Research Paper: Effect of the Problem-solving on the Mental Well-being of Mothers With Autistic Children

Keivan Kakabaraee[1*], Maryam Seidy[2]

1. Department of Psychology, Faculty of Literature and Humanities, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.
2. Young Researchers and Elite Club, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.

Use your device to scan and read the article online

Citation Kakabaraee K, Seidy M. Effect of the Problem-solving on the Mental Well-being of Mothers With Autistic Children. Journal of Research & Health. 2021; 11(3):203-212. http://dx.doi.org/10.32598/JRH.11.3.118.4

doi: http://dx.doi.org/10.32598/JRH.11.3.118.4

Article info:
Received: 28 Dec 2019
Accepted: 23 Jun 2020
Publish: 01 Jun 2021

Keywords:
Problem-solving, Mental health, Mothers, Autism Spectrum Disorder

ABSTRACT

Background: The birth of an exceptional child in a family can decrease the mental well-being of family members. This study aimed to investigate the effect of the family-centered problem-solving intervention on the mental well-being of the mothers of children with autism spectrum disorder.

Methods: This was a quasi-experimental research with a pre-test, post-test, follow-up design and a control group. The statistical population of the study included all the mothers of children with autism disorder in Kermanshah City. Using the purposeful sampling method, we selected 30 mothers of autistic children studying at a rehabilitation center and randomly assigned them into the two groups of experimental (n=15) and control (n=15). In this study, the Satisfaction With Life Scale (Diener et al., 1985) and the Positive and Negative Affect Schedule (Watson et al., 1988) were used to measure mental well-being. After collecting the pre-test data of the mothers in the experimental group, 10 2-hour sessions (for a month) of family-centered problem-solving programs were administered. Also, the post-test and follow-up phases were executed after the end of the sessions and a 1-month interval, respectively. Finally, the obtained data were analyzed considering the repeated measures design.

Results: The results showed a significant difference between the pre-test and post-test scores in the variable studied. However, the post-test and follow-up scores did not significantly differ in the variable studied.

Conclusion: The results of this study supported the effectiveness of family-centered problem-solving training intervention on mental well-being and its subscales. Therefore, the family-centered problem-solving training program is of great importance as a preventive program.

[*] **Corresponding Author:**
Keivan Kakabaraee, PhD.
Address: *Department of Psychology, Faculty of Literature and Humanities, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran.*
Phone: *+98 (912) 2257860*
E-mail: *kakabraee@gmail.com*

1. Introduction

Family as the smallest social unit is a key element of any society. Parents as the family axis fulfill a variety of social functions, such as childbearing and parenting in society. However, Giving birth creates different reactions from the parents, especially when a child is born with disabilities [1-3]. Research has shown that the birth of an exceptional child in a family can lead to stress, anxiety, emotional problems, fear, and guilt in other family members. In this situation, establishing and maintaining sincere relationships and leading a satisfying life will be faced with multiple problems and inconsistencies, generally, the quality of the family life will be affected [4-7]. Parents who have a child with disabilities enter a process of predictable emotional phases; the more severe the disorder, the more emotional and behavioral problems parents, especially mothers, face [8]. In this regard, a study showed that the mothers of children with disabilities are more vulnerable than the fathers in dealing with incidents [9].

Research has shown that among children with special needs, autism spectrum disorder is one of the disorders that unpleasantly affect the family and especially the mother owing to the severity and complexity of symptoms [10, 11]. Autism spectrum disorder includes a set of complex neurodegenerative disorders that can lead to problems in thinking, feeling, language, and the ability to communicate with others. This disorder is introduced with deficiencies in social interactions, social relations, and interests as well as limited and stereotyped activities [12]. In some cases, the disorder is accompanied by other problems, such as mental disability, challenging behaviors, psychological damages, epilepsy, sleep disorders, and nutritional disease [13]. On the other hand, behavioral problems, such as aggression, disobedience, strain behaviors, self-harm, etc often accompany this disorder [14].

Recent studies also show that the mothers of children with autism experience higher stress than the mothers of children with the other types of disabilities [15, 16]. This tension and stress come from a variety of sources that may be related to the child, mother, community, child communication problems, low societal acceptance, low community support, financial problems, and lack of the parent's awareness of the development and progress of the child. Moreover, the stressful conditions that a mother with an autistic child experiences can lead to less use of therapeutic and service programs, a negative effect on children's growth, and more destructive behaviors [17].

