DOI 10.47176/sjmshm.3.3.1

Original Article

SRPH

SJMSHM, 2021; 3(3): 1-6

Effectiveness of Supportive and Educational Group Therapy on Mental Health Improvement of Mothers of Children with Autism Spectrum Disorder

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Received: 15 April, 2021
Accepted: 30 June, 2021
Published: 30 July, 2021

ABSTRACT

Objective: The aim of this study was to evaluate the effectiveness of supportive and educational group therapy on mental health improvement of mothers of children with Autism Spectrum Disorder (ASD). Method: In this quasi-experimental pre – post study, 20 participants with high levels of anxiety and depression and low levels of quality of life (QOL) were recruited from 127 mothers of children with Autism Spectrum Disorder. There were 10 mothers in the intervention group and 10 in the control group. The intervention program consisted of 6 two-hour sessions with an educational portion about the symptoms, etiology and treatment of ASD, and a supportive portion for managing stress and learning problem solving. Results: The mean scores of anxiety and depression decreased and QOL increased significantly in the experimental group 2 weeks after group sections, while this did not occur in the control group. This indicates significant improvement in the mental health of mothers of children with ASD following supportive and educational group therapy. **Conclusion:** Supportive and educational group therapy is effective for improving the mental health of mothers with ASD children.

Keywords: Autism Spectrum Disorder (ASD), Mothers, Group Therapy, Mental Health

Introduction

Autism spectrum disorders (ASD) are a group of lifelong neurodevelopmental disorders characterized by social communication deficits, restricted interest, and repetitive behaviors [1]. There has been a dramatic increase in the diagnosis of these disorders in recent years [2-4]. According to CDC report in 2016, one in 68 (14.6 per 1000) school- age children have been identified with ASD [4]. Children with ASD have a variety of behavioral and social problems that impact families [5, 6]. Parents have more challenges with their children with ASD. Several studies indicate more stress, anxiety and depression in these parents [7-10]. Parents of children with ASD, and particularly mothers showed lower levels of psychological well-being and quality of life (QOL) [8, 10-15]. Programs for empowerment of parents of children with ASD have a valuable role in helping them better adjust [16].

The effectiveness of different types of parent-focused interventions performed in different parts of the world has been previously studied. Regardless of the type of educational program, they have all shown to be effective for reducing stress and depression [1]. Consequently, parent educational programs are one of the most important components of interventions for positive outcomes of parents and children with ASD [11]. A review study of interventions that target improvements in mental health for parents of children with ASD in 2017 commented on the small number of studies and concluded the need for more studies in this field [17].

[DOI: 10.47176/sjmshm.3.3.1]

Publisher: Scientific Research Publishing House (SRPH), Shirvan, Iran
http://srpub.org
Email: sjmshm@srpub.org

Increasing trends in the prevalence of ASD have been observed in many countries [18], and the need for rising prevalence of ASD in Iran [20, 21], and the role of cultural factors in the prevalence, diagnosis and treatment [22], interventional studies on the well-being of Iranian families with ASD children are essential. Few studies have surveyed the effectiveness of parent educational programs in Iran. Samadi et al reported less stress and better emotional well-being and family function after a short course of group sessions in 37 Iranian parents [23]. Results of a longitudinal study in 2013 showed improvements in self-rated health, family functioning and child-related stress that parents experienced after 7-week training sessions [24]. These studies were limited to self-selected groups of urban, highly educated parents [23, 24].

In 2015, we found high scores of anxiety and depression and low levels of QOL in 127 mothers of children with ASD in a cross-sectional study in Rasht, a city in northern Iran [8]. Based on the results of these studies, we have conducted an interventional study in order to assess the effectiveness of supportive and educational group therapy (SE-T) for mothers of children with ASD who have high scores of anxiety and depression or lower levels of QOL.

Materials and Methods

This was a quasi-experimental pre – post study that included a control group. The study was approved by the National Committee for Ethics in Biomedical Research at Azad University in Guilan in accordance with the Declaration of Helsinki.

Participants and Procedure

Participants in this study were mothers of children who had the diagnosis of ASD based on diagnostic interview by child and adolescent psychiatrists according to the standard Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV-TR) criteria.

The baseline study was a cross-sectional study on 127 mothers of children with ASD to investigate their frequency of anxiety, depression and level of quality of life [8]. Eligible participants in this study were mothers who had high levels of anxiety and depression and lower levels of QOL based on cutoff scores of self-reports tests in the previous study [8].

After a thorough explanation and written informed consents were obtained, the pretests were performed for all mothers. They were then randomly divided into experimental and control groups. 10 mothers were assigned to the experimental group with group therapy intervention and 10 mothers were assigned to a wait-list control group.

