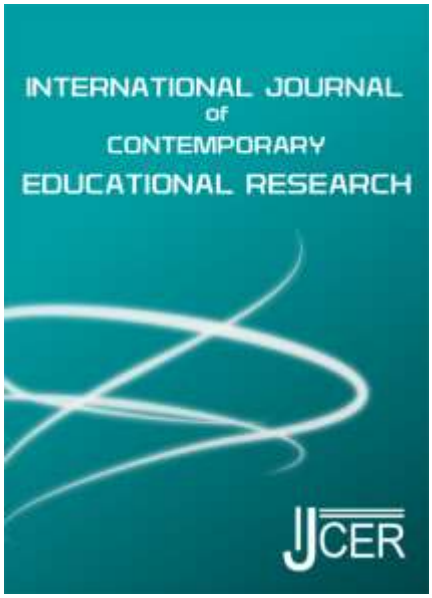

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Gülşah Tura[1],
[1]Kocaeli University, 0000-0002-0611-7993

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The Effect of Psychoeducation Program Based on Structural Family System Therapy on Family Functionality in Families of a Child Diagnosed with Attention Deficit Hyperactivity Disorder*

Gülşah Tura[1**]
[1]Kocaeli University

Abstract

The main objective of the present study was to investigate the effect of a Structural Family Therapy (SFT)-based psychoeducation program on family functioning in families of children with attention deficit hyperactivity disorder (ADHD). This study was an experimental study based on the pre-test, post-test, and follow-up test model, with experimental and control groups. Family functionality, which was the study's dependent variable, was measured with the Mc Master Family Assessment Device (FAD). The independent variable of the research was the psychoeducation program applied only to the experimental group. The research consisted of parents who have children between 7-10 years of age diagnosed with ADHD. An 11-week psychoeducation program developed by the researcher based on SFT was offered to the experimental group. Mann-Whitney U and Wilcoxon Signed-Rank tests were used to analyze the data. The results obtained from the study found out a significant difference ($p<.05$) between the post-test scores of the control and experimental group. In addition, a significant difference ($p <.05$) was found between the FAD scores of the parents in the experimental group before and after the experiment. The results show that the SFT-based psychoeducation program for parents is effective in increasing family functionality.

Keywords: Family, Family functionality, System, Psychoeducation, ADHD

Introduction

Family institution, which can meet almost all the needs of human beings, which is a biopsychosocial being, has vital importance in the development of individuals. Gladding (2014) drew attention to the biological and psychological bond between the members and defined the family as the unity of individuals who have emotional, historical, and economic unity among themselves and who feel like members of the same house. The family, which has the characteristics of a social laboratory, on the one hand, offers rich resources that support the development of its members; on the other hand, it has to deal with conflicts that will hinder the development of its members.

Since families face life stressors, theories and models related to family counseling and psychology have gradually increased. One of the family counseling theories, Salvador Minuchin's Structural Family Therapy (SFT), is one of the leading theories that examines family relationships and the effects of these relationships on psychopathology and proposes a treatment model (Minuchin, 1974). According to Minuchin, based on General Systems Theory (Bertalanffy), families are systems that function with transactional patterns (Minuchin, 1974; Nichols, 2013). Each family creates its subsystems about the number of members it has. Concepts such as closeness, hierarchy, boundaries, and flexibility in Minuchin's theory are accepted as basic parameters in family counseling (understanding and treating various psychological problems). Cohesion includes how many family members see each other together and as a whole (Minuchin, 1974). The level of closeness in the family is shaped by the effectiveness of the communication between the members. When the unity among the members is evaluated on one dimension, one of the ends shows a low (disengaged) and the other a high (enmeshed) level. Functional families are in balance between two extremes in terms of proximity (Colapinto, 2019; Gladding, 2014). Hierarchy, which is expressed with concepts such as one member's influence over the other, authority,

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** Corresponding Author: *Gülşah Tura, gulsah.tura@kocaeli.edu.tr*

and dominance in the family, refers to the ability to determine the relations and rules in the family system (Aponte & Van Deusen, 1981; Chappelle & Tadros, 2021). In functional families, parents can effectively use the authority they have created in cooperation for the healthy development of children and can provide behavioral control. The hierarchical structure differs in troubled families. While children with conduct disorder reject parental authority, they may have more power than their parents due to the inverted hierarchy (Anderson & Gavazzi, 1990; Colapinto, 1979; Gehring & Feldman, 1988; Wetchler & Hecker, 2014). Boundaries, which protect family integrity and are a kind of emotional barrier, regulate the interaction between subsystems by managing closeness and hierarchy in the family (Minuchin, 1974). In open and flexible boundaries that support the family's functionality, members can share their feelings and thoughts using effective communication skills (Tura, 2020). The flexibility of the borders and the family system contributes to the healthy management of the family's situational and developmental changes and supports problem-solving skills. Low flexibility indicates resistance to change and authority, while high flexibility indicates an uncontrolled and chaotic structure in the family (Minuchin, 1974). In summary, according to SFT, functional families are healthy families who can fulfill the tasks expected of them. Relationships between members, family roles, boundaries, rules, and behavior patterns are healthy and the development of members is supported in the family.