Research has shown that because of the difficult circumstances of parents with autistic children, the mental well-being of these parents, especially mothers, is significantly lower than that of the parents with normal children or other disabilities [18]. Mental well-being is how people evaluate their lives in the present moment and the past; this evaluation includes the emotional responses of individuals to events and their judgments about life satisfaction and quality of life. Mental well-being includes two subscales: positive and negative affect and satisfaction with life. The positive and negative affect indicates the emotional experiences of individuals when confronting events in their lives. Besides, life satisfaction is defined as a general cognitive judgment of living conditions and the individuals' perceptions of their lives in the areas of emotional behaviors, mental functions, and mental health dimensions [19].

Therefore, educational and therapeutic methods are very important to improve the mental well-being and mental health of these families. Family-centered interventions increase parental awareness and promote acceptance, adaptation, and life satisfaction [20, 21]. Family-centered interventions are one of the early interventions that focus on parental involvement; parenting is the main element of these interventions. Also, the attendance, training, and participation of the parents of autisticchildren play the most important role inthe treatment process, compared with other disabilities.

Amongst the existing interventions, family-centered problem-solving intervention is one of the basic components of the most structured cognitive skills training programs and requires training. Problem-solving training refers to the cognitive-behavioral process that provides a spectrum of alternative and potential responses to deal with problematic situations. It increases the possibility of choosing the best and the most effective responses; by using it, individuals identify and discover effective strategies to cope with life-threatening situations [22, 23]. A lot of research evidence highlights the importance of problem-solving skills training to prevent behavioral, psychological, communicational, and cognitive problems [24-31]. As well, the results of numerous studies suggest that problem-solving intervention significantly impacts mental well-being. For example, a study on the mothers of autistic children showed that cognitive-behavioral intervention significantly increased mental well-being and positive emotions and decreased negative emotions, also the effectiveness was stable over time [32]. Many studies have shown the effectiveness of the cognitive-behavioral intervention in increasing positive affection and decreasing negative affection [33], increas-

ing the general health and mental well-being of people with Alzheimer disease [34], and reducing negative affect and increasing the positive affect and well-being of patients with myocardial infarction [35].

Therefore, this study aimed to investigatethe effect of the family-centered problem-solving intervention on the mental well-being of the mothers of children with autism spectrum disorder. The findings of this study can provide a fairly comprehensive pattern of the interaction between the mentioned factors about the mothers of children with autism spectrum disorder. Such data can provide the needed ground for presenting practical proposals aimed at controlling and managing the problem.

2. Methods

Considering the practical goal, this was a quasi-experimental study with a pre-test, post-test, follow-up design and a control group. In this 2-group design, subjects were randomly divided into the experimental and control groups, using random assignment with pre-test, post-test and follow-up. The statistical population of the study included the mothers of children with autism spectrum disorder in Kermanshah City, from 2017 to 2018. In coordination with the Exceptional Education Organization of Kermanshah, which is the only school for children with autism spectrum disorder in Kermanshah, the mothers of all 35 autistic students were invited to the briefing for the workshop to select the study samples based on the research goal. Since 30 mothers met the criteria to enter the research, they were selected as the sample research group, using the purposeful sampling method. Then, they were randomly assigned into the control (n=15) and experimental (n=15) groups. The inclusion criteria were as follows:(1) the age of 8 to 12 years for the autistic student, (2) the willingness and consent of the mother for attending the workshop, (3) the diagnosis of autism spectrum disorder for the child, and (4) the attendance of the child at the center. Besides, the exclusion criteria included (1) the discontent of the mothers and (2) the comorbidity of another disorder in children.

According to the research plan, data were collected in three stages: pre-training, post-training, and follow-up (after a 1-month interval). For this purpose, the family-centered problem-solving program was taught to the mothers in the experimental group, within 10 2-hour sessions (for a month). Also, because of ethical issues, the control group was trained after collecting the research data. Initially, the mothers (in experimental and control groups) answered the research questionnaires before the training began. After training the mothers of the experimental group, the questionnaires were implemented again. Finally, the questionnaires were re-implemented after a month to obtain the follow-up data and assess the durability of the family-centered problem-solving program.

A program designed by Shure was used to teach family-centered problem-solving [36]. The interpersonal problem-solving program is based on the belief that mothers should be taught how to think. This program does not tell the mothers what to do in a conflict or other difficult situations, instead, it teaches them the ways of talking about their point of view about the problems and the correct ways of thinking about them. The following are the summaries of the family-centered problem-solving training sessions for mothers with autistic children.

