Ardıç, A., & Cavkaytar, A. (2019). The effect of the psychoeducational group family education program for families of children with ASD on parents: A pilot study. *International Journal of Early Childhood Special Education, 11*(1), 1-17. DOI: 10.20489/intjecse.581495

Research Article-Received: 23.04.2019 Accepted: 25.05.2019

The Effect of the Psychoeducational Group Family Education Program for Families of Children Diagnosed with Autism Spectrum Disorder on Parents: A Pilot Study*

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Abstract

Autism Spectrum Disorder (ASD) is a neurobiological developmental deficiency which manifests itself with social interaction and communication disorder and repetitive behaviors and concerns. The individual with ASD have some adverse effects on the family. There are research results in the literature which report that the levels of stress and depression in parents of children with ASD are high, their perceptions of social support are low, and their family functioning is impaired. This study aims to investigate the effect of the Psychoeducational Group Family Education Program (PGFEP), developed by the researchers for families of children diagnosed with ASD within 0-2 years, on parents' stress, depression, social support perception, and family functions. The effect of the PGFEP was examined with a pilot study before the main implementation. This study was conducted with the pre-test post-test weak experimental design. Data were analyzed by the Wilcoxon signed-rank test. When the data were analyzed, the PGFEP was observed to reduce the stress and depression levels of the parents and increase the level of perceived social support in general. However, it was observed that the program did not have a statistically significant effect on the family functions of the parents of children with ASD.

Keywords: *Psychoeducational family education, autism spectrum disorder, parent's stress and depression, social support, family functions*

Introduction

Autism Spectrum Disorder (ASD) is a developmental neuro-biological disorder which starts to manifest itself with some symptoms in the first three years of life, manifests itself with serious social interaction and communication disorder, social behavior, language, perceptual functions, repetitive behaviors and concerns, continues lifelong and varies from individual to individual in terms of the appearance and level of symptoms due to various causes (Aydın and Saraç, 2014; Fein and Dunn, 2007; Mastropieri and Scuggs, 2010; Webber and Scheuermann, 2008It is recognized in the literature that the participation of an individual with ASD in the family has some effects on the family (Küçüker, 1997; O'Shea, O'Shea, Algozzine and Hammitte, 2001).

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* This study was supported by Anadolu University Scientific Research Projects. Project No: 110E112

Moreover, there are also studies in the literature, which demonstrate that families of children with ASD have lower psychological well-being than families of children with other developmental disabilities (Gallager and Bristol, 1989).

One of the possible reasons for the lower psychological well-being of families of children with ASD compared to families of individuals with other disabilities is stated to be the stress experienced by families of children with ASD. It is indicated in the literature that the individual with ASD represents a permanent source of stress for his/her family members (Sanders and Morgan, 1997) and that these families have sources of stress different from families of normally developed children (Hare, Pratt, Burton, Bromley and Emerson, 2004). The most significant source of this stress is demonstrated to be the responsibility undertaken by the family for the care and growth of their children with ASD (Baxter, Cummins and Polak, 1995; Prescott, & Hulnick, 1979). Furthermore, there are also research results demonstrating that families of children with ASD have different stress sources. These are stated to be the way the diagnosis is transmitted and interaction with experts (Jones and Passey, 2004; Todis and Spinger, 1991), the lack of information about ASD (Douma, Dekker and Koot, 2006; Girli et al., 1998; Jones and Passey, 2004), care needs of children with ASD (Benson, 2006; Fitzgerald, Birkbeck and Matthews, 2002; Lecavalier, Leone and Wiltz, 2006), ASD symptom level (Hastings and Johnson, 2001; Bouma and Schweitzer, 1990; Estes et al., 2009; Rodrigue, Morgan and Geffken, 1990), little acceptance of the child with ASD by the community (Sharpley, Bitsika and Efridimis, 1997), self-blame of the parents (Akçakın and Erdem, 2001; Rodrigue, Morgan and Geffken, 1990), lifelong care need of children with ASD (Bouma and Schweitzer, 1990; Sharpley, Bitsika and Efremidis, 1997), parenting stress and not receiving feedback about parenting from their children (Atkinson, Atkinson, Smith and Bem, 1993; Bouma and Schweitzer, 1990; Gupta and Singhal, 2005).

Another significant variable that influences the psychological well-being of parents of children with ASD is the perceptions of parents of themselves. Parents of children with ASD, especially mothers, confront a combination of feelings of sadness, shock, confusion, fear, anxiety, isolation, anger, numbness, and melancholy when their children are diagnosed with ASD (Gupta and Singhal, 2005; Siegel, 1997; Sullivan, 1997). In addition to these feelings, self-doubt, fear about the future and inhibition, avoidance to face the attitude of the external world, disappointment, and a decrease in self-confidence and self-respect are observed (Ataman, 1997; Gupta and Singhal, 2005; Özdoğan, 1997; Varol, 2005). This situation can be stated to affect the psychological well-being of parents negatively.

