Changes in Children Suffering From Emotional and Behavioral Disorders After Dialectical Behavior Therapy

Justina Gervytė[1], Artūras Grigaliūnas[2], Viktorija Grigaliūnienė[3]
[1]"Solija" VšĮ, [2]Department of Physics, Mathematics and Biophysics, Medical Academy, Lithuanian University of Health Sciences, Lithuania,
[3]Department of Nursing and Care, Medical Academy, Lithuanian University of Health Sciences, Lithuania

Key Words: *dialectical behavior therapy; children; emotional and behavioral disorders.*

Summary. *The aim of this study was to evaluate the changes after dialectical behavior therapy in 8–11-year-old children suffering from emotional and behavioral disorders.*

Methods. The study was carried out with 52 children having emotional and behavioral problems and prone to disobey rules or commit crimes. There were 59.6% of boys and 40.4% of girls in the sample. The mean age of the participants was 9.5±0.2 years. Changes in participants' behavior were evaluated by means of the Lithuanian translation of the Achenbach System of Empirically Based Assessment (ASEBA) teacher's report form.

Results. The major effect of the dialectical behavior program was observed when children had social problems or when their behavior was aggressive. All the participants demonstrated improvement in 4 aspects: they became less aggressive, were less prone to break rules, became more attentive, and had fewer social problems. The symptoms of avoidance/depression decreased only for boys, and anxiety/depression decreased only for girls. The level of breaking rules statistically significantly decreased only for 10- and 11-year olds, and the level of thinking problems decreased only for 11-year olds. The level of anxiety/depression changed only for 10-year olds, and the levels of avoidance/depression and somatic complaints did not change statistically significantly in any age group.

Conclusions. This program positively affected the expression of behavioral and emotional problems among 8–11-year-old children. The major changes were observed in aggressive behavior and social and attention problems. A tendency for older children to respond better to the treatment was noticed.

Introduction

The epidemiological study of children's mental health in Lithuania carried out at Vilnius University in 2004 showed that 41.7% of school-aged children had mental health problems. Of these, 13% were at the level of clinical impairment (Lithuanian National Mental Health Strategy of 2005–2010). Behavioral, anxiety, and mixed emotional and behavioral disorders were the most frequent psychological health problems, enforcing children to be diverted for treatment to the Department of Child Psychiatry of Child Development Center (1).

Functional family therapy is an empirically grounded, family-based intervention program. The goals include helping family members to improve family communication, adopt positive solutions to family problems, and develop positive behavior change and parenting strategies (2). Systemic family therapy deals with the systemic context rather than isolated behavior. This approach works with families and those who are in close relationships to foster change (3). Parent management training focuses on enhancing parenting skills in order to reduce antisocial and behavior problems in children. The therapy helps replace problematic ways of acting with positive interactions (4).

Different behavioral and emotional disorders negatively affect the relationship between a child or an adolescent and their family members, academic aptitude, and psychosocial adaptation (5–7). Without receiving an appropriate professional help to improve the family function, these behavioral and emotional problems progress and may influence appearing suicidal attempts during adolescence (7, 8).

Lithuanian researchers pay a lot of attention to the diagnostics of emotional and behavioral disorders, analysis of the impact of emotional and behavioral disorders on the performance of children and adolescents, influence of social environment, and influence of child's inadequate behavior on the family. Reports on the effectiveness of therapeutic interventions applied to children and teenagers with previously mentioned disorders can be found in the literature (7–10). However, studies on this issue are

Correspondence to V. Grigaliūnienė, Department of Nursing and Care, Medical Academy, Lithuanian University of Health Sciences, Eivenių 4, 50161 Kaunas, Lithuania
E-mail: viktorijagr@gmail.com