First session: Describing the objectives of the workshop and examining the presence of the autistic child in the family; the homework for this session included presenting a practice sheet and writing the problems.

Second session: Introducing problem-solving skills, understanding the feelings and motivations of others, finding alternative solutions, considering the results of an action, and sequential planning; the homework for this session included playing a video of the parents of children with special needs.

Third session: Describing the importance of recognizing and expressing feelings in real life in interaction with others; the homework for this session included handing over the understanding of our own emotions and asking ourselves how we feel?

Fourth session: Checking the listening process as one of the components of problem-solving and its application in interacting with others; the homework for this session included presenting good listening practice sheets.

Fifth session: Examining the multiple causes of behavior to distinguish hostile or intentional behaviors from accidental or inadvertent behaviors; the homework for this session included presenting understanding motivations practice sheet with the title “is there another reason?” and positive thinking practice.

Sixth session: How to find alternative solutions without valuing them; the homework for this session included practicing brainstorming in hypothetical situations.

Seventh session: Describing dialogue through problem-solving in fictitious situations and real life; the homework for this session included presenting a sheet

about the positive and negative points of solutions and teaching thinking based on results.

Eighth session: How to plan the steps to the goal predicting possible barriers, scheduling activities, how long will they be? And integrating different steps; the homework for this session included the question that have I used the problem-solving method?

Ninth session: A review of the skills learned by the question and answer of the participants, combined exercises with the formation of 3-person groups with presenting incomplete stories and completing them; the homework for this session included combined exercises with the formation of 3-person groups with presenting incomplete stories and completing them.

Tenth session: The final review of dialogue in the style of the problem-solving and final evaluation; for the homework of this session, the problem-solving assessment sheets were given, then, the mothers were asked to specify the method used in that statement.

Tools

In this study, the Satisfaction With Life Scale (SWLS; Diener et al., 1985) and the Positive and Negative Affect Schedule (PANAS) of Watson et al. (1988) were used to measure mental well-being. Subsequently, the psychometric properties of each instrument are presented.

The SWLS: Diener et al. in 1985 developed the 5-item version of the SWLS to measure the cognitive dimension of the mental well-being of individuals. In this scale, participants respond to each question on an 8-point Likert spectrum (from 0= completely disagree to 7= fully agree). An increase in the score of individuals on this scale increases their score in the general factor of satisfaction with life. The people's range of scores is between 0 (the lowest) and 35 (the highest) on SWLS. Karimi (2011) reported the Cronbach alpha coefficients of 0.80, 0.81, and 0.84 for satisfaction with life among the parents of normal children, the parents of exceptional children, and both samples, respectively [35].

The PANAS: In this study, the PANAS of Watson et al. in 1988 were used to study the affective dimension of well-being. This Schedule includes 20 mood traits. The questions of PANAS describe different emotions and feelings and each one is grouped into a positive or negative affection scale. Participants answer the questions on a 5-point Likert scale. In this spectrum, the scores of 1 and 5 indicate the lack of the experience of emotion and a great deal of emotion, respectively. For each participant, the total positive affection scale score was calculated by summing the scores of the participant in each of 10 positive traits that describe positive affection (interested, excited, strong, enthusiastic, proud, alert, tasteful, determined, attentive, and active), and the total negative affection scale score was calculated through summing the scores of the participant in each one of 10 negative traits that describe positive affections (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid). In the study of Karimi in 2014 [35] on the parents of normal children, the Cronbach alpha coefficients for the positive and negative affection scales respectively were 0.76 and 0.81, and for the parents of exceptional children were 0.75 and 0.77, and in both samples, it was 0.88 and 0.88.

Data analysis method

To answer the research questions, the data were analyzed by SPSS v. 23 from both descriptive and inferential aspects. In the descriptive dimension, statistical indices were frequencies, percentages, averages, and standard deviations, which were presented in different tables. Also, inferential dimension was used to analyze repeated measures. Considering the statistical sample size, the studies revealed a normal data distribution, also, the statistical assumptions have been observed. In this study, the sample groups were selected randomly, and no one was forced to participate in the research. Moreover, the questionnaires were compiled anonymously so that the identities of the subjects would not be identified. The participants were also provided with appropriate guidance during the performance.In addition, the participants' information was kept confidential and described and interpreted without bias.