A significant variable affecting the psychological well-being of families of children with ASD originates from the nature of chronic stress. The effects of the situation that causes stress are not limited to a particular area of life due to its nature, it affects also other areas of life (Benson, 2006). Having a child with a disability can also affect the work and social lives of parents and other members of the family intensively. This situation may cause the family or family members to have new sources of stress. Branching of stress to other areas in this way (stress proliferation) and its creating new stress sources can adversely affect the psychological well-being and compliance (Benson, 2006). This situation is valid for families of all children with disabilities, as well as for families of children with ASD.

The increase in family needs is stated to be another significant variable affecting the psychological well-being of families of children with ASD. One of the family members (usually mothers) disconnects from work in order to provide care for the child with ASD and to organize his/her educational process, and this situation causes the family to encounter economic difficulties (Jarbrink, Frombonne and Knapp, 2003). It is reported in the literature that the decrease in economic resources causes the reduction of the economic expenses of the family, and families to mostly stay away from social activities (Sharpley, Bitsika and Efridimis, 1997). When this situation is combined with the negative emotional self-perceptions of family members, their lack of knowledge of how to explain it to the environment, and the little acceptance of children with ASD by the community, it results in that family members get lower social support. The common effects of these variables adversely affect the psychological well-being of the parents.

Depression remains another significant psychological phenomenon experienced by families of children with ASD. Research results indicate that parents of children with

ASD have a higher risk of being caught by depression and other mental health problems than parents of children with other disabilities (Fırat, 2000; Montes and Halterman, 2007). Similarly, there are also research results which indicate that these parents' depression levels are higher compared to parents of normally developed children and children with Down's syndrome (Dumas, Wolf, Fisman and Culligan, 1991). Briefly, it is possible to say that the most common psychological problem experienced by parents of children with ASD is depression (Benson and Karlof, 2009). Studies conducted in special education and related fields demonstrate that the level of depression observed in parents of children with ASD is related to (a) the level of ASD symptoms (Benson and Karlof, 2009), (b) stress and stress proliferation caused by the child with ASD (Benson, 2006), (c) hopelessness and lower self-efficacy perception (Hastings and Brown, 2002), and (d) parental anger (Benson and Karlof, 2009), and these variables predict the depression observed in parents.

Another significant effect of having a child with a disability on the family is the impairment of the family functions (Burrell, Thompson and Sexton, 1994). Similarly, the presence of children with severe developmental disabilities is known to affect marital relationships and reduce sexual intercourse between spouses (Powers, 1991). The literature states that parents of children with ASD have a considerable risk in terms of depression, social isolation, and marital problems (Gupta and Singhal, 2005).

As a result, it is possible to say that having a child with ASD constitutes new stress sources for families, these stress sources and stress spread over time with stress proliferation, this situation and causes originating from the nature of ASD affect the psychological well-being of parents adversely, the family loses its social support and family functions become impaired. In the literature, some studies have been done on the psychological well-being of parents of children with ASD and other disability. The stress and anxiety level of the parents of these studies (Ainbider et al., 1998; Aydın, 2002; Çelebi, 2003; Ergüner-Tekinalp and Akkök, 2004; Ersoy; 1997; Greaves, 1997; Ireys, Sills, Kolodner and Walsh, 1996; Kuloğlu-Aksaz, 1992; Stallard and Dickinson, 1994; Singer, Irwin and Hawkins, 1988; Valizadeh, Davaji and Dadkhah, 2009), parents' level of depression (Bristol, Gallagher and Holt, 1993; Çelebi, 2003; Girli, Yurdakul, Sarısoy and Özekes,1998; Ireys et al., 1996; Nixon and Singer, 1993; Singer et al., 1988; Tonge et al., 2006; Yukay, 1998), the level of social support that parents perceive (Ainbider et al., 1998; Feigin and Peled, 1998; Ireys et al., 1996) and family functions (Çelebi, 2003; Singer et al., 1999; Tonge et al., 2006; Yukay, 2008). The findings of these studies show that the programs cause different results. At the same time, it is seen that the program components used in these studies are different from each other. Therefore, this study aims to develop a Psychoeducational Group Family Education Program (PGFEP) for families of children newly diagnosed with ASD and to investigate the effects of the implementation of this program on the family's stress, depression, social support, and family functions. The effects of the family on a disabled child's having an independent life are widely accepted in the literature (Gupta and Singhal, 2005). It is considered that this study will have a positive effect on the family functions and the development of children with ASD, in case it meets the psychological well-being and needs of families. Therefore, it can be stated that the research results will make significant contributions to the field of special education both in theory and in practice.

Method

Research Design

The pilot study of this research was carried out with a one-group pretest-posttest experimental research design. The one-group pretest-posttest experimental research design is classified within weak experimental designs (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz and Demirel, 2014; Johnson and Christensen, 2014). In this design, the difference between the dependent variable level of the participants before applying the independent variable and the dependent variable level of the participants after applying the independent variable is compared (Johnson and Christensen, 2014). According to Johnson and Christensen (2014), since this experimental design cannot prevent the effect of external variables affecting the dependent variable, it is difficult to state that the change in posttest results is caused by the independent variable. The reason why is preferred in this research is that the researchers have limited possibilities. In addition, the fact that this study was a pilot study led to the preference of this design.