Adresas susirašinėti: V. Grigaliūnienė, Lietuvos sveikatos mokslų universiteto Medicinos akademijos Slaugos ir rūpybos katedra, Eivenių 4, 50161 Kaunas
El. paštas: viktorijagr@gmail.com

scarce. Foreign scientists have presented data suggesting that there are evidence-based therapy methods, improving the quality of life of families and clients suffering from behavioral and emotional disorders (11). One of these evidence-based therapies applied to children and teenagers suffering from emotional and behavioral problems is dialectical behavior therapy. For a long time in psychotherapy, it was accepted that children's therapy was focused on a specific disorder. Techniques of training parental skills were applied to address disobedient hostility, aggression, and antisocial behavior problems (4). Functional family therapy methods are recommended for families with a child having behavioral problems (2). Systemic family therapy is recommended for families with children prone to commit a crime (3). The dialectical behavior therapy model has become popular because it combines the elements of individual and family psychotherapy that were the most effective in the past. Dialectical behavior therapy eclectically combines client-oriented, psychodynamic, behavioral therapy, strategic, and system therapy methods into a cognitive–behavioral base, combining it with Eastern philosophy and worldview (12). First described in 1993 as the variety of cognitive–behavioral therapy, this therapy was recognized all around the world (13). According to theories forming the methodological base of dialectical behavior therapy, causes of disorders lie in child's close surroundings. Even though symptoms of external and internal problems are completely different, their cause is the same – the devaluation of own thoughts and feelings, considering them as a character flaw. Dialectical behavior therapy offers methods for the individual to realize one's experience and accept it adequately (14). Koerner and Dimeff believe that psychoeducation is the base of the therapy. Psychoeducational strategy itself is an understanding of reasons for inadequate behavior and development of social skills necessary for adequate behavior (14). Development of social skills is complemented with development of attentive skills. Attentiveness could be understood as the person's ability to monitor the whole content of consciousness and consciously decide to what experiences one could be involved emotionally (15). Attentiveness is inherent to every person and could be developed through conscious efforts. Neurobiological studies have shown that being in an attentive state affects the activity of the monoamine oxidase A gene (16). This gene is associated with attention problems and increased aggression (17–19). Based on the research showing that a person can learn to react according to his or her own values, goals, and needs, rather than habits and learned reactions, the application of attentiveness has become the main aid in correcting psychopathologies that could be characterized as lack of self-control (17, 19).

So far, there are no dialectical behavior therapy studies described in the Lithuanian scientific literature, grounding its effectiveness on children with behavioral and emotional problems. Therefore, the aim of this study was to evaluate the influence of dialectical behavior therapy on 8–11-year-old children with emotional and behavioral problems.

Methods

Procedure. The program of dialectical behavior therapy for children with emotional and behavioral problems consisted of individual counseling, skills training group, and psychoeducational sessions for parents. Children (8–11 years old) whose behavior worried their teachers or specialists at the day center were selected for the dialectical behavior program. Children's behavior before applying the dialectical behavior therapy was described as too aggressive, hardly understandable, or even delinquent. Being of young age, these children were already supervised by an officer of juvenile affairs and were considered to be in the risk group. The skills training (10 sessions long) was attended by 52 children who comprised the study population. Only the children who had at least 2 emotional and behavioral disorders recognized as clinical were consulted individually (22 children).

Approximately one-third (31.0%) of the participants were children attending one of Kaunas day centers. The remaining part (69.0%) of the sample was attending one of Kaunas elementary schools; the therapy was applied at school after lessons. There were 59.6% of boys and 40.4% of girls. More than one-fourth (26.9%) of the participants were 8-years old; 17.3%, 9-years old; 38.5%, 10-years old; and 17.3%, 11-years old.

The Lithuanian translation of the Achenbach System of Empirically Based Assessment (ASEBA) teacher's report form (TRF), 2001 year edition, provided by the Lithuanian ASEBA validation group was used to evaluate the changes in participants' behavior. The questionnaire consists of 20 competency statements and 113 problem statements. Only the problem statement scales were analyzed during the study. They are described in Table 1.

The ASEBA questionnaire, introduced by Achenbach, was chosen because of its structure advantages, taking into account that it is one of the most commonly used methods in the world to study behavioral and emotional disorders (20).