3. Results

This section first deals with the demographic data of the experimental and control groups. Then, the data on mental well-being and its subscales are discussed.

According to Table 1, each of the experimental and control groups includes 15 mothers with autistic children. Besides, mothers in each group were examined for age, education level, and employment status. The results showed that the age range of the majority of the mothers was 36 to 53 years, in both groups. Also, most of the mothers were at the education level of diplomas and bachelors, and the majority of mothers were housewives. Table 2 describes the descriptive statistics of mental well-being and its components.

Table 1. Demographic data of the mothers

Characteristic		Experimental Group (n=15)	Control Group (n=15)	
		No. (%)	No.	%
Age	30 to 35 years	3 (20.0)	2 (13.3)	
	36 to 41 years	4 (26.7)	8 (53.3)	
	42 to 47 years	4 (26.7)	1 (6.7)	
	48 to 53 years	4 (26.7)	4 (26.7)	
Education level	Eighth grade or less	2 (13.3)	2 (13.3)	
	Diploma	4 (26.7)	4 (26.7)	
	Above diploma	5 (33.3)	4 (26.7)	
	Bachelor	4 (26.7)	4 (26.7)	
	Master	0 (0)	1 (6.7)	
Employment status	Employed	1 (6.7)	2 (13.3)	
	Self-employment	0 (0)	0 (0)	
	Housewife	14 (93.3)	13 (86.7)	

The mean and standard deviation of the components of the well-being in the post-test and follow-up significantly differed between the experimental and control groups (Table 2). At the post-test and follow-up, the experimental group showed an increase in satisfaction with life and positive affection scores and a decrease in negative affection scores. To investigate the statistical significance of these differences, first, we examined the assumptions for repeated measurement analysis. The analyses supported the assumptions of being normal, the absence of outliers, the consistency of variance between the groups (compared by the Levene test), and non-linear dependent

Table 2. Descriptive statistics of well-being components

Components of Well-being	Group	Mean±SD		
		Pre-test	Post-test	Follow-up
Satisfaction with life	Experiment	13.07±6.91	23.80±4.11	24.60±3.07
	Control	13.73±6.78	13.27±5.19	13.27±5.18
	Total	13.40±6.73	18.53±7.06	18.93±7.12
Positive affect	Experiment	33.60±5.11	36.80±7.04	37.67±6.24
	Control	17.67±4.65	25.73±3.73	25.87±3.79
	Total	30.63±5.67	31.26±7.90	31.77±7.85
Negative affect	Experiment	32.86±4.96	16.60±3.39	15.80±3.41
	Control	31.13±2.26	31.80±2.65	31.67±2.76
	Total	32.00±3.88	24.20±8.28	23.73±8.36

Table 3. Intergroup effect tests of satisfaction with life, positive and negative affection

Source of Changes	Dependent Variable	df	Mean Square	F	P	η^2
Group	Life satisfaction	1	413.45	19.38	0.001	0.437
(Pre-test of life satisfaction)		1	50.06	2.35	0.138	-
Group	Positive affect	1	552.84	17.57	0.001	0.413
(Pre-test of positive affect)		1	1.93	0.06	0.807	-
Group	Negative affect	1	864.96	98.76	0.001	0.798
(Pre-test of negative affect)		1	17.31	1.98	0.172	-

variables. However, based on the results from the Box M test, there was a violation of the covariance-variance matrix uniformity assumption among dependent variables. According to Taping and Fidel (2007) [26], when the sample size is large, the Box M test becomes more robust, and in the case of the violation of this assumption and the assumption of the Leven test, we should take a more rigorous level of significance (for example 0.025 or 0.01) and use a multivariate Pillai trace test (which is more resistant). The Pillai tracestatistical value was obtained at 0.840 which was statistically significant at the 0.01 level (P≤0.01). This means that at least there is a significant difference in one of the variables of satisfaction with life and positive and negative affection among the experimental and control groups. Table 3 shows the between-subject comparison test results for the variables of satisfaction with life and positive and negative affection.

According to Table 3, the F value is 19.38 for studying the difference between experimental and control groups in the case of satisfaction with life; this difference is statistically significant at the level of 0.01 (P≤0.01). Thus, according to Table 2, the level of life satisfaction in the experimental group is higher than in the control group. Moreover, based on the correlation ratio, 43.7% of the life satisfaction variable is explained by the independent variable of the research (family-centered problem-solving intervention). To control the primary differences between the experimental and control groups is not statistically significant at the level of 0.01 (P>0.01).