Participants

The pilot study of the PGFEP developed by the researchers was carried out with 11 participants. Three fundamental criteria were used to determine the pilot study participants. These criteria are as follows: (a) The participants' children with disabilities should have been diagnosed with autism spectrum disorder within 0-2 years, (b) the level of education of the participants should be at least secondary school, and (c) the participants should have volunteered to participate in the study. The participants who met these criteria were included in the pilot study. The demographic information of the pilot study participants is presented in Table 1. The mean age of the participants' children with ASD was 3.4 years, the standard deviation was 2.22, and the range was 8 (N = 11). Eight of the participants’ children with ASD were male, three were female.

Data Collection Tools

The effects of the PGFEP, which is the independent variable of this pilot study, on the parents' stress and depression levels, family functionality levels, and perceived social support level, and level of meeting the needs of parents were examined. The measurement tools used to measure these dependent variables are as follows:

Participant Information Form

It is the data collection tool developed by the researcher to collect data about the socioeconomic status and demographic information of parents participating in the PGFEP.

Questionnaire on Resources and Stress

The Questionnaire on Resources and Stress was developed by Holroyd (1987) to determine the stress levels of parents of children with special needs and caregivers. Initially, Akkök (1989) adapted it to Turkish, and it was re-adapted by Richter-Kanık (1998). The Questionnaire on Resources and Stress (QRS) consists of 30 four-point Likert-type items. The low score obtained from the questionnaire demonstrates the high stress level, and the high score demonstrates the low stress level. The reliability study of the questionnaire was investigated through internal consistency and item-total correlation. The Cronbach’s alpha coefficient of the QRS is 0.92. The item-total correlation of the 30 items making up the scale ranged from .35 to .75.

Beck Depression Scale

The aim of the Beck Depression Scale (BDS) is to determine the level of depression in individuals and distinguish depression from other psychopathological conditions. The BDS, which is a four-point Likert-type, consists of 21 items including the depressive symptom category. The scale was adapted to Turkish by Teğin (1987). The reliability of the scale was tested by test-retest and two half-test reliability. The test-retest reliability of the scale was calculated using the Pearson Moments Multiplication technique, and the coefficient of uniformity was found to be .65. The two half-test reliability of the scale was .78 for students and .61 for depressive patients. In determining the validity of the Turkish version of the scale, both discriminant validity and criterion-referenced validity were tested. The analysis results demonstrate that the scale has both discriminant validity and criterion-referenced validity (Teğin, 1987).

Table 1.

The Age, Income, Number of Children, and Educational Status Frequencies of the Pilot Study Participants

	N	Age $\overline{X}$	Age Range	Monthly Income $\overline{X}$	Number of Children $\overline{X}$	Secondary Education (f)	Higher Education (f)
Mother	6	38.6	13	3250	1.5	3	3
Father	5	40.6	20	4400	1.8	1	4
Total	11	39	22	3800	1.6	4	7

Family Adaptability and Cohesion Scales-IV

The Family Adaptability and Cohesion Scale (FACES-IV) is a 42-item scale developed by

Olson, Gorall, and Tiesel (2004). The scale was developed to evaluate the healthiness of the families who were clinically studied (Olson, Gorall and Tiesel, 2004). The scale also includes the Family Communication Scale (FCS) and the Family Satisfaction Scale (FSS). The scales were developed based on the Circumplex Model of Marriage and Family Systems. The FACES-IV, FCS, and FSS were used in this study to determine the effect of the PGFEP on family functioning.

The FACES-IV includes six subscales. These subscales are as follows: cohesion, flexibility, disengaged, enmeshed, rigid, and chaotic. The scales (FACES-IV, FCS, and FSS) were adapted to Turkish by Çelimli (2009). The internal consistency of the scales was calculated with the Cronbach's alpha coefficient. According to the subscales, the Cronbach's alpha coefficients are as follows: .69 for the Chaotic subscale; .70 for the Rigid subscale; .76 for the Enmeshed subscale; .80 for the Disengaged subscale; .81 for the Flexibility subscale, and .83 for the Cohesion subscale. The Cronbach's alpha coefficient of the FCS was determined to be .92 and .91 for the FSS.

Spearman-Brown split-half reliability analysis was performed for the FACES-IV, FCS, and FSS (Çelimli, 2009). The split-half reliability coefficients of the FACES-IV subscales are as follows: .51 for the Chaotic subscale; .70 for the Enmeshed subscale; .73 for the Rigid subscale; .76 for the Flexibility subscale; .77 for the Disengaged subscale; .79 for the Cohesion subscale. The Spearman-Brown coefficient for the FCS and FSS was calculated to be .91.

The correlation between the scale and its subscales was examined in the evaluation of the construct validity of the FACES-IV. The correlation values between the subscales range from -.65 to .76 (Çelimli, 2009).