Data Analysis. The nature of distributions of the questionnaire scales was evaluated by means of the Kolmogorov-Smirnov test. To describe the equality of averages of 2 independent samples, when the distribution of the data was normal, the Student *t* test for 2 independent samples was used. To compare 2

Table 1. Characteristics of the Questionnaire Scales

Scale	Example of the question	Cronbach's Alpha	Number of Children With Clinical Disorder	
			Before	After
Anxiety/depression	"Cries often"	0.810	8	5
Avoidance/depression	"Little things can please him/her"	0.686	2	0
Somatic complaints	"Weakness without a medical reason"	0.633	3	1
Social problems	"Complains about being alone"	0.594	8	5
Thinking problems	"Hears voices or sounds that are not there"	0.539	6	4
Attention problems	"Feels confused"	0.910	12	10
Breaking the rules	"Breaks the schools rules"	0.884	11	6
Aggressive behavior	"Often argues"	0.911	9	3

independent samples, when the distribution of the data was nonnormal, the Mann-Whitney *U* test for 2 independent samples was used.

To compare 3 or more independent samples, when the distribution of the data was normal, the ANOVA test was used. To check the hypothesis of feature dependence for 3 or more samples with nonnormal distributions, the χ^2 test was used. For the analysis of relationships between the age and problem scales, the Pearson (when the distribution of the data was normal) and the Kendall tau b (when the distribution of the data was nonnormal) correlation was used.

Differences of the estimated ASEBA problematic statements scales before the application of dialectical behavior therapy and after it were evaluated using the Student *t* test for paired samples. Statistical significance was set at $P<0.05$.

Results

The analysis of primary children's behavioral assessments, by means of the ASEBA teacher's questionnaire, showed that of the 52 children, 47 (90.4%) had behavioral and emotional disorders at a clinical level. Fig. 1 depicts the mean scores of the ASEBA teacher's report form scales according to gender.

The analysis of the differences between the averages of ASEBA problem statements showed that the answers between boys and girls were statistically significantly different in the aspects of avoidance/depression and attention problems. Our results showed that boys had more attention problems than girls. The average level of attention problems for boys and girls was 0.85±0.07 and 0.63±0.08, respectively ($P<0.05$).

The differences between girls and boys were found in the avoidance/depression aspect. The mean

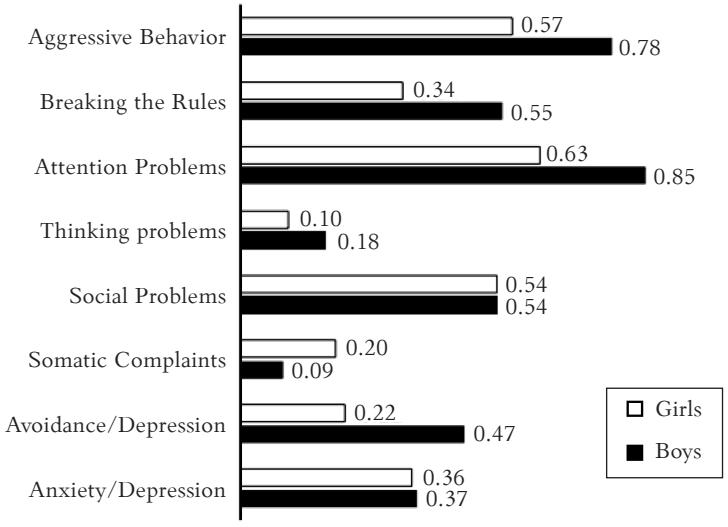

Fig. 1. Averages of ASEBA scales according to gender before applying dialectical behavior therapy