Also, the F value was 17.57 for studying the difference between experimental and control groups in positive affection, which was statistically significant at the level of 0.01 (P≤0.01). Therefore, according to the descriptive statistics, the positive affection level of the experimental group is higher than that of the control group. Besides, based on the correlation ratio, 41.3% of the positive affection variable is explained by the independent variable of the research (family-centered problem-solving intervention). Also, to control the primary differences between the experimental and control groups is not statistically significant at the level of 0.01 (P<0.01).

Moreover, the F value was 98.76 for studying the difference between experimental and control groups in negative affection; the difference was statistically significant at the level of 0.01 (P≤0.01). According to the descriptive statistics, the negative affection level of the experimental group is less than that of the control group. In addition, based on the correlation ratio, 79.8% of the negative affection variable is explained by the independent variable of the research (family-centered problem-solving intervention). Also, to control the primary differences between the experimental and control groups is not statistically significant at the level of 0.01 (P<0.01).

Table 4. Intergroup effect test of life satisfaction, and positive and negative affective

Source of Changes	Dependent Variable	df	Mean Square	F	P
Time (Pre-test, post-test, and follow-up)	Life satisfaction	1.14	1049.04	54.61	0.001
	Positive affect	1.06	129.42	3.90	0.065
	Negative affect	17.31	2550.01	84.91	0.001

Table 5. The LSD test to determine the location of differencein life satisfaction and positive and negative affections over time

Dependent Variable	Place of Difference	Difference in Mean	P
Life satisfaction	Follow-up – post-test	0.80	0.111
	Post-test – pre-test	10.73	0.001
	Follow-up – pre-test	11.53	0.001
Positive affection	Follow-up – post-test	0.87	0.051
	Post-test – pre-test	4.07	0.040
	Follow-up – pre-test	3.20	0.117
Negative affection	Follow-up – post-test	-0.80	0.097
	Post-test – pre-test	-16.27	0.001
	Follow-up – pre-test	-17.06	0.001

JRH

The covariance-variance matrix uniformity assumption had not been achieved between the dependent variables (this assumption was determined by the significance of the test results for all three variables of satisfaction with life, positive affection, and negative affection.) Therefore, the conservative Greenhouse-Geisser test is used in this section. The Greenhouse-Geisser intergroup test examines the variables of life satisfaction and positive and negative affection to examine the overall difference in the measurements over time (Table 4).

According to Table 4, the F value for assessing the difference between life satisfaction and negative affection at the different times of measurement was 54.16 and 84.91, respectively; these values were statistically significant at the level of 0.01 (P≤0.01). Next, the LSD test was used to investigate the exact location of the difference. Also, the F value for assessing the difference between positive affection at the different times of measurement was 3.90, which was statistically significant at the level of 0.01 (P≤0.01). Table 5 shows the results of the LSD test to determine the location of the difference in life satisfaction and positive and negative affection over time.

According to Table 5, the mean scores of life satisfaction do not significantly differ between the follow-up and post-test phases (P>0.05). Therefore, the results of the experimental intervention remained stable in the follow-up phase. Also, the mean scores of positive affect do not significantly differ between the follow-up and post-test phases (P>0.05). Therefore, the results of the intervention remained stable in the follow-up phase. Furthermore, there is no statistically significant difference between the mean scores of negative affect in the follow-up and post-test phases (P>0.05). Thus, in the case of negative emotions, the results of the intervention were stable in the follow-up stage.

4. Discussion

The results of the research showed that the family-centered problem-solving training program effectively increased life satisfaction and positive affection and decreased the negative affection in the mothers of children with autism spectrum disorder. In other words, the levels of life satisfaction and positive affection in the experimental group were higher than in the control group, also, the negative affection scores were less in the experimental group than in the control group. Thus, the family-centered problem-solving training explained life satisfaction, positive affection, and negative affection. Moreover, the mean scores of life satisfaction and negative and positive affection did not significantly differ between the follow-up and post-test stages. Therefore, the outcomes of the family-centered problem-solving intervention remained stable and lasted in the follow-up stage.