Revised Parental Social Support Scale

Revised Parental Social Support Scale was developed by Kaner (2003) to evaluate the social support perceptions of parents of children with special needs. The psychometric properties of the scale were reviewed by Kaner (2010), and in this study, the revised version of the scale was used. The Revised Parental Social Support Scale (RPSSS) includes two dimensions. The first one of these dimensions represents a quantitative dimension that demonstrates at which level individuals who will provide various supports are present. The second dimension is the qualitative dimension which indicates the level of satisfaction of the respondent with the supports in each item. In short, with these two dimensions, the RPSSS consists of two scales which assess both quantitative and qualitative aspects of social support (Kaner, 2010). The first one of these scales is the Revised Parental Social Support Scale - Perceived Social Support Level (RPSSS-PSSL), the second one is the Revised Parental Social Support Scale - The Level of Satisfaction with Perceived Social Support (RPSSS-LSPSS). As a result of the exploratory factor analysis, the scale was observed to consist of a total of 28 items in four subdimensions (Kaner, 2010). These dimensions are social cohesion support, information support, emotional support and care support, and the level of satisfaction of the variable measured by these subscales.

The reliability analysis of the RPSSS was performed by Cronbach's alpha, Spearman-Brown split-half reliability technique, and item analysis. While the Cronbach's alpha internal consistency coefficients range from .83 to .95 for the RPSSS-PSSL, the Cronbach's alpha internal consistency coefficients range from .85 to .86 for the RPSSS-LSPSS. The Spearman-Brown split-half reliability coefficients of the scale are between .86-.92 for the RPSSS-PSSL and between .84-.96 for the RPSSS-LSPSS. The lowest item discrimination index of the scale was calculated to be .48, while the highest item discrimination index of the scale was calculated to be .85. The validity of the RPSSS-LSPSS was assessed by confirmatory factor analysis. The results of the confirmatory factor analysis of two scales forming the RSPSS demonstrated that the scale was valid. The criterion-referenced validity of the RPSSS was examined with the Multidimensional Perceived Social Support Scale-Revised Form. The correlations between the two measurements are between .15 - .75 for the quantitative dimension and between .25 - .72 for the qualitative dimension (Kaner, 2010).

Psychoeducational Group Family Education Program Satisfaction Assessment Tool

The Psychoeducational Group Family Education Program Satisfaction Assessment Tool (SAT) is a five-point Likert type tool consisting of 16 items developed to determine the effect of the realized family education on families and social validity. High scores obtained from the SAT demonstrate that participants are unsatisfied with the study. The range of 1-48 points can be accepted as the range which indicates that participants are satisfied with the study. Similarly, the range of 48-80 points can be said to be the range of points demonstrating that participants are not satisfied with the study at various levels.

Independent Variable

Development of the Psychoeducational Group Family Education Program

The development of the content of the PGFEP was performed in three stages. These stages are as follows: (a) needs analysis, (b) the creation of the content of the PGFEP on the basis of needs analysis, and (c) the pilot study of the program.

Needs Analysis: Preparing the content of family education practices according to the needs of the family and the parents increases the effectiveness of this practice (Brown, 2010). Therefore, it is critical for the content of the PGFEP to be developed according to the needs of parents of children diagnosed with ASD in terms of the applicability of the content and effectiveness of the program on the basis of the targeted variables. For this purpose, the needs of families and parents of children diagnosed with ASD were tried to be determined through semi-structured interviews.

The participants consist of nine parents, being seven mothers and two fathers. The researchers conducted semi-structured interviews with these participants. The ages of the participants range between 29 and 43 years. The ages of their children diagnosed with ASD range between 3 and 5.5 years.

The Semistructured Interview Questions were prepared by the researchers based on the literature. Then, the semi-structured interview questions were evaluated by four academicians in total, two special education specialists and two psychologists. In line with the corrections of the academicians, the final version of the semi-structured interview questions was prepared.

The Data Collection Process was carried out by the researchers of this study. The interview conducted with the participants lasted between 30 minutes and 60 minutes. At the beginning of the interview, the participants were informed about the subject, purpose, and content of the study, and both written and verbal permissions of the participants were obtained. The interviews were recorded by a tape recorder to be analyzed later.

The Data Analysis process was carried out by the researchers and two independent experts. The audio recordings obtained during the semi-structured interview were first documented by the researchers and then analyzed by the researchers and two independent experts by content analysis. In the evaluation of the themes revealed as a result of the data analysis, a common understanding with regard to the themes was achieved. Two researchers and two independent experts re-analyzed the data in terms of the commonized themes.

The Semistructured Interview Results were determined by content analysis. As a result of this analysis, it was observed that the needs of parents of children with ASD could be categorized under five main themes. These five main themes are as follows: (a) the need for information related to the nature and causes of ASD, (b) the need for information related to legal rights, (c) emotional awareness of inadequacy, (d) ways of coping with problem behaviors, and (e) the effect of the existence of the child with ASD on family structure and functioning. The content of the PGFEP, which represents the independent variable of this pilot study, was formed based on these themes.

Forming the Methodological Components and Content of the Psychoeducational Group Family Education Program.

In the literature review, it was observed that family education practices given to parents and families of children with special needs have some features. When these features are examined, the programs in the literature are usually observed to contain a single methodological component. The PGFEP, which is the independent variable of this study, is intended to include many of these methodological components that are observed to be effective in the literature. For this purpose, it was ensured that those of the effective program components in the literature, which may be compatible with each other, were included in the independent variable of this study. At the same time, the results of the needs analysis were also taken into account in the determination of these components.