Posttests were performed two weeks after finishing group therapy for mothers in the experimental and services in low and middle-income countries especially is felt more acutely than before [19]. As a result of the control groups. All ASD children in both groups were receiving treatment as usual, including stable medication or behavioral intervention, for the duration of the study. After data collection, group therapy was performed for mothers in the control group.

Intervention

We used supportive and educational components for group therapy (SE-T). The program consists of 6 two-hour sessions with the opportunity for mothers to learn by listening, observation, group discussion, practice and feedback. The contents of the training sessions are listed in Table 1.

Measures

1- Demographics questionnaire contained questions regarding mothers and children: age of the child and mother, mother's educational status, time interval between the diagnosis of ASD in child and completing thesurvey.

2- Beck Depression Inventory (BDI), the Persian version, was used to measure depression in mothers. This self- report questionnaire consists of 21 question about depression (e.g., sadness, negative self-concept, sleep and appetite disturbances) rated from 0 to 3 in severity as a Likert scale. Each question has the same set of four possible answer choices, which are arranged in columns and are answered by marking the appropriate one with a cross, as follows: 0 = Not at all; 1 = Mild-It did not bother me much; 2 = Moderate-It was very unpleasant, but I could stand it; and 3 = Severe-I could barely stand it. The range of scores is from 0 to 63. Rating is defined as follows: 0-15 = symptom-free; 16-30 = mild depression; 31-46 = moderate depression; and 47-63 = severe depression. We applied the Persian version of BDI, which has been previously validated (reliability: r = 0.77; validity: r =0.70; internal consistency: alpha = 0.91) [25].

3- Beck Anxiety Inventory (BAI), the Persian version, was used to measure mothers' anxiety. This 21-item self- report instrument measures the severity of anxiety in adolescents and adults. The BAI consists of 21 questions about how the subject has been feeling in the last week, expressed as common symptoms of anxiety (such as numbness and tingling, sweating not due to heat, and fear of the worst happening) [26].

4- Word Health Organization Quality of Life-Brief (WHO QOL-BREF), questionnaire, the WHO, with the aid of other collaborative centers around the world, has developed this instrument for measuring Health-Related QOL (HRQOL), which can be used in a variety of cultural settings while allowing the results from different populations and countries to be compared. WHO QOL-BREF produces a profile with four domains scores and two individually scored items

[DOI: 10.47176/sjmshm.3.3.1]

about overall perception of QOL and general health. The four domains contain physical, psychological, social and environmental relationships. Scores are a positive direction, with a score range from 1 to 5 (converted in this study into a 0 to 100 score), with higher scores indicating higher HRQOL states [27].

5- Parental Stress Inventory- Short Form (PSI/SF), the PSI/SF is popular scale of parenting stress. The short-form of the inventory consists of 36 items divided into three subscales of 12 items, including parental distress (PD), parent- child dysfunctional interaction (PCDI), and difficult child (DC). Each item is scored by a 5-point Likert type scale of five items (from 1 = strongly disagree to 5 = strongly agree), ranging from 36 to 180 points for the total score. Higher scores indicate higher levels of parental stress [28]. In the study by Abidin [29], the scale showed adequate reliability (Cronbach's alpha= 0.91 for the total score). In Iran, Cronbach's alpha was reported 0.90 for total scores, for subscales (PD, PCDI, and DC) 0.80, 0.84, and 0.80 respectively called in a positive direction ranging from 0 to 100, with higher scores indicating higher QOL. The two individual items assessing overall HRQOL are scaled in [30].

Statistical Analysis

Data were analyzed using SPSS software version. We used mean and standard deviation for descriptive statistics and covariance index for analytic data.

Results

127 mothers were assessed for anxiety, depression and QOL in a previous study [8]. Mothers whose scores in depression & anxiety were higher than the cut-point and had low levels of QOL were invited to participate in this study. Overall, 20 mothers participated in the study (10 mothers in each group by random assignment).

Table 1
Content of supportive and educational group therapy sessions.

Session	Content
1	Introducing parents, statement goals and rules of the group, explanation of the symptoms of ASD by mothers and effects on the child
2	Group discussion about the definition, features, prevalence, etiology and course of ASD, correcting mothers' misconceptions
3	Group discussion about the treatment options and course of each child, expectations of mothers, how they feel and react to the children's ASD
4	Encouraging mothers to verbalize their emotions about their children and educating them on coping styles and strategies like stress management, anger management and problem solving
5	Group discussion about the practice of mothers about using coping style strategies in daily life
6	Closing the program

Table 2 presents the socio-demographic characteristics of mothers in the two groups. All 20 mothers were married. There was no significant difference between the two groups in socio-demographic characteristics. The mean age of children in the experimental group was 8.3 (SD = 1.3) and in the control group, it was 7.9 (SD = 1.6).