A review of empirical evidence has shown that the presence of a child with special needs in the family is accompanied by a wide range of psychological damages, such as a decreased self-esteem and increased tension, anxiety, depression, anger, inefficiency, couple sexual dysfunction, and marital dissatisfaction and incompatibility [11, 26]. Several studies have investigated the effect of cognitive-behavioral interventions, including family-centered problem-solving intervention on mental

well-being, quality of life, and marital satisfaction; all of the studies show the positive impact of these interventions [33, 34]. In many studies, the effectiveness of the cognitive-behavioral intervention is significant on the mental well-being among different samples. Besides, cognitive-behavioral interventions meaningfully decrease stress and negative affection and increase mental health and quality of life in different samples. But till now, the effect of the family-centered problem-solving intervention has not been examined on the mental well-being of the mothers of children with autism spectrum disorder. In this regard, the results of the present study showed that the family-centered problem-solving training significantly increased mental well-being, life satisfaction, and positive affection and reduced the negative affection in the mothers of children with autism disorders.

Consistent with the present results, previous studies have also revealed that people who have defects in problem-solving skills, such as understanding the feelings and point of view of others, understanding the motivations, considering the results of affairs, means-end thinking, finding other solutions, and consecutive scheduling can be trained to improve their ability. If their limitation in resolving issues is originated from incompatibility and the experience of negative affections, such as anxiety, depression, and generally low mental well-being, such training will improve not only their cognitive-behavioral skills but also their mental and behavioral health [7, 23-31]. While adding new results to the empirical evidence available in the field of cognitive psychology, the results of this study emphasize the importance of the role of family-centered problem-solving training to the mothers of autistic children.

The existence of multiple problems and stressful and problematic situations puts the mothers of autistic children in a context of conflict, tension, anxiety, and depression and leads to low levels of mental well-being. Therefore, family-centered problem-solving training plays a significant and effective role in increasing mental well-being. Based on empirical evidence [30, 31, 36], family-centered problem-solving training leads to the development of many cognitive skills, including detecting problems, generating periodic responses, investigating the consequences of the chosen solution, stopping preoperative thinking, thinking about appropriate solutions, etc. These are coping strategies that the mothers can use to inhibit the problems of their individual, social, and family lives, which are caused by the presence of an autistic child. In other words, problem-solving training teaches these mothers how to deal with the problems, issues, feelings, and emotions caused due to the presence of their autistic child.

5. Conclusion

The lack of effective problem-solving skills puts the mothers of autistic children in a conflict process and creates family and social problems. The dissolution of these problems requires the development of cognitive skills, including problem-solving skills in these mothers. According to empirical evidence and the result of this study, this goal could be achieved by teaching the family-centered problem-solving program to the mothers of children with autism spectrum disorder. Therefore, due to the expansion of research related to problem-solving training, researchers now consider problem-solving skills as an important factor in a preventive intervention. We hope that the results of this study would be used by relevant institutions and authorities in preventive interventions for the parents of children with disabilities, especially mothers of children with autism spectrum disorder.

This study included some limitations. It has been implemented amongst the mothers of autistic children studying at the Besharat center, Kermanshah City. Also, the low number of participants made it impossible to control some of the variables. Thus, it has low generalizability to other samples. Another limitation was that only mothers participated in the study and the effect of the family-centered program was not investigated on fathers. To improve the scientific level of this research, we suggest repeating this research in other areas of Kermanshah City, with more samples of autistic children divided by gender, and implementing the intervention on both father and mother simultaneously.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of the Islamic Azad University, Kermanshah Branch (Code: IR.KUMS.REC.1398.701).

Funding

This study was excerpted from MA. thesis of the second author at the Islamic Azad University, Kermanshah Branch.

Authors' contributions

Both authors equally contributed to preparing this article.

Conflict of interest

The authors declared no competing interests.

References

[1] Fiamenghi GA, Vedovato AG, Meirelles MC, Shimoda ME. Mother's interaction with their disabled infants: Two case studies. J Reprod Infant Psychol. 2010; 28(2):191-9. [DOI:10.1080/02646830903295042]

[2] Vargas-Muñoz ME, López-Liria R, Rocamora-Pérez P, Aguilar-Parra JM, Díaz-López MP, Padilla-Góngora D. Maladjustment in families with disabled children. Procedia-Soc Behav Sci. 2017; 237:863-8. [DOI:10.1016/j.sbspro.2017.02.184]

[3] Nagib W, Williams A. Creating "therapeutic landscapes" at home: The experiences of families of children with autism. Health Place. 2018; 52:46-54. [DOI:10.1016/j.healthplace.2018.05.001] [PMID]