The first component of the PGFEP is informative counseling. Informative counseling was based on the creation and implementation of the program content to fulfill the information needs expressed by families of children with ASD in their needs analysis. The second component of the program was determined as small group discussions. Small group discussions were determined as the component of the program, in order to complete the information which was not understood by families of children with ASD or which remained insufficient during informative counseling. At the same time, this application was considered to contribute to the formation of group dynamics more quickly. Support group practices were determined as the third component of the program. Support group practices were made a component of the program to meet the social support needs of families. This practice was preferred because it provides the opportunity for families to transfer information about how they resolve the difficulties they face, and at the same time, to make emotional sharings. The fourth component of the PGFEP is the psychological components intended for emotional awareness and effective communication. These components were included in the program to fulfill the families' emotional awareness needs and also to contribute to the regulation of family functions. The fifth component of the PGFEP is skill teaching. The results of the needs analysis demonstrate that the resource of the most significant problems experienced by families is the problem behaviors of their children. Therefore, it was decided that one of the main components of the program should be gaining skills for the management of problem behaviors. The last component of the program is the accelerated learning model, which is based on both the preparation of the content and the application of the content to participants and which is used in adult education. The accelerated learning model is an educational practice model used for many years in adult education and observed to have effective and efficient results (Meier, 2000).

The content of the program was prepared firstly on the basis of these six components and the results of the needs analysis. For the content in question, opinions of two academicians from the field of special education and one academician from the field of psychology were received. Based on these opinions, necessary corrections were made in the content of the program. Professional expressions and concepts were avoided in the preparation of the content as much as possible. After the preparation of the program content, two files were created from the content in question. The first one of these files is the participant file. The participant file was given to the participants who took part in the education on the first day of the education.

The second file created from the program content is the practitioner file. The first step of preparing the practitioner file is to plan the sessions of the program. After the session plans were prepared according to the content and components of the program, the expert opinions of two academicians from the special education field and one academician from the field of psychology were received about these plans. In line with these opinions, necessary revisions were made, and the final version of the session plans was obtained. The practitioner file was prepared with these session plans.

After all these arrangements, the PGFEP consists of 17 sessions with one session per week. The distribution of the sessions by weeks and the content of the sessions are presented below. The contents of the sessions that took part in the first session (first week) are as follows: (a) introducing, (b) the nature, causes, and characteristics of ASD, (c) the nature, causes, and characteristics of ASD, and (d) emotional awareness and social interaction. The contents of the sessions that took part in the second session (second week) were determined to be as follows: (a) the legal rights of individuals with disability and their families, (b) the legal rights of individuals with disability and their families, (c) the legal rights of individuals with disability and their families, and (d) emotional awareness and social interaction. The contents of the sessions that took part in the third session (third week) of the PGFEP are as follows: (a) problem behaviors and the management of problem behaviors, (b) problem behaviors and the management of problem behaviors, (c) problem behaviors and the management of problem behaviors, (d) emotional awareness and family reactions after diagnosis. The contents of the sessions that took part in the fourth and final session (fourth week) of the PGFEP were determined to be as follows: (a) emotional awareness and social interaction, (b) regulation of the family structure and functioning, (c) regulation of the family structure and functioning, (d) regulation of the family structure and functioning, and (e) general evaluation and the closure.

The implementation of the psychoeducational group family education program.

The pilot study of the PGFEP was carried out with the participation of 15 parents attending a special education and rehabilitation center in Denizli province. The implementer of the pilot program is the first author of this manuscript. The first author also collected data from participants. Both written and visual used in the sessions. Sessions were held on Sundays between 12.00 and 16.30. Since four of the parents did not participate in the sessions during the application, their data were not evaluated. The pilot study data were collected from 11 participants and analyzed.

Data Collection and Analysis

The pretest data were collected from the participants at the meeting conducted the day before the start of the implementation sessions in an environment where the researcher was also present. The posttest data were collected at the end of the implementation sessions.

Since the number of the participants in the pilot study was 11 and the data did not fulfill the criteria of normal distribution, the data obtained from the application were analyzed by the Wilcoxon signed-rank test among non-parametric techniques. This test is used to test the significance of the difference between the scores of the two related measurement sets (Büyüköztürk, 2010; Johnson and Christensen, 2014; Tabachnick and Fidell, 2001). In addition to providing information about the significance of the difference, this test also gives information about the direction of the difference.

Results

The Effect of the PGFEP on the Stress Levels of Parents of Children with ASD

One of the main purposes of the PGFEP prepared for families of individuals with ASD is to reduce the stress levels of parents of individuals with this disability. The data obtained from the related measurements were analyzed by the Wilcoxon signed-rank test. The analysis results are reported in Table 2. The results of the analysis demonstrate that there is a significant difference between the scores of the parents obtained from the QRS before and after the implementation (z = 2.847, p<.05). When the mean and sum of ranks of the difference scores are considered, this difference is observed to be in favor of the positive ranks, i.e. the posttest score because high scores received from the stress inventory indicate the low stress level, and low scores indicate the high stress level. The PGFEP, which is arranged according to these results, can be said to reduce the stress level of parents of children with ASD in a positive and statistically significant way.

