

# Stress Management Training among Mothers with Autistic Children Referred to Autism Centres in Tehran

SHIMA BASTANFAR<sup>1</sup>, FAEZEH SAHBAEI<sup>2</sup>, MOHAMMAD FESHARAKI<sup>3</sup>

## ABSTRACT

**Introduction:** Parental mental health can be strongly influenced by a child with a disability such as autism. This disorder involves a wide range of behaviours and in particular social behaviours.

**Aim:** To investigate the impact of stress management training on the stress level of mothers with autistic children referred to the selected autism centres of Tehran.

**Materials and Methods:** The present quasi-experimental study was a clinical trial that included 70 mothers with autistic children who were referred to autism centres in Tehran from October 2016 to September 2017. A random stratified sampling method was used to select the centres. The data collection tool was demographic information questionnaire and Cohen's

Perceived Stress Scale (CPSS). The research was conducted in three stages (before intervention, during intervention, and after intervention) and the collected data were analysed using SPSS software, version 16.0.

**Results:** According to the findings, 51 (72.9%) of the participants before the stress management training had moderate stress and most of them 46 (65.7%) had mild stress levels after intervention. Paired t-test ( $p < 0.001$ ) showed significant difference between stress before and after stress management training.

**Conclusion:** Based on the results of the research, stress management education can be considered as an important part of interventions to promote mental health of mothers with autistic children.

**Keywords:** Autism disorder, Disability, Stress disorder

## INTRODUCTION

Autism is one of the pervasive developmental disorders which is associated with sustained impairment of social interaction, communication delay or deviation, and restricted, repetitive communication pattern [1]. This disorder is one of the most severe and most underdiagnosed disorders of childhood [2]. Possibly many biological causes, coupled with the impact of psychosocial factors, lead to a wide range of unusual behaviours in autistic individuals [2]. According to statistics, one in every 150 children is affected by autism in Iran and the incidence is increasing [3].

The range of autism disorders has a profound impact on family life. High levels of anxiety, stress, isolation and uncertainty in the parents of autistic children are among these influences [4]. Compared to fathers, mothers of exceptional children are more involved with the children's behavioural problems and experience more stress and psychological crisis; as a result, they need more support [5]. Studies have also shown that mothers of children with autism have more tension and anxiety compared to other chronic diseases [6,7]. Parenthood stress is one of the types of tension that mothers of autistic children experience. Parenthood stress results from perceived mismatch between parental requests and individual resources and such stress can be experienced in several aspects of life that are associated with parenthood [8].

The ambiguous nature of autism disorder, the child characteristics, concern over the persistence of conditions, low acceptance of society, and even the non-receptive response of other family members to the child's behaviour along with the failure to receive social support can cause stress [8]. The high levels of parent's stress makes them more inclined to use rigid, threatening, and aggressive parenting methods [9]. Therefore, they fail to decide most appropriate therapeutic strategies for the child [10].

This issue can have a negative impact on child growth and lead to more destructive behaviours. The sustained stress that autistic children impose on their parents changes their perception of parenting and reduce their optimism regarding the future of

themselves and their children [11]. Any disorder that disturbs mental and then physical health of the individual is called stress [12]. Stress occurs when the body needs to do more than its ability. Stress has harmful consequence for individuals, families, society, and organisations. Every problem or event in life that occurs to people and their relatives, friends, family, and acquaintances can cause stress and its physical and psychological effects [13,14].

One of the most important skills for dealing with stress is stress management. On the other hand; training is an effective way to establish behaviour in people. Training improves awareness, influences attitude, and change behaviour in dealing with issues [15]. A comprehensive training plan that meet the needs of the learners can reduce the costs of care and play a significant role in achieving the desired health [16,17]. Health workers should train people regarding health in an appropriate manner [18]. Training is an important part of nursing profession and most nurses believe that training by nurses is of paramount importance for having the right performance [19,20]. Paying attention to the mental needs of parents, especially mothers, is of fundamental importance due to their greater communication with autistic children. The aim of the present study was to investigate the impact of stress management training on the stress level of mothers with autistic children who were referred to the autism centres.