[4] Gallo A, Wertz C, Kairis S, Blavier A. Exploration of relationship between parental distress, family functioning and post-traumatic symptoms in children. Eur J Trauma Dissociation. 2019; 3(2):125-33. [DOI:10.1016/j.ejtd.2018.06.001]

[5] Meadan H, Halle JW, Ebata AT. Families with children who have autism spectrums disorder: Stress and support. Except Child. 2010; 77(1):7-36. [DOI:10.1177/001440291007700101]

[6] Tehranizadeh M, Mardookhi MS, Haji Rostamloo R. [Studying quality of life of parents with more than one child with special needs (Persian)]. J Child Ment Health. 2017; 4(2):60-70. http://childmentalhealth.ir/article-1-209-fa.html

[7] Kakabaraee K, Seidy M. [Training problem-solving instruction to teachers and examining its impact on students' behavioral problems (Persian)]. Paper presented at: 6th Congress of the Iranian Psychological Association. 14-16 November 2017; Tehran, Iran. https://www.sid.ir/Fa/Seminar/ViewPaper.aspx?ID=92725

[8] Götz I, Götz M. Cystic fibrosis: Psychological issues. Paediatr Respir Rev. 2000; 1(2):121-7. [DOI:10.1053/prrv.2000.0033] [PMID]

[9] Gray DE. Gender and coping: The parents of children with high functioning autism. Soc Sci Med. 2003; 56(3):631-42. [DOI:10.1016/S0277-9536(02)00059-X] [PMID]

[10] Jose A, Gupta S, Gulati S, Sapra S. Prevalence of depression in mothers of children having ASD. Curr Med Res Pract. 2017; 7(1):11-5. [DOI:10.1016/j.cmrp.2016.12.003]

[11] Kristoffersen I. Great expectations: Education and subjective wellbeing. J Econ Psychol. 2018; 66:64-78. [DOI:10.1016/j.joep.2018.04.005]

[12] American Psychiatric Association (APA). [Diagnostic and statistical manual of mental disorders: DSM-5 [H. Avadis Yans, D. Arab Ghahestani, Persian trans.]. 5th ed. Tehran: Roshd; 2013. http://opac.nlai.ir/opac-prod/bibliographic/3656346

[13] Baribeau DA, Anagnostou E. Social communication is an emerging target for pharmacotherapy autism spectrum disorder - A review of the literature on potential agents. J Can Acad Child Adolesc Psychiatry. 2014; 23(1):20-30. [PMID] [PMCID]

[14] Schmidt JD, Drasgow E, Halle JW, Martin CA, Bliss SA. Discrete-trial functional analysis and functional communication training with three individuals with autism and severe problem behavior. J Posit Behav Interv. 2014; 16(1):44-55. [DOI:10.1177/1098300712470519]

[15] Sarabi Jamab M, HassanAbadi H, Mashhadi A, Asgharinekah M. [The effectiveness of parent training on self-efficacy of mothers of children with autism (Persian)]. J Fund Ment Health. 2011; 13(1):84-93. [DOI:10.22038/JFMH.2011.1027]

[16] Osborne LA, Reed P. Stress and self-perceived parenting behaviors of parents of children with autistic spectrum conditions. Res Autism Spectr Disord. 2010; 4(3):405-14. [DOI:10.1016/j.rasd.2009.10.011]

[17] Walter SM, Smith MJ. Mothering a child with autism. Arch Psychiatr Nurs. 2016; 30(5):600-1. [DOI:10.1016/j.apnu.2016.01.016] [PMID]

[18] Khoushabi K, Farzad Fard SZ, Kakasoltani B, Pouretemad HR, Nikkhah HR. [Coping strategies and stress in mothers with autistic children in comparison with mothers with normal children (Persian)]. J Fam Res. 2010; 6(1):87-97. https://jfr.sbu.ac.ir/article_97054.html

[19] Diener E, Oishi S, Lucas RE. Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. Annu Rev Psychol. 2003; 54:403-25. [DOI:10.1146/annurev.psych.54.101601.145056] [PMID]

[20] Minjarez MB, Williams SE, Mercier EM, Hardan AY. Pivotal response group treatment program for parents of children with autism. J Autism Dev Disord. 2011; 41(1):92-101. [DOI:10.1007/s10803-010-1027-6] [PMID]

[21] Nefdt N, Koegel R, Singer G, Gerber M. The use of a self-directed learning program to provide introductory training in pivotal response treatment to parents of children with autism. J Posit Behav Interv. 2010; 12(1):23-32. [DOI:10.1177/1098300709334796]