Table 2
Socio-demographic characteristics of mothers of ASD children

	Experimental group (N=10)		Control group (N=10)		P-value
Characteristics	**Mean**	**SD**	**Mean**	**SD**	**NS**
Age of mother (years)	35	2	34.8	1.4	
Age of ASD child (years)	8.3	1.3	7.9	1.6	NS
Time between diagnosis of ASD and participation in the study (months)	20.8	1.4	26.1	9	NS
Educational level	**Number**	**Percent**	**Number**	**Percent**	
Diploma	3	30	2	20	NS
University level	7	70	8	80	NS
Employment status	**Number**	**Percent**	**Number**	**Percent**	
Not employed	3	30	2	20	NS
Employed	7	70	8	80	NS

[DOI: 10.47176/sjmshm.3.3.1]

The results showed that the mean scores of anxiety and depression decreased significantly in the experimental group 2 weeks after group sections. Similarly, the mean score of QOL and physical, psychological, social and environmental domain of QOL increased in mothers after the group therapy (Table 3).

Table 3
Anxiety, depression, stress and quality of life of mothers of ASD children before and after interview.

		Before intervention		After intervention			
Variables		**Mean**	**SD**	**Mean**	**SD**	**P-value**	**ES (Effect Size)**
Anxiety	case	20.50	14.4	10.38	3.54	0.006	0.32
	control	32.86	17.57	32.71	15.66		
Depression	case	17.13	5.84	10.38	2.66	0.01	0.41
	control	30.86	12.06	31.29	12.4		
Parent stress index	case	321.25	35.8	292.75	42.29	0.03	0.32
	control	325.71	40.92	339.14	47.11		
Quality of life	case	74.13	7.08	82.63	8.68	0.03	0.33
	control	62.86	13.5	61.24	16.6		

According to Table 3, there was no significant difference between scores of depression, anxiety, and QOL in pretest and posttest for the control group.

Discussion

This study investigated the effectiveness of supportive and educational group therapy for mothers of children with ASD who have high scores of anxiety and depression and low levels of QOL. The most important finding of this study was a significant improvement in the psychological well-being of mothers after a short course of group therapy with a large effect size. We used standard scales for screening of psychopathology in mothers and included those with high scores of anxiety and depression and low levels of QOL. Previous studies found enhancement in parental well-being and mental health [11, 17, 23, 24, 31]. Unlike the previous studies, our participants were mothers with more problems in mental health (high scores of anxiety and depression and low levels of QOL) and this was the point of our study.

As lack of social support is a powerful predictor of parent psychological dysfunction [17], the positive effect of SE-T on mental health and QOL of mothers seem to be the result of building a social contact with other people who understand the problems of having an ASD child and develop a support system for each other. As a result of slowly increasing public understanding about ASD in Iran and lots of behavioral problems of ASD children, families prefer to limit social contacts with relatives and within their community [8]. Thus, SE-T was a good opportunity for sharing experiences, emotional ventilation and finding solutions for common problems. The educational part of the group therapy, including the presence of a professional, explanation of the symptoms, etiology, course and treatment, and especially group discussion in order to correct the misunderstandings and myths, was a very powerful component for reducing stress and depression and improving the QOL of mothers. Therefore, increasing knowledge and correcting mothers' misconceptions in addition to recognizing and verbalizing their feelings in a secure and supportive context helped them to change their emotions. Considering the lifelong course of ASD and the sustained challenges of parents with problems of their children, self-improvement methods seem to be more effective [17]. Based on the results of one study in 2020 on parental beliefs and feelings about ASD in Iran, education is a crucial need for parents [22].

Additionally, reducing parental stress may lead to improvement in mother-child interactions and better experience in performing the maternal role and managing the behavioral problems of their children. Due to the interrelated relationships between the family's well-being and behavior of the ASD children [13, 17] it may help to reduce maladaptive behavior of these children.

The scores of anxiety and depression were not matched in the two groups at baseline. We didn't consider the severity of ASD symptoms and did not have active interaction for the control group. Posttest was performed only 2 weeks after finishing the intervention. Furthermore, we only included mothers because of the low participation of fathers in parenting of ASD children in our community.

Parents of children with ASD with high scores of anxiety and depression and low levels of QOL benefited from participating in supportive and educational group therapy. The positive effects of group therapy were reducing anxiety, depression and parenting stress, and enhancement of QOL. Six two–hour sessions comprise a short course of group therapy and can be led by an experienced psychologist and would be part of standard care for these families.

[DOI: 10.47176/sjmshm.3.3.1]

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Citation: Kousha M, Eslamdoust-Siahestalkhi F, Shoar Y. Effectiveness of Supportive and Educational Group Therapy on Mental Health Improvement of Mothers of Children with Autism Spectrum Disorder. SJMSHM, 2021; 3(3):1-6

https://doi.org/10.47176/sjmshm.3.3.1

[DOI: 10.47176/sjmshm.3.3.1]