The presence of a member with a developmental disorder in the family may negatively affect the family system, and whether the system is healthy can affect the development and treatment of the member with this disorder in many ways (Johnston & Mash, 2001). Attention deficit hyperactivity disorder (ADHD) is one of the most widespread childhood neurodevelopmental disorders characterized by heterogeneous symptoms such as inattention, impulsivity, and hyperactivity (Morris et al., 2020). The presence of a child with ADHD can create serious problems in the family system (Hetchman, 1981), and may adversely affect the parent-child relationship, especially in childhood (Epstein et al., 1983). In studies conducted with families of children with ADHD, high family stress (Norvilitis et al., 2002; Rogers et al., 2009) and low family functionality were detected (Börekçi, 2017; Churchill et al., 2018; Gökçen et al., 2011; Malkoff et al., 2011; Margari et al., 2013; Özyurt et al., 2015; Penuelas-Calvo et al., 2021; Scahill et al., 1999; Soysal et al., 2013; Uran & Kılıç, 2020). In the treatment of ADHD symptoms, the application of psychotherapy and psychosocial methods that include the family system as well as drug therapy prevents the child and other members from developing more serious problems (Aman, 2000; Hoza et al., 2000; Satterfield et al., 1987). In addition, there is a relationship between the level of family functions and the child's symptoms with ADHD (Breaux & Harvey, 2019; Cussen et al., 2012; Horn et al., 1987). In their study, Matos et al. (2009) observed a decrease in hyperactivity and inattention and an increase in effective parenting skills as a result of parent-child interaction therapy. In another study examining three different family therapy programs using behavior management training, problem-solving and communication training, and SFT, all three approaches were found to reduce family conflict and intensity of anger at the time of conflict in parents of a child with ADHD (Barkley et al., 1992). Studies conducted with families of children with different problematic behaviors showed that STF improved family functionality and integrity (Perosa & Perosa, 1981; Szapocznik et al., 1989).

When all these data are evaluated, the effects of physical, emotional, and social problems that a child with ADHD, a neurodevelopmental disorder, may experience, first manifests themselves in the family system, and disorders in the system may trigger the child's symptoms. Considering that psychoeducation programs are practices designed to improve the quality of life of family members and their ability to cope with problems (Jones & Passey, 2004), the psychoeducation program to be given to the parents of a child with ADHD will pave the way to regulating dysfunctional family relationships and to a healthy family system. From this point of view, the main objective of the study was to investigate the effectiveness of the psychoeducation program developed on the basis of SFT to increase family functioning in parents with ADHD children. To achieve this goal, the following hypotheses were made:

1. The FAD post-test scores of the parents who received the SFT-based psychoeducation program were significantly lower than the parents who did not receive this education.
2. The post-test scores of parents who received SFT-based psychoeducation programs were lower than pre-test score distributions.
3. There is no significant difference between the FAD post-test scores of parents with the SFT-based psychoeducation program and the FAD follow-up test scores applied eight weeks later.

Method

Research Model

A quantitative research method was applied to examine the effect of STF-based psychoeducation programs on family functioning in families of ADHD children. The study used pre-test, post-test, and follow-up test control group design, which is one of the quasi-experimental methods. Subjects were matched in terms of demographic characteristics, and they were divided into two as experimental and control groups with the neutral assignment (Büyüköztürk et al., 2020). The study's independent variable was the STF-based psychoeducation program applied only to the parents in the experimental group, and the dependent variable was family functions.

Study Group

The present study's findings were obtained from parents of children with ADHD who were registered at the Counseling and Research Center and Special Education and Rehabilitation Center in Kocaeli city. The volunteer parents were determined with the preliminary information given to the parents. The parents included in the study were 109 parents, 72 females and 37 males, who had children between 7-10 years of age diagnosed with ADHD. For the group to have similar characteristics, the parent who participated in the psychoeducation must live in the same house with their spouse and child, and must not have attended any family training before or at present. In addition, the child's not having any comorbidity other than ADHD and continuing drug therapy for at least two months were determined as the criteria for participation in the study. First of all, the needs analysis form created to prepare the psychoeducation program was sent to the parents of children with ADHD (N=109) via the Google form. Based on the data obtained from the form, the program was prepared and parents were called by telephone and invited to the special education center to advertise the program. After the information meeting about the prepared psychoeducation program was held, the parents who met the research criteria and volunteered for the study were determined. A total of 40 parents, 20 of whom were in the experimental group and 20 in the control group, who were determined through unbiased assignment, formed the research study group. Both groups consisted of 20 people, 12 (60%) female and 8 (40%) male. Five of the parents in the experimental group graduated from secondary school, seven graduated from high school and eight graduated from university. Six of the parents in the control group were secondary school graduates, seven of them were high school graduates and seven were university graduates. There was no comorbidity or developmental diagnosis in the children of all parents in both groups. The mean age of the participants was 37.