The Effect of the PGFEP on the Family Functionality Levels of Parents of Children with ASD

The effects of the PGFEP on the family functionality level of parents of children with ASD were analyzed by the FACES-IV, FCS, and FSS. Table 3 demonstrates the results of the analysis of the Wilcoxon signed-rank test related to the Flexibility, Cohesion, Total Score, FCS, and FSS scores of the FACES-IV. When the analysis results presented in Table 3 are examined, no significant difference is observed between the Flexibility (z = 0.356, p>.05), Cohesion (z = 0.445, p>.05), FACES-IV Total score (z = 0.981, p>.05), FCS (z = 0.624, p>.05), and FSS (z = 0.624, p>.05) scores before and after the implementation. According to these analysis results, the PGFEP can be said to have no effect on the family flexibility, cohesion, communication, satisfaction, and general functioning of the parents of children with ASD.

Table 2.
Wilcoxon Signed-Rank Test Results of the QRS Total Scores Received Before and After the Implementation

Posttest-Pretest	N	Mean Rank	Sum of Ranks	z	p
Negative Rank	1	1.00	1.00	2.847*	.004
Positive Rank	10	6.50	65.00		
Ties	0				

* Based on negative ranks

Table 3.
Wilcoxon Signed-Rank Test Results of the FACES-IV Subscale and Total Scores

Scale	Posttest-Pretest	N	Mean Rank	Sum of Ranks	z	P
FACES-IV Flexibility	Negative Rank	6	6.17	37.00	.356*	.722
	Positive Rank	5	5.80	29.00		
	Ties	0				
FACES-IV Cohesion	Negative Rank	6	6.33	38.00	.445*	.657
	Positive Rank	5	5.60	28.00		
	Ties	0				
FACES-IV Total	Negative Rank	6	7.20	36.00	.267*	.790
	Positive Rank	5	5.00	30.00		
	Ties	0				
FCS	Negative Rank	6	7.33	22.00	.981*	.327
	Positive Rank	5	5.50	44.00		
	Ties	0				
FSS	Negative Rank	4	6.50	26.00	0.624*	.533
	Positive Rank	7	5.71	40.00		
	Ties	0				

* Based on negative ranks

The Effect of the PGFEP on the Depression Levels of Parents of Children with ASD

One of the main objectives of the PGFEP prepared for parents of individuals with ASD is to reduce the depression levels of parents of individuals with this disability. The data collected with the BDS were analyzed by the Wilcoxon signed-rank test, and the analysis results were reported in Table 4. The results of the analysis demonstrate that there is a significant difference between the BDS scores received by the parents before and after the implementation (z = 2.938, p<.05). When the mean and sum of ranks of the difference scores are considered, this difference is observed to be in favor of positive ranks, i.e. the pretest score. The PGFEP, which is arranged according to these results, can be said to reduce the depression level of parents of children with ASD in a positive and statistically significant way.

The Effect of the PGFEP on the Levels of Social Support Perceived by Parents of Children with ASD.

It is expected that the PGFEP will have a positive effect on the level of social support perceived by parents of children with ASD. The perceived social support levels of the parents were evaluated by the RPSSS. Table 5 presents the results of the Wilcoxon-signed rank test analysis of the scores received by the participants before and after the implementation in four sub-dimensions of the RPSSS scale and in the satisfaction levels of the participants in these four sub-dimensions. When the results of the analysis presented in Table 5 were examined, significant differences were observed between the scores received in the sub-dimensions of Social Cohesion Support (z = 2.552, p<.05) and Social Cohesion Support Satisfaction (z = 2.096, p<.05), Information Support (z = 2.810, p<.05) and Information Support Satisfaction (z = 2.043, p<.05), Emotional Support (z = 2.316, p<.05) and Emotional Support Satisfaction (z = 2.549, p<.05), Care Support (z = 2.549, p<.05), RPSSS-PSSL (z = 2.845, p<.05) and RPSSS-LSPSS (z = 2.497, p<.05) before and after the implementation of the PGFEP. When the mean and sum of ranks of the difference scores are considered, this difference is observed to be in favor of positive ranks, i.e. the posttest score. However, according to the analysis results in Table 5, the PGFEP was observed not to form a significant difference in the care support satisfaction of the participants before and after the implementation (z = 1.897, p>.05). According to these results, the PGFEP contributed positively to the social cohesion support, information support, emotional support and care support perceived by the participants. Furthermore, it can be stated that the PGFEP contributed to the increase in the satisfaction levels of the participants in the other three dimensions except for the care support satisfaction level.

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Social Validity of the PGFEP

Whether the PGFEP developed by the researchers meets the needs of parents is important in terms of determining the social validity of this study. For this purpose, the SAT was developed by the researcher and applied to the parents participating in the pilot study. When the mean and range values are examined, the participants' mean score of 24.27 and this distribution’s range value of 15 indicate that the participants are gathered in a positive direction. Considering that the highest score is 32 and the lowest score is 15 in the calculation of the range value, it can be stated that the participants are satisfied with the study. Based on these results, it can be stated that the implemented PGFEP maintains social validity for the pilot study.