[22] D'Zurilla TJ, Goldfried MR. Problem solving and behavior modification. J Abnorm Psychol. 1971; 78(1):107-26. [DOI:10.1037/h0031360] [PMID]

[23] Spinhoven P, Klein N, Kennis M, Cramer AOJ, Siegle G, Cuijpers P, et al. The effects of cognitive-behavior therapy for depression on repetitive negative thinking: A meta-analysis. Behav Res Ther. 2018; 106:71-85. [DOI:10.1016/j.brat.2018.04.002] [PMID]

[24] Nieuwsma JA, Wray LO, Voils CI, Gierisch JM, Dundon M, Coffman CJ, et al. A problem-solving intervention for cardiovascular disease risk reduction in veterans: Protocol for a randomized controlled trial. Contemp Clin Trials. 2017; 60:42-50. [DOI:10.1016/j.cct.2017.06.001] [PMID] [PMCID]

[25] Graven LJ, Gordon G, Keltner JG, Abbott L, Bahorski J. Efficacy of a social support and problem-solving intervention on heart failure self-care: A pilot study. Patient Educ Couns. 2018; 101(2):266-75. [DOI:10.1016/j.pec.2017.09.008] [PMID]

[26] Kakabaraee K, Moradi A. [Family oriented problem solving training to parents and the impact on the child's perception of parents (Persian)]. Couns Cult Psychother. 2017; 8(29):165-85. [DOI:10.22054/QCCPC.2017.20673.1485]

[27] Zare H, Abaspour P, Yousefi F. [The Role of problem-solving skill training and cognitive restructuring on cognitive emotion regulation strategies, and family functioning in infertile women (Persian)]. Shenakht J Psychol Psychiatry. 2015; 2(1):81-93. http://shenakht.muk.ac.ir/article-1-120-fa.html

[28] Gharibi H, Bahari Zar K. [The effectiveness of problem solving training on students'math anxietyand self-regulation (Persian)]. J Instr Eval. 2016; 8(32):61-78. http://jinev.iaut.ac.ir/article_520770.html

[29] Shokouhi Yekta M, Parand A. [The effectiveness of instruction based on cognitive approach on family relationship (Persian)]. J Fam Res. 2008; 4(1):5-16. https://jfr.sbu.ac.ir/article_95113.html

[30] Shokouhi Yekta M, Parand A, Shahaian A, Motevolipour A. [The effectiveness of problem solving skills training on parent-child interaction (Persian)]. J Fam Res. 2008; 2(4):9-24. http://ensani.ir/fa/article/179989/

[31] Shokohi Yekta M, Zamani N. [The effectiveness of cognitive interpersonal problem-solving on reducing challenging behaviors of slow-learner students: Single-subject study (Persian)]. J Psychol Models Methods. 2012; 2(8):55-71. http://jpmm.miau.ac.ir/article_1090.html?lang=fa/

[32] Khanjani M, Rezaie S. [Effectiveness of positive psychotherapy intervention on psychological wellbeing and positive- negative affects of mothers with Autistic children (Persian)]. Empower Except Child. 2016; 7(1):37-53. http://www.ceciranj.ir/article_63643.html

[33] Epstein NB, Zheng L. Cognitive-behavioral couple therapy. Curr Opin Psychol. 2017; 13:142-7. [DOI:10.1016/j.copsyc.2016.09.004] [PMID]

[34] Meléndez JC, Satorres E, Redondo R, Escudero J, Pitarque A. Wellbeing, resilience, and coping: Are there differences between healthy older adults, adults with mild cognitive impairment, and adults with Alzheimer-type dementia? Arch Gerontol Geriatr. 2018; 77:38-43. [DOI:10.1016/j.archger.2018.04.004] [PMID]

[35] Karimi S, Kakabaraee K, Yazdanbakhsh K, Moradi GR. [Effect of cognitive behavioral therapy on subjective well-being of patients with cardiovascular diseases (Persian)]. J Kermanshah Univ Med Sci. 2014; 18(3):e74153. https://sites.kowsarpub.com/jkums/articles/74153.html

[36] Shure MB. I Can Problem Solve (ICPS): An interpersonal cognitive problem solving program for children. Resid Treat Child Youth. 2001; 18(3):3-14. [DOI:10.1300/J007v18n03_02]