Data Collection Tool

Mc Master Family Assessment Device (FAD)

Mc Master Family Assessment Device was developed by Epstein, Baldwin, and Bishop (1983) to determine which items of family functions could not be fulfilled. It was adapted into Turkish by Bulut (1990). The scale, which consisted of 60 items, included family functions such as "general functioning" (12 items), "roles" (11 items), "behavior control" (9 items), "communication" (9 items), "affective involvement" (7 items), "affective responsiveness" (6 items) and "problem solving" (6 items). The lowest score taken from the scale was 60, and the highest score was 240. High scores obtained from the scale indicated unhealthy family functionality. Items in the scale, which can be applied to all family members over the age of 12, were answered considering the last two months (Bulut, 1990). The validity of the scale was applied to normal families (N=208) and families of psychiatric patients (N=98), and the subtest mean scores of the normal families were found to be lower than the mean scores of the families of psychiatric patients ($p<.001$) (Öner, 1994). The Cronbach's alpha coefficients for the scale's internal consistency were found .86 for general functioning, .80 for problem-solving, .71 for communication, .59 for affective responsiveness, .52 for behavior control, .42 for roles, and .38 for affective involvement.

Psychoeducation Program

Preparation of the Psychoeducation Program

To carry out the experimental study, a psychoeducation program was prepared to increase family functionality. Psychoeducation is a type of group with educational content that provides its members with coping skills for determined purposes (DeLucia-Waack, 2006; Jacobs et al., 2006). Psychoeducational groups consisting of planned and structured activities are cognitive (Kahraman & Tanrıkulu, 2019; Morgan & Hensley, 1998),

affective (Fristad et al., 1996; Ulman, 2000), and existential (Ay, 2019; Fedele et al., 2013; Pomeroy et al., 1997).

The main purpose of the STF-based psychoeducation program is to increase the family functionality of families of a child with ADHD. For this purpose, a literature review was conducted to increase family functionality. According to the review of the related literature, STF is an effective approach in reorganizing the family structure and functions in different problematic situations related to the family (Barkley et al., 1992; Gottlieb, 2013; Griffith & Griffith, 1987; Mingfei et al., 2012; Szapocznik et al., 1989; Weaver et al., 2013; Yang & Pearson, 2002; Zafra, 2017; Zhu & Peng, 2009). The psychoeducation program applied to parents is structured according to SFT.

The determination of the modules and titles of the program, which was developed to increase family functions, was carried out through a needs analysis study. The needs analysis study was carried out through a special education center after obtaining the necessary permissions from the Ministry of National Education. As a result of the review of the relevant literature, it was seen that communication, clear roles, understanding emotions, problem-solving, showing interest, parental attitudes, setting rules, and togetherness were factors related to family functioning (Alacahan, 2010; Epstein et al., 1983; Freistadt & Strohschein, 2013; Light & Trust, 2007; Morawska & Sanders, 2009; Twin, 2009; Wang & Zhou, 2015). The general information form with 12 questions, which was created by considering the results obtained from the research, was applied to the parents (N=109) via the Google form. The data obtained from the form were collected under 28 categorical themes and converted into tables showing the frequency numbers of the views and thoughts of the parents. Common and similar categorical themes were determined and these themes were re-synthesized by induction and turned into main themes. To determine the consistency of the content of the program modules created and their appropriateness in terms of scope, opinions were obtained from a total of six academicians, three of whom were from the Department of Psychological Counseling and Guidance, two from the Department of Special Education, and one from Program Development. Based on the feedback received, the psychoeducation program was updated and given its final form.

Content of the Psychoeducation Program

The SFT-based psychoeducation program lasted for 11 sessions, with one session per week for parents who have a child aged 7-10 years with ADHD. Table 1 (below) presented the topics covered during the 11 weeks. At the beginning of each session, warm-up activities were applied and each session of the previous week was summarized. Parents were given homework in certain weeks, and techniques such as question-answer, case study, and brainstorming were applied in different sessions. Sessions lasted approximately 90 minutes. *In the first session*, a meeting event was held with the parents who participated in the training. After the parents' expectations from the program were discussed, information was given about the training process and sessions. For the success of the group process, group rules were created with the participants. Parents were asked what they knew about ADHD, and after their sharing, theoretical information about ADHD was conveyed. The session was ended by taking feedback on the feelings and thoughts of the participants about the first session. *In the second session*, behavioral and family problems observed in families of children with ADHD were discussed. After sharing the most common problem from each parent, the definition of the conflict was made and the session continued with conflict resolution skills. *In the third session*, they started to talk about effective communication. For effective communication content, topics such as verbal and nonverbal messages, I-language, and full message delivery were shared, and then activities for each skill were applied to the parents. At the end of the session, using the I-language was given to the parents as homework. *The fourth session* started with the sharing and evaluation of the homework given in the previous week. The role of parents in the family was studied using methods such as question-answer, discussion, and brainstorming, and then the topic of parental attitudes was taught to the parents. An application on the influence of parents in creating an effective parental subsystem was conducted and the activity was evaluated in the last session. *In the fifth session*, clear, unclear, and strict boundaries between family members were explained with examples. The importance and effect of the democratic attitude in the formation of a clear family boundary were studied with question-answer and case study techniques. *The sixth session* started with the sharing of feelings within the family. Empathic response skills in healthy emotion sharing were studied through case studies involving interaction with a child with ADHD. The effect of sharing emotions on the emotional closeness of family members to each other was explained with question-answer and brainstorming techniques. At the end of the session, the sharing of emotions exercise was given to the parents as homework. *The seventh session* started with the evaluation of homework. Then, the topic of spending time together as a family was shared. Common activities inside and outside the house, members' participation in these activities, child's behavior and expectations were explained through case studies, discussions and question and answer methods. Observation of common items was assigned as