Table 4.
Wilcoxon Signed-Rank Test Results of the Beck Depression Scale Total Scores Received Before and After the Implementation

Posttest-Pretest	N	Mean Rank	Sum of Ranks	z	p
Negative Rank	11	6.00	66.00	2.938*	.003
Positive Rank	0	0.00	0.00		
Ties	0				

* Based on pozitive ranks

Table 5.
Wilcoxon Signed-Rank Test Analysis Results of the RPSSS Subscale and Total Scores Received Before and After the Implementation

Scale	Posttest-Pretest	N	Mean Rank	Sum of Ranks	z	P
RPSSS- Social Cohesion Support	Negative Rank	1	2.50	2.50	2.552*	.011
	Positive Rank	9	5.83	52.50		
	Ties	1				
RPSSS-Social Cohesion Support Satisfaction	Negative Rank	2	3.50	7.00	2.096*	.036
	Positive Rank	8	6.00	48.00		
	Ties	1				
	Negative Rank	0	0.00	0.00	2.810*	.005

RPSSS- Information Support	Positive Rank	10	5.50	55.00		
	Ties	1				
RPSSS- Information Support Satisfaction	Negative Rank	6	7.33	7.50	2.043*	.041
	Positive Rank	5	5.50	47.50		
	Ties	0				
RPSSS-Emotional Support	Negative Rank	0	0.00	0.00	2.673*	.008
	Positive Rank	9	5.00	45.00		
	Ties	2				
RPSSS-Emotional Support Satisfaction	Negative Rank	2	1.50	3.00	2.316*	.021
	Positive Rank	7	6.00	42.00		
	Ties	2				
RPSSS-Care Support	Negative Rank	0	0.00	0.00	2.549*	.011
	Positive Rank	8	4.50	36.00		
	Ties	3				
RPSSS-Care Support Satisfaction	Negative Rank	1	4.50	4.50	1.897*	.058
	Positive Rank	7	4.50	31.50		
	Ties	3				
RPSSS-PSSL	Negative Rank	1	1.00	1.00	2.845*	.004
	Positive Rank	10	6.50	65.00		
	Ties	0				
RPSSS-LSPSS	Negative Rank	1	5.00	5.00	2.497*	.013
	Positive Rank	10	6.10	61.00		
	Ties	0				

* Based on negative ranks

Discussion

This study was carried out as a pilot study of the research which will be conducted to investigate the effects of the PGFEP, prepared for parents of children with ASD, on parents' stress, depression, social support perception, and family functions. Therefore, it will be appropriate to examine the results of the study in two main categories, and at the same time to evaluate the results by considering this situation.

Firstly, the results of the pilot study indicate that no problem was encountered during the application of the PGFEP to parents of children with ASD in terms of both application and data analysis. This indicates that the PGFEP is sufficient for the main application. Furthermore, when evaluated with respect to the results of the implementation, it can be stated that the PGFEP creates a positive effect on the parents' stress, depression, and general social support perception, but it does not have a significant effect on family functions. However, when evaluated from this point of view, it should be considered that this study represents a pilot study and the results may change in the main application.

As a result of the pilot study, the necessity to make some arrangements before the main implementation was observed. The first one of these arrangements was made in the participant file. In the participant file, it was observed that some special education concepts, which are difficult to understand, have to be explained in more detail and the language has to be simplified. These arrangements were made in the participant file. After the pilot study, the second arrangement was made in the format of the FACES-IV scale. For the easier scoring of the scale items, the scoring ruler on the separate page was taken to the front of the items of the scale.

The second category of these pilot research results is the effect of the PGFEP, which is the independent variable of the study, on the dependent variables of the study. Firstly, the PGFEP was observed to reduce the stress scores of the parents in a statistically significant way. This result is consistent with other studies in the literature (Ainbider et al., 1998; Aydın, 2002; Davis and Rushton, 1991; Feigin and Peled, 1998; Greaves, 1997; Singer et al., 1988; Stalard and Dickinson, 1994; Tonge, Breneton, Kiomall, Mackinnon, King and Rinehart, 2006; Valizadeh, Davaji and Dadkhah, 2009). Studies that have led to a significant decrease in the stress levels of parents and the components of the programs implemented by these studies and the components of the

PGFEP, representing the independent variable of this study, are compatible with each other. Informative counseling, which is a critical component of the PGFEP implemented by the researcher, meets the information need which is one of the main sources of stress, and it can be evaluated as an important cause of this situation. At the same time, acquiring skills related to the problem behavior management through the program can be stated to be related to a significant decrease in the stress level. Both the needs analysis in the content of this study and the studies conducted in the literature demonstrate that one of the most important stress sources of parents is the lack of social support. The program implemented in this study includes small support groups, and this can be evaluated as another cause of the decrease in the stress level. However, this study's results related to stress are incompatible with the results of some studies in the literature (Çelebi, 2003; Ergüner-Tekinalp and Akkök, 2004; Ireys et al., 1996; Kuloğlu-Aksaz, 1992; Yukay, 1998). This may be caused by the fact that the program components of the studies, which state that the implemented program has no effect on parents' stress levels, and the program components of this study are different from each other. The implementations of the mentioned studies for reducing parents' stress levels include the key components of the group psychological counseling (Çelebi, 2003; Yukay, 1998), family education program (Ergüner-Tekinalp and Akkök, 2004), creating a social network (Ireys et al., 1996) and informative counseling (Kuloğlu-Aksaz, 1992). Some of these components constitute also the components of the program implemented in this study, but there present also other components applied in this study. This inconsistency between the results can be said to be caused by this situation.