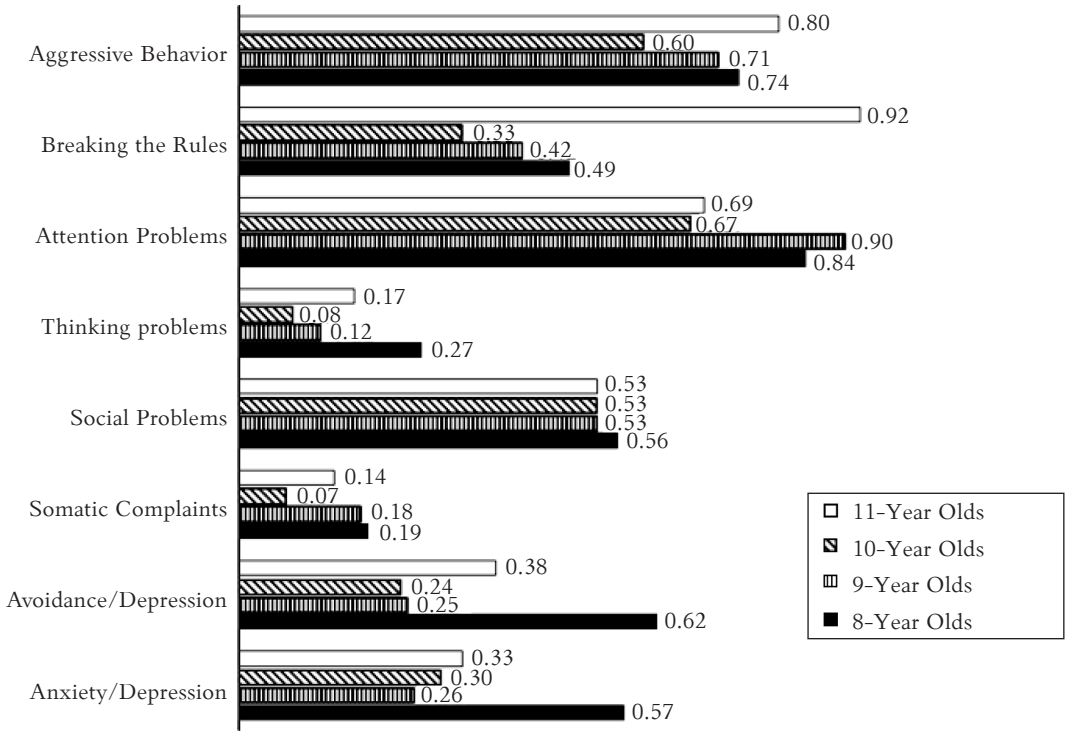

Fig. 2. Mean scores of ASEBA scales according to age before applying dialectical behavior therapy

scores on this scale for boys and girls were 0.47±0.06 was 0.22±0.05, respectively. The results showed that the boys included in the study were more prone to social isolation than the girls (P<0.05).

The mean scores of the ASEBA teacher's report form scales by age are shown in Fig. 2.

The influence of age on the aspect of avoidance/depression and thinking problems was determined while analyzing the mean scores of the ASEBA problem statement scales. Children aged 8 years were the most socially isolated. The relatively lowest mean score on the avoidance/depression scale was determined in the group of 10-year olds (0.24±0.07). These differences were statistically significant (P<0.05). The evidence allows us to declare that there was no linear correlation between the child's age and avoidance problems; however, age could affect the degree of expression of these problems in the sample studied.

The results of the analysis of changes in children's behavior after dialectical behavior therapy according to gender are shown in Table 2. The major influence of the dialectical behavior program was established when a child had social problems or his or her behavior was aggressive. All the children treated improved in 4 aspects: they became less aggressive, were less prone to breaking the rules, became more attentive, and had fewer social problems.