homework. The eighth session began with the evaluation of homework. Then, the role of parents in setting the rules in the family was addressed and the difficulties in setting the rules for the child were shared. Practices were carried out for the parents to create healthy and flexible authority. An environment for evaluation and discussion on the subject has been created. *In the ninth session*, the issue of coalitions and triangulations within the unhealthy groupings within the family was explained in various ways. The effects of these groupings on family cohesion were explained and the topic was discussed with the participation of the members. The importance of the subject was emphasized by giving examples of healthy associations between members. *In the tenth session*, the influence of parents on the child's behavior was discussed. Studies on determination, consistency, appropriate language, and flexibility in behavior control were conducted through case studies of ADHD. In the eleventh session, the termination activity was applied. It was ensured that the participating parents and the leader shared their feelings and thoughts about the training process. The psychoeducation process was ended by sharing the information about the follow-up study to be carried out eight weeks later.

Table 1. Topics of the Psychoeducation Program by Session

Sessions	Topics	Sessions	Topics
1st Session	Introduction/Group Rules/ADHD/Theoretical Information	6th Session	Sharing Emotions and Emotional Intimacy
2nd Session	Problems and Conflict Resolutions in Family	7th Session	Spending Time together
3rd Session	Communication Skills	8th Session	Setting Rules and Power
4th Session	Parent Rules and Attitudes	9th Session	Intra-Family Groupings
5th Session	Democratic Attitudes and Limitation	10th Session	Behavior Control and Flexibility
		11th Session	Closing Meeting

Data Collection Process

The SFT-based psychoeducation program was conducted face-to-face with parents who have a child between 7-10 years of age with ADHD registered in the Counseling and Research Center and Special Education Center in Kocaeli, and volunteer to participate in the training. The psychoeducation program lasted for 11 weeks, with 90 minutes each session, once a week. The parents' contact informationparents' contact information registered to the Counseling and Research Center was reached, and a needs analysis form was sent via the Google form. In order to introduce the psychoeducation program created after the data was obtained, the parents were called by phone and invited to the Special Education Center. The voluntarily participated parents were randomly divided into experimental and control groups. The psychoeducation program was carried out within the scope of Kocaeli University Scientific Research Projects and was carried out within the project schedule. Before starting the psychoeducation, FAD was administered to the parents in two groups as a pre-test. It was seen that both groups were close to each other in terms of pre-test scores. Afterward, an STF-based psychoeducation program was applied only to the experimental group. It was stated that if they wanted to participate in the control group, the same training would be held for them in the next term. After the 11-week psychoeducation was completed, FAD was applied to all the parents in two groups as a post-test. Eight weeks after the post-test application, the FAD follow-up test was applied to the experimental group.

The explanation of the change in the dependent variables of research with the independent variable is called internal validity (Büyüköztürk et al., 2020). In the present study, some factors might threaten the internal validity of explaining the change in family functionality, which was the dependent variable, with the SFT-based psychoeducation program, which was the independent variable. Regarding these factors that pose a threat to internal validity, the following issues were taken into consideration in this study. 4 parents, matched for various demographic characteristics, were randomly divided into experimental and control groups. The creation of the matching and control group helped to purify the research as much as possible from the maturation effect. In addition, for the parents participating in the selected sample group to have similar characteristics, living in the same house with their spouse and child, not having participated in any family education before or currently, were determined as participation criteria.

Moreover, the participant's child must not have any co-diagnosis other than ADHD and must be on medication for at least 2 months. To eliminate the threat of the data collection process to internal validity, the researcher herself carried out this process. Considering that the training process took about 3 months, it was estimated that the pre-test effect could also be broken.

Data Analysis

Within the scope of the present research, SPSS 22.0 program was used to analyze the pre-test, post-test, and follow-up test data applied to the experimental and control groups. Wilcoxon Signed-Rank and Mann-Whitney U tests were for unrelated measurements because the number of research participants was small and the distribution did not show a normal distribution. The Mann-Whitney U test is a test used to identify whether the scores obtained from two unrelated samples differ significantly from each other (Büyüköztürk, 2010). Since the number of participants in two groups and the FAD scores of the participants was not normally distributed ($p<.05$), the significance of the difference between the groups was analysed with the Mann-Whitney U test. FAD within-group changes of the experimental and control groups were analysed with the Wilcoxon Signed-Rank test. This test, on the other hand, is a test used to compare data obtained from measurements made at different times from the same sample group (Büyüköztürk, 2010). The 95% confidence interval and $p<0.05$ value were considered statistically significant for the analyses.

Ethical Issues

Ethical permission of the research was obtained from the ethics committee of Kocaeli University, Institute of Social Sciences, numbered 10017888-020. In addition, permission numbered 87078259-605.01-E.15841560 was obtained from the Kocaeli Provincial Directorate of National Education to determine the parents to participate in the study and carry out the practices in the special education center.

Findings

Before the findings of the hypotheses of the research, descriptive statistics of the subscales and total scores of the groups from the FAD (Table 2 below) and the Mann-Whitney U test results of the pre-test scores of the participants (Table 3 below) were presented.