The parents' depression level, which is the second dependent variable of this study, is observed to decrease significantly as a result of the PGFEP applied to the parents. This result is consistent with the results of many studies in the literature (Bristol et al., 1993; Çelebi, 2003; Davis and Rushton, 1991; Nixon and Singer, 1993; Tonge et al., 2006). However, this result is incompatible with some other research results in the literature (Girli et al., 1998; Ireys et al., 1996; Kuloğlu-Aksaz, 1992; Singer et al., 1988; Yukay, 1998). The main components of the programs implemented by the studies, of which results are incompatible with the results of this study in relation to depression, are concurrently the components of this program. However, it should be taken into consideration that the components in question are alone and the components involved in this study may produce a combined effect.

The research results related to the perceived social support level, which is the third dependent variable of this study, are consistent with the research results in the literature (Ainbider et al., 1998; Davis and Rushton, 1991; Feigin and Peled, 1998). The main components of the programs implemented by these studies are observed to be creating a social network (Ainbider et al., 1998), home-based consultancy service (Davis and Rushton, 1991) and small support group (Feigin and Peled, 1998). Since the PGFEP, which is the independent variable of this study, is a group application, it contributes to creating a social network, similarly, it includes both support group practice and counseling services through small group discussions performed for emotional awareness. However, there is a study in the literature, which states that the program applied does not cause any change in the perceived social support level (Ireys et al., 1996). This situation may be caused by the fact that the main component of this study is creating a technology-based social network.

Family functions are the fourth dependent variable of this study, and it seems that the applied PGFEP has not any effect on the family functions. The results of this study are incompatible with the research results in the literature (Çelebi, 2003; Singer et al., 1999; Yukay, 1998). In the literature, the components of the studies that affect the family functions positively are observed to be group psychological counseling (Çelebi, 2003; Yukay, 1998) and support group practice (Singer et al., 1999). There are three key reasons for the lack of the effect of the PGFEP on the family functions of children with ASD. Firstly, the main components of the PGFEP implemented in this study do not include intense psychological practices. Secondly, the family is an extremely complex structure. Therefore, in the creation of the desired effect, involving all individuals that make up the family is important for the studies aimed at the family. The PGFEP, which is the subject of this study, was not prepared for all family members. Therefore, the independent variable of this study may not have caused a positive effect on family functions. Finally, the family is a system, and this can be the reason for this situation. Like systems are resistant to changes, it also takes time for them to change. Hence, it can be stated that the PGFEP needs sufficient time to affect family functioning. Because of the content of this study, this time was not given to families. Therefore, the effect of the PGFEP on family functioning may not be observed.

Another dependent variable of this pilot study is participant satisfaction measured to assess social validity. Considering the results of the study, the participating parents are observed to be satisfied with the PGFEP. This result is also compatible with the results of the studies in the literature (Pillay, Alderson-Day, Wright, Williams and Urwin, 2011). Failure to implement such a program in a planned and systematic way to families after the diagnosis, especially in Turkey, may be the main reason for this satisfaction.

There are some limitations in this study. Firstly, the experimental design of the study is a one-group pretest-posttest experimental design, and this reduces the generalizability of the obtained data and prevents the explicit observation of the effect of the independent variable. Therefore, it was considered that structuring the main implementation on the basis of the experimental design with a pretest-posttest control group was appropriate. The second significant limitation of this study is that the data on the effect of the implemented PGFEP on family functions were collected without the recognition of the time needed by the family for demonstrating the necessary change. However, it should be taken into consideration that collecting the data on family functions long after the implementation of the program will considerably increase the possibility that effects out of the program might influence family functions. The third limitation of this study is the limited number of participants. Two main reasons can explain this limitation. Firstly, this study was designed for a pilot study before the main study. Therefore, a small number of participants is an expected situation. Secondly, the program in question has such content and implementation components that can be intensively influenced by the practitioner competencies. For this reason, implementing the program by more than one practitioner may affect the results of the study positively or negatively. This necessitated the implementation of the program by only one researcher. This situation is the last and most significant limitation of this study. The program content and components require that program practitioners have some competencies to achieve effective and efficient results. Because of these competencies, it may be considered a necessity that the practitioners who will implement the PGFEP undergo certain training and also have some vocational qualifications. The final significant limitation of this study is that some factors about family (e.g., family’s income situation, number of children, spouses’education and job) affected research results are not collected. This situation leads to the lack of knowledge of some variables affecting research data and thus limiting the generalization of the research results.

Based on the findings and limitations of this research, it would be appropriate to present some recommendations for future research. Firstly, conducting studies that control more variables affecting the psychological well-being of the family will contribute to the generalizability of the results. Secondly, the design of the research pattern as quasi-experimental or experimental designs will ensure that the findings obtained from the research are more valid and reliable. Finally, the application of the program to the types of disability other than the ASD will provide further evidence about the effectiveness of the program.

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