Table 2. Results of Changes according to Gender

ASEBA TRF scales	Boys			Girls		
	d	*t*	*P*	d	*t*	*P*
Anxiety/depression	0.24	1.61	>0.05	0.32	3.07	<0.01
Avoidance/depression	0.42	2.70	<0.05	0.16	0.68	>0.05
Somatic complaints	0.02	0.14	>0.05	0.3	1.18	>0.05
Social problems	0.74	3.50	<0.01	0.76	5.67	<0.01
Thinking problems	0.19	1.81	>0.05	0.3	1.34	>0.05
Attention problems	0.51	3.64	<0.01	0.46	4.29	<0.01
Breaking the rules	0.34	2.63	<0.05	0.48	2.71	<0.05
Aggressive behavior	0.59	4.94	<0.01	0.51	4.56	<0.01

Table 3. Results of Changes According to Age

ASEBA TRF Scale	9-Year Olds			10-Year Olds			11-Year Olds		
	d	*t*	*P*	d	*t*	*P*	d	*t*	*P*
Anxiety/depression	0.85	1.81	>0.05	0.4	4.27	<0.01	0.78	2.26	0.05
Avoidance/depression	0.61	1.36	>0.05	0.18	1.00	>0.05	0.68	1.67	>0.05
Somatic complaints	0.35	0.96	>0.05	0.38	–0.13	>0.05	0.42	1.10	>0.05
Social problems	0.87	2.56	<0.05	0.67	5.55	<0.01	1.27	4.03	<0.01
Thinking problems	0.57	1.18	>0.05	0.25	2.04	0.05	0.73	2.40	<0.05
Attention problems	0.9	4.16	<0.05	1.33	4.36	<0.01	0.88	2.69	<0.05
Breaking the rules	0.21	0.76	>0.05	0.64	3.76	<0.01	0.64	2.58	<0.05
Aggressive behavior	0.5	6.35	<0.01	0.84	5.92	<0.01	0.91	3.44	<0.01

The symptoms of avoidance/depression decreased only for boys, and anxiety/depression decreased only for girls.

All the indicators mentioned above were examined according to age (Table 3). There were no statistically significant changes detected for the sample of 8-year olds (data not shown). For the remaining age groups, positive and statistically significant changes were observed at the level of social problems, attention problems, and problems of aggressive behavior. The level of rule breaking statistically significantly decreased only for the samples of 10- and 11-year olds and the level of thinking problems decreased only for the sample of 11-year olds. The anxiety/depression level changed only for the sample of 10-year olds; the avoidance/depression level and the level of somatic complaints did not statistically significantly change for any of the age categories.

Discussion

The results of the study are important for the practical work with children having inclination to perform criminal actions. It is important because of 4 different aspects. First, a program based on the principals of dialectical behavior therapy was created. It includes both individual and group therapies as well as psychological education for parents. During the study, this program proved its appropriateness in the sociocultural context of Lithuania. Secondly, it was ascertained that the program especially influenced disorders related to crime, such as aggressive behavior, attention and social problems, as well as rule-breaking. Thirdly, we found that the major effect of the program was on children aged 10 to 11 years. Finally, the study confirmed that the program influenced behavioral and attention problems the most, and emotional problems the least.

It is difficult to compare the results of our study with the results of studies by other authors as we did not find any information about similar studies concerning effectiveness of dialectical behavior therapy on children with behavioral and emotional problems in Lithuania. However, it indicates the scientific importance and relevance of the study. Data presented by other scientists (21–23) suggest a positive effect of dialectical behavior therapy on teenagers, but the data are difficult to compare because of different sociocultural contexts and methods used to evaluate the effect.

The study ascertained different effects of dialectical behavior therapy on the participants of different age and gender. The symptoms of avoidance/depression significantly decreased only for boys, and girls were more inclined to disorders of anxiety (24). In 1997, the data of Timmons-Michell et al. confirmed that half of girls in prison suffered from problems of anxiety (25). Again, according to Hipwell and Loeber, delinquent behavior of girls depended on different factors compared with boys (24). Girls also accepted and adopted psychotherapy and rehabilitation services differently.

In our study, the girls had more problems of anxiety/depression than avoidance/depression, which made them more willing to participate in activities concerning emotion management. Their willingness may have caused a greater impact of the program on their emotional state. According to Hipwell and Loeber, a different approach of different gender is natural and logical (24).