Table 2. Descriptive Analysis of FAD Subscales and Total Scores of Parents in Control and Experimental Groups

Sub-scales	Group	n	Pre-test		Post-test		Follow-up Test	
			$\bar{X}$	Ss	$\bar{X}$	Ss	$\bar{X}$	Ss
Problem Solving	Experimental	20	16.58	6.48	11.62	3.84	10.36	3.46
	Control	20	16.10	6.60	16.07	5.58	-	-
Communication	Experimental	20	24.04	7.80	17.07	5.80	16.20	5.80
	Control	20	23.42	9.27	24.06	8.78	-	-
Roles	Experimental	20	31.30	9.62	22.40	4.70	21.62	5.16
	Control	20	30.78	10.34	30.42	10.77	-	-
Affective Involvement	Experimental	20	16.82	5.40	11.20	4.96	11.06	3.98
	Control	20	15.50	5.70	16.50	5.58	-	-
Affective Responsiveness	Experimental	20	21.20	4.42	16.40	2.20	16.22	2.38
	Control	20	20.18	5.14	20.78	4.94	-	-
Behavior Control	Experimental	20	27.00	6.58	17.40	4.30	17.20	3.12
	Control	20	24.77	8.05	25.50	8.25	-	-
General Functioning	Experimental	20	34.50	11.45	18.52	9.52	17.56	6.40
	Control	20	29.92	12.92	29.70	11.17	-	-
Total Score	Experimental	20	171.44	51.75	114.61	35.32	110.22	30.03
	Control	20	160.67	58.02	163.03	55.07	-	-

*$p>0.05$

In Table 2 (above), it was seen that the subscales of the participants in the experimental group and the total pre-test mean scores decreased in the post-test. In the follow-up test, it was determined that the decrease continued relatively. There was no decrease in the pre-test and post-test scores of the parents in the control group.

At the beginning of the experimental process, the effectiveness of which was investigated, the pre-test results were compared to observe if there was a difference between the control and experimental groups. The Mann-Whitney U test was used to analyse the significance of the difference between the groups since the number of parents in two groups and the parents' FAD scores were not normally distributed ($p<.05$).

Table 3. Mann-Whitney U Test Results of FAD Subscales, Total Pre-Test Scores of the Control and Experimental Groups

Sub-scales	Group	N	Mean Rank	Sum of Ranks	U	p
Problem Solving	Experimental	20	22.60	452.00	158.00	.246
	Control	20	18.40	368.00		
Communication	Experimental	20	23.60	472.00	138.00	.092
	Control	20	17.40	348.00		
Roles	Experimental	20	21.28	425.50	184.50	.680
	Control	20	19.72	394.50		
Affective Involvement	Experimental	20	21.28	425.50	184.50	.680
	Control	20	19.72	394.50		
Affective Responsiveness	Experimental	20	21.00	420.00	182.00	.620
	Control	20	18.70	374.00		
Behavior Control	Experimental	20	20.75	415.00	152.5	.220
	Control	20	18.40	368.00		
General Functioning	Experimental	20	23.60	472.00	135	.076
	Control	20	19.00	380.00		
Total Scale	Experimental	20	20.75	415.00	195	.892
	Control	20	20.20	405.00		

*p>0.05

Table 3 (above) showed no significant difference between the FAD subscales and the total pre-test mean scores in the control and experimental groups. According to this result revealed that the family functionality levels of the parents in the two groups were equal.

The first hypothesis of the study was “FAD post-test scores of parents who received SFT-based psychoeducation program were significantly lower than the post-test scores of parents who did not receive an education." Table 4 below showed the findings related to this hypothesis.

Table 4. Mann-Whitney U Test Results of Control and Experimental Groups on FAD Subscales and Total Post-Test Scores

Sub-scales	Groups	N	Mean Rank	Sum of Ranks	U	p
Problem Solving	Experimental	20	17.21	280.0	54.00	.032*
	Control	20	23.79	410.0		
Communication	Experimental	20	16.82	274.5	50.50	.015*
	Control	20	24.18	415.5		
Roles	Experimental	20	17.39	282.5	58.50	.043*
	Control	20	23.61	407.5		
Affective Involvement	Experimental	20	16.96	276.5	52.50	.022*
	Control	20	24.04	413.5		
Affective Responsiveness	Experimental	20	17.25	280.5	56.50	.034*
	Control	20	23.75	405.0		
Behavior Control	Experimental	20	17.32	281.5	57.50	.040*
	Control	20	23.68	408.5		
General Functioning	Experimental	20	16.96	276.5	52.50	.023*
	Control	20	24.04	413.5		
Total Score	Experimental	20	16.21	266.0	42.00	.004*
	Control	20	24.79	424.0		

*p<.05

Table 4 (above) shows that there was a statistically significant difference between the SFT-based psychoeducation program and the posttest scores of participants who did not participate in the SFT-based psychoeducation program (U=42.00; p=.004). When the mean was examined, the total posttest score of the experimental group was lower than that of the control group.