## MATERIALS AND METHODS

The present quasi-experimental study was a clinical trial to evaluate the effect of stress management training on the stress level of mothers with autistic children who were referred to selected autism Centres in Tehran. The study population included all the mothers with autistic children who referred to the selected autism centres in Tehran from October 2016 to September 2017. The researchers selected the samples based on their objectives and the following statistical formula was used.

$$n = \frac{z^2 pq}{d^2} \left( 1 + \frac{1}{N} \left( n = \frac{z^2 pq}{d^2} - 1 \right) \right)$$

In the present method, 'p' and 'q' are considered equal to 0.5, and the value of 'z' is usually 1.96. The value of 'd' is also 0.05. Therefore, using the formula, sample size of 70 was reached. Random-stratified sampling method was used to select the centres. A total of 70 eligible participants were selected using purposive sampling method who fulfilled inclusion criteria.

Participants who had the following criteria were included in the study: having an autistic child according to Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) criteria, having the ability to communicate with the researchers, willing to participate in the research, reading and writing literacy, lack of mental problems (via self-declaration that they did not have a history of psychoactive drugs). Exclusion criteria; mother's withdrawal from participation in research, acute conditions in the child, absence in more than one training sessions.

The demographic questionnaire and CPSS (Persian version is available free) were used to collect data. This scale was developed by Cohen S et al., for cognitive assessment of the research samples regarding stressful stimuli, i.e., the situation which people feel that their life events are unpredictable and uncontrollable and this situation imposes high pressure on them [21]. This scale includes 14 articles with five options and the subjects can choose only one option. After counting the scores of the participants that can vary from 0 to 56, the perceived score of the individual is determined (Mild=5-19, Moderate=20-35, Severe= >35). The scoring includes "Never" (no point), "Almost Never" (one point), "Sometimes" (two points), "Fairly Often" (three points), "Very Often" (four points). While question number 4,5,6,7,9,10, and 13 are graded in reverse [21]. The questionnaire was reviewed and verified by a number of university faculty members and after necessary modifications was used in the research.

The validity of the CPSS questionnaire using Cronbach's alpha coefficient of 0.86 by Cohen S, was determined in Iran by Salehi GH as 0.75 and 0.80, respectively [22]. The present study was approved by Ethical Committee Tehran Medical Sciences Branch, Islamic Azad University. Also, after selecting the eligible participant, the researchers were introduced to them and the objectives of the study were elaborated for the participants. The informed consent was obtained from the subjects and they were assured that their information will remain confidential.

The researchers explained the purpose of the study to the mothers participating in the study and after gaining their consent, further conveyed how to answer the questions before and after training, and how the training sessions would be held. It is noteworthy, none of the mothers left the study. Then at the same meeting dates of the eight weekly sessions that lasted about 90 minutes was co-ordinated with the participants. At the first session and before the start of training, the participants completed CPSS questionnaire. Then the training sessions was conducted regarding stress management tips for mothers, using training tools such as slides (PPT), movie and instruction booklet in eight weekly sessions of 90 minutes each. The training sessions that were based on CPSS were held as follows:

**First session:** Introduction of the program, the importance of stress management training, stressors and the responses of individuals to stress, progressive muscle relaxation training, review of opinions, and questions and answers.

**Second session:** Physical and emotional effects of stress, stress and awareness, how to increase awareness of physical and mental symptoms of stress, progressive muscle relaxation practice, review

of opinions, and questions and answers.

**Third session:** Abdominal breathing training, progressive muscle relaxation, imagination and relaxation, the link between thoughts and emotions, positive thinking practice, review of opinions, and questions and answers.

**Fourth session:** Abdominal breathing along with imagination training, progressive muscle relaxation with imaging, training on the impact of negative thinking on the