiety and uncertainty in classes with students with difficulties, especially with ADHD syndrome, as they are not sufficiently and regularly educated for the proper handling of such students. In this process, it is important to think about the class as a whole, but also about the individual needs of each particular student. It primarily refers to differentiation in the teaching process (other students with difficulties in following and understanding lessons can also benefit from differentiation), to designing individualized education programs, to setting realistic goals for students with ADHD according to their capacities and potentialities, to simplifying educational demands so that the students can follow classes, as well as to implementing innovations (for example, using new audio-visual aids).

The results of this paper suggest the need for teachers to be directed towards the provision of specific education support (treatment) for students with ADHD syndrome, as their specific difficulties require such support.

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Tretiranje učenika s ADHD poremećajem u redovitim osnovnim školama

SAŽETAK

Cilj ovog longitudinalnog istraživanja je istražiti kako učitelji unutar odgojno-obrazovnog procesa tretiraju učenike kojima je dijagnosticiran ADHD sindrom. Istraživanje je provedeno na uzorku od 45 učenika iz pet osnovnih škola grada Zagreba kojima je školske godine 2008./2009. medicinski dijagnosticiran ADHD, te 45 učenika kontrolne skupine iz istih škola ($\sum N=90$). Na supstratu od 20 varijabli na ordinalnoj skali univarijatnim (ANOVA) i multivarijatnim pristupom obrade podataka (diskriminativna analiza) verificirana je nul hipoteza kojom je pretpostavljeno da ne postoji statistički značajna razlika između učenika kojima je dijagnosticiran ADHD i ostalih učenika s obzirom na tretiranje od strane njihovih učitelja. S obzirom na određene varijable pružanja odgojno-obrazovne podrške dobiveni rezultat o nepostojanju razlika među uzorcima ukazuje da učitelji ne pružaju odgovarajuću specifičnu odgojno-obrazovnu podršku učenicima s ADHD-om, iako je s obzirom na pedagoški specifikum rada s dotičnim učenicima takva podrška izuzetno potrebna.

Ključne riječi: ADHD, odgojno-obrazovna podrška, osnovna škola, tretman, inkluzija