When the mean rank was examined, the experimental group's post-test scores in all subscales of FAD were lower than the control group. Similar to the total score, there was also a statistically significant difference between the post-test scores of the participants in the groups in sub-scales of Problem Solving (U=54.00; p=.032), Communication (U=50.00; p=.015), Roles (U=58.50; p=.043), Affective Involvement (U=52.50; p=.022), Affective Responsiveness (U=56.50; p=.034), Behavior Control (U=57.50; p=.040), and General Functioning (U=52.50; p=.023). These findings could be interpreted as the psychoeducation program being effective in increasing family functionality. The findings obtained confirmed the research hypothesis.

The second hypothesis of the study was "The FAD post-test score distributions of the parents who applied the SFT-based psychoeducation program were lower than the pre-test score distributions." Table 5 (below) presented the Wilcoxon Signed-Rank Test findings, which were conducted to identify any difference between the experimental group's FAD subscales and total pre-test score and post-test mean scores.

Table 5. Wilcoxon Signed-Rank Test Results of Pre-test and Post-test Scores of the Experimental Group (N=20)

Sub-scales	Pre-test Post-test	n	Mean Rank	Sum of Ranks	z	p
Problem Solving	Negative Rank	13	11.65	116.50		
	Positive Rank	7	7.63	21.5	-2.116	.032*
	Equal	0	-			
Communication	Negative Rank	14	12.20	122.0		
	Positive Rank	5	5.00	15.00	-2.523	.010*
	Equal	1	-			
Roles	Negative Rank	15	11.82	116.0		
	Positive Rank	4	4.50	9.00	-2.814	.005*
	Equal	1	-			
Affective Involvement	Negative Rank	13	12.56	112.00		
	Positive Rank	6	5.50	20.0	-2.183	.008*
	Equal	1	-			
Affective Responsiveness	Negative Rank	15	12.59	125.50		
	Positive Rank	5	5.50	16.50	-2.620	.006*
	Equal	0	-			
Behavior Control	Negative Rank	14	12.15	121.5		
	Positive Rank	5	5.17	15.50	-2.502	.010*
	Equal	1	-			
General Functioning	Negative Rank	14	11.90	119.0		
	Positive Rank	5	6.00	18.00	-2.323	.018*
	Equal	1	-			
Total Score	Negative Rank	13	12.40	124.0		
	Positive Rank	7	5.75	12.00	-2.545	.007*
	Equal	0	-			

*p<.05

The results in Table 5 (above) showed that there was a significant difference of .05 level between the FAD total pre-test and total post-test scores of the parents who received SFT-based psychoeducation (Z=-2.545; p<0.05). The difference scores' sum of the ranks revealed that this difference was in favor of negative ranks, in other words, the pre-test score. Similar to the total score, there was a significant difference at the .05 level between pre-test and post-test score of the parents in the experimental group in Problem Solving (Z=-2.116; p=.032), Communication (U=-2.523; p=.010), Roles (U=-2.814; p=.005), Affective Responsiveness (U=-2.183; p=.008), Affective Involvement (U=-2.620; p=.006), Behavior Control (U=-2.502; p=.010), and General Functioning (U=-2.323 ; p=.018) subscales. Considering that getting a low score on the FAD increased functionality in terms of that function, it could be said that the applied psychoeducation program had a significant effect on increasing family functionality. The findings regarding the follow-up test results performed eight weeks after the application were stated in Table 6 below.

Table 6. Wilcoxon Signed-Rank Test Results Regarding the Difference between the Experimental Group Post-Test and Follow-Up Test Scores

Sub-scales	Pre-test Post-test	n	Mean Rank	Sum of Ranks	z	p
Problem-solving	Negative Rank	10	9.57	76.00		
	Positive Rank	7	8.00	32.00	-1.140	.242
	Equal	3	-			
Communication	Negative Rank	10	10.00	70.00		
	Positive Rank	9	10.00	60.00	-0.215	.805
	Equal	1	-			
Roles	Negative Rank	13	8.00	64.00		
	Positive Rank	7	7.40	56.00	-0.442	.508
	Equal	0	-			
Affective Involvement	Negative Rank	10	10.92	79.50		
	Positive Rank	9	9.07	72.00	-0.240	.775
	Equal	1	-			
Affective Responsiveness	Negative Rank	11	11.94	82.50		
	Positive Rank	9	10.25	72.50	-0.168	.830
	Equal	0	-			
Behavior Control	Negative Rank	11	11.67	80.50		
	Positive Rank	9	8.63	62.50	-0.021	.970
	Equal	0	-			
General Functioning	Negative Rank	9	10.25	78.00		
	Positive Rank	9	9.75	72.50	-0.223	.722
	Equal	2	-			
Total Scale	Negative Rank	12	12.42	82.00		
	Positive Rank	8	9.75	70.50	-0.250	.800
	Equal	0	-			

Table 6 (above) shows that there was no significant difference between the FAD subscales and the total posttest score and the score of the follow-up test of the SFT-based psychoeducation program offered to parents. In addition, the mean scores of the subscales of FAD and the follow-up test were also lower than the mean scores of the pretest. These two findings showed that the effect of the SFT-based psychoeducation program in increasing family functions continued after eight weeks.