It is important to notice that the program did not demonstrate a statistically significant impact on the expression of emotional and behavioral problems of 8-year-old children. This may have been influenced by characteristic features of children's development. Beauchaine et al. in 2005 reported that effective prevention of behavioral problems for children of early age should include the following: development of social skills, problem solving training, and training for teachers so that they could create effective boundaries in case of inappropriate behavior of children and to properly prompt children for good

behavior (26). Possibly, the dialectical behavior therapy program may have been too complicated, requiring better cognitive skills for children up to 8 years old.

Conclusions

The program based on dialectical behavior therapy positively affected the expression of behavioral and emotional problems for 8–11-year-old children. The major change was reached for aggressive behavior, social and attention problems and this corresponds to the attentiveness and stress toleration, emotion control, and development of interpersonal communicational skills, anticipated in the program.

Age of the participants influenced the success of the program, based on the dialectical behavior therapy.

Gender of the participants influenced the success of emotional problem correction, based on the principals of the dialectical behavior therapy program. The symptoms of avoidance/depression decreased only for boys, and anxiety/depression decreased only for girls.

Statement of Conflict of Interest

The authors state no conflict of interest.

Dialektinės elgesio terapijos poveikis 8–11 m. vaikų elgesio ir emocijų pokyčiams

Justina Gervytė[1], Artūras Grigaliūnas[2], Viktorija Grigaliūnienė[3]

[1]VšĮ „Solija“; [2]Lietuvos sveikatos mokslų universiteto Medicinos akademijos Fizikos, matematikos ir biofizikos katedra, [3]Lietuvos sveikatos mokslų universiteto Medicinos akademijos Slaugos ir rūpybos katedra

Raktažodžiai: dialektinė elgesio terapija, vaikai, elgesio ir emocijų sunkumai.

Santrauka. *Tyrimo tikslas* – nustatyti dialektinės elgesio terapijos poveikį 8–11 metų vaikų elgesio ir emocijų pokyčiams.

Tyrimo metodai. Tyrime dalyvavo 52 vaikai, apibūdinami kaip turintys elgesio ir emocijų sunkumų ir linkę nusižengti taisyklėms ar nusikalsti. Imtį sudaro 59,6 proc. berniukų ir 40,4 proc. mergaičių. Tiriamųjų amžiaus vidurkis – 9,6 ± 0,2 metai. Tiriamųjų elgesio pokyčiams vertinti naudotas ASEBA (angl. *Achenbach System of Empirically Based Assessment)* klausimynas – 2001 metų redakcijos lietuviškasis vertimas.

Rezultatai. Dialektinės elgesio terapijos poveikis buvo didžiausias tada, kai vaikas turėjo socialinių sunkumų arba jo elgesys agresyvus. Visų į imtį patekusių vaikų pokyčiai teigiami keturiais aspektais: vaikai tapo ne tokie agresyvūs, mažiau linkę laužyti taisykles, dėmesingesni ir turėjo mažiau socialinių sunkumų. Šalinimosi ir (ar) depresijos simptomų sumažėjo tik berniukų grupėje, o nerimo ir (ar) depresijos – tik mergaičių. Taisyklių laužymo lygis statistiškai reikšmingai sumažėjo tik dešimtmečių ir vienuolikmečių grupėse, o mąstymo sunkumų – tik vienuolikmečių grupėje. Nerimo ir (ar) depresijos lygis pakito tik dešimtmečių grupėje, o šalinimosi ir (ar) depresijos bei somatinių nusiskundimų lygis statistiškai reikšmingai nepakito nei vienoje amžiaus grupėje.

Išvados. Dialektinės elgesio terapijos principais paremta programa teigiamai paveikė 8–11 m. vaikų elgesio ir emocijų raišką. Didžiausias pokytis įvyko sprendžiant agresyvaus elgesio, socialinius ir dėmesio sunkumus. Pastebėta tendencija, kad kuo vyresni vaikai, tuo geresnių rezultatų pasiekta taikant dialektinę elgesio terapiją.

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