Discussion and Conclusions

The present study aimed to examine the effect of SFT-based psychoeducation programs prepared for parents of ADHD-diagnosed children on family functionality. The scores obtained from the FAD were administered to the parents in the control and experimental groups as a pre-test, post-test, and follow-up tests were compared. Before applying psychoeducation, there was no significant difference between the two groups. Afterward, psychoeducation was applied to the parents in the experimental group for eleven weeks and the post-test scores were obtained at the end of the application. Looking at the posttest results, the applied psychoeducation program had a significant positive effect on the family functioning of the parents in the experimental group. In the follow-up test conducted after eight weeks, it was found that this effect was permanent. Thus, the results supported the main objective of the study.

In reviewing the relevant literature, the number of studies that relied on family therapy developed for parents of children with ADHD was limited (Aman, 2000; Barkley et. al. 1992; Çırpan, 2019; Dielman & Franklin, 1998; Fischer, 2013; Kahveci & Selçuk, 2018; Ma et al., 2018; Matos et al., 2009; Scapillato, 2003; Zhu & Peng, 2009). These studies were mostly in the form of training applied to children with ADHD and their parents. It was noteworthy that there was no study investigating the effect of the SFT-based education program developed for parents of children with ADHD in Turkey. Therefore, the findings obtained from the research were evaluated by comparing them with studies conducted for similar purposes.

The “Problem Solving” sub-dimension, the first sub-scale of FAD, aims to measure family members’ ability to solve material and moral problems using family functionality (Bulut, 1990). To understand the reasons for the increase in the problem-solving skills of the parents who attended the psychoeducation program, it was necessary to look at the applied program’s second session. In this session, conflicts in families and dysfunctional

cycles used in these conflicts were discussed. After sharing the theoretical information on the subject, case studies studied problem-solving steps. Çırpan (2019) conducted a case study with a family to investigate the effects of Experiential and Cognitive-Behavioral Family Therapy practices in families of a child diagnosed with ADHD, to change the members' perspectives towards themselves and others and to examine the effects of solving the problems faced by parents. As a result of 11-week family counseling practices, a positive increase was found out in the communication and family members' problem-solving skills. In another study, Family Systems Multi-Group Therapy was applied to parents of a child with ADHD. During the group sessions, the children and families met for a play interactive session to practice the skills learned in their groups. It was concluded that 8-week applications developed parent-child interaction and effectively reduced conflicts in the home environment (Aman, 2000). Both studies' target groups were families of children with ADHD, and family therapy-based interventions were applied in both studies. However, the results of the studies emphasized that members improved their problem-solving skills thanks to the effect of the practices. Therefore, these studies support the results in terms of sample, purpose, and outcome.

The "Communication" subscale aimed to measure whether family members could enhance healthy communication (Bulut, 1990). In the third session of the psychoeducation program, intra-family communication skills were included. Effective communication skills, I language, full and single message delivery topics were applied with group activities. The increase in communication skills found in the findings can be associated with the subjects studied in this session. Öztürk (2019) examined the effect of the psychoeducation program given to mothers of children with ADHD on mother-child interaction and family functionality. The 12-week psychoeducation program was administered to 25 mothers in the experimental group. At the end of the application, it was observed that the mothers' post-test communication, showing the necessary attention and behavior control subscale score averages were significantly lower. Fallone (1998) applied 8 weeks of Behavioral Parent Training (PT), 8 weeks of PT, and Cognitive-Behavioral Self-Management Training in his doctoral thesis study with 48 mothers of children with ADHD. At the end of the program, mothers in the experimental group were found to have a decrease in maternity stress and an increase in mother-child communication. Both studies were conducted with mothers who have children with ADHD to improve communication skills. It was observed that the implemented programs improved the members' communication skills. Therefore, the findings of these studies also supported the findings of the present study.

The "Roles" subscale expresses the behavioral patterns that include meeting family members' material and spiritual needs (Bulut, 1990). Roles in a functional family include parents being competent to use resources, care for children, and manage the family system. The fourth session of the psychoeducation program applied to parents was the reason for the positive effect observed in the "roles" subscale. In this session, information about being a parent, ensuring the hierarchy within the family, and establishing the parent subsystem was shared. Ekşisu (2017) applied a 9-week parent support program to the parents of children with different behavioral problems and examined the effect on the children and their parents. The findings of the study indicated that the parent support program increased the parenting competence levels of the participants in the experimental group and improved their parenting skills. In another study, Anastopoulos et al. (1993) administered 9 sessions of behavioral parent training to parents with school-age children diagnosed with ADHD. After the training, an increase was observed in the participants' parental functions in the experimental group. Although both studies did not directly focus on roles within the family, parenting competence and parenting functions point to effective parenting and clarity in parenting roles (Demir & Gündüz, 2014). Therefore, these studies' results were in accordance with the present study's findings.

The "Affective Responsiveness" subscale indicates that family members can respond most appropriately to stimuli (Bulut, 1990). To understand the reasons for the increase in the parents' affective responsiveness participating in the psychoeducation program, it was necessary to investigate the sixth session of the applied program. In this session, the emotions experienced in the family and the ways of sharing these emotions were evaluated. Sample applications were made to be able to use correct emotional expressions and improve the effect of empathic response in maintaining the emotional closeness of the members. Barkley et al. (1992) compared the effects of three different family therapy programs on family conflict in families of children with ADHD. 20 parents received Behavior Management Training while 21 parents received Problem-Solving and Communication Training, and 20 parents received Structural Family Therapy. As a result of the research, it was observed that the intensity of anger experienced in conflicts decreased in all three groups and positive changes were observed in the expressions of anger intensity during the discussions. Although the present study differed in method from Barkley's study, it was similar in terms of the training content. In both studies, topics such as conflict resolution, communication skills, and sharing emotions were shared with parents. The results showing a positive change in anger expressions are also consistent with the results of the present study for the Affective Reactivity subscale.

The “Affective Involvement” subscale includes the care and love that family members show to each other (Bulut, 1990). The increase in the ability of parents participating in the psychoeducation program to show the necessary attention, participation in indoor and outdoor activities studied in the seventh session, could be attributed to the effect of studies aimed at supporting the child’s expectations. In addition, the efforts to prevent the existing groupings for the healthy establishment of family unity and to gain healthy unions, which were studied in the ninth session, also affected this result. Zhu and Peng (2009) examined the effect of SFT on family functioning on children with ADHD accompanied by oppositional defiant disorder. In the study where 54 children were randomly divided into the experimental and control groups, only drug treatment was applied to the control group, and family therapy was applied to the experimental group together with drug treatment. At the end of the 12-session applications that lasted for 3 months, an increase in family cohesion, emotion expression, achievement orientation, and an increase in communication, problem-solving, "affective response" and "general functioning" scores was observed among family members. Although a psychoeducation program was not implemented, the application of SFT in the study, the fact that the study group was parents with a child with ADHD, and the aim were to increase family functionality were similar points to the present study.

The “Behavior Control” subscale includes the way of setting rigid, flexible, or irregular standards and providing discipline to the behavior of the members (Bulut, 1990). The eighth and tenth sessions of the psychoeducation program applied to parents give the reasons for the positive effect observed in the behavior control subscale. In these sessions, information was shared about the parents’ establishing a healthy power relationship in the family, parents’ determination, consistency, correct language, and flexibility in behavioral control, and practices were carried out to acquire targeted skills. Matos et al. (2009) applied Parent-Child Interaction Therapy to 32 parents of Puerto Rican preschool children with ADHD. In practices whose main goal was to reduce problematic behaviors in children, parents were taught how to guide their children, and when giving instructions, they should give clear, positive, consistent, and direct commands for behavior. At the end of the research, it was concluded that parents feel more competent and less stressed in managing their children’s behavior. In this study, which aimed to reduce behavioral problems in children, practices aimed at providing behavioral control were also effective in parents’ management of their children’s behaviors. Therefore, the results were consistent with the behavioral control results of this study.

The “General Functioning” subscale is considered as an indicator of the general health of the family (Bulut, 1990). The positive effect observed in the general functioning subscale was the 11-session psychoeducation program applied to the parents. In this program, which aimed to increase the family functionality of parents of children with ADHD, in order to improve the characteristics observed in functional families, communication within the family, conflict resolution, parental attitudes, boundaries between members, healthy sharing of emotions, spending time together, power in the family, family groupings, flexibility and behavior control. In Öztürk’s (2013) study examining the effect of parental education on ADHD symptoms in children, the Triple-P Positive Parenting Program, which lasted 8 weeks, was applied to 23 parents whose children were between the ages of 7 and 12. Among the research findings, in addition to the decrease in ADHD symptoms in children, a statistically significant decrease was observed in family roles, problem-solving, communication, behavior control, and general functioning. Harputlu (2014) applied two-month psychosocial training to the mothers of first-grade primary school students diagnosed with ADHD to reorganize their relations with their children, and a supportive study was conducted. In the training, mothers were informed about correct and effective communication, meeting the social, emotional, and behavioral demands suitable for the developmental levels of their children, and ways of establishing control that supports development. At the end of the training, a positive increase was observed in the mothers' problem-solving, communication, emotional responsiveness, and general functions scores in the experimental group. Also, it was determined that mothers who participated in supportive activities also showed improvement in the “affective involvement” and “roles” subscales. The general functioning subscale results from both studies supported the findings of this study.

Prior to concluding, certain limitations in this study should be addressed. Because the children of the participants in the study group did not have comorbidity, the generalizability of the results was limited only to parents who have a child with ADHD. Therefore, the results were limited to parents who have only one child diagnosed with ADHD. This program, designed to improve family functionality, was limited to 11 weeks. Another limitation is that no training was provided for the control group. As a result, an SFT-based psychoeducation program was applied to parents of a child diagnosed with ADHD for the first time in Turkey, and it was seen that the program was effective in increasing family functionality. Therefore, this finding contributed to the literature by overlapping with the results obtained from different family therapy approaches and parent psychoeducation.

Recommendations

According to the findings of the research, it was possible to suggest the following:

Eight weeks after completion of the psychoeducation program for parents, a follow-up study was conducted. However, it was not known exactly how long the implemented program was effective. Future studies could increase the number of follow-up visits to examine the long-term effects of the program. The children of the participants in the study group of this study only had a diagnosis of ADHD. Future studies could examine the effectiveness of the program by working with parents who have children with comorbid ADHD. The parents in the study group had only one child. The effectiveness of the program could be tested by working with parents with two or more children. In addition, it may be recommended that the program be implemented with parents who have children with ADHD in different age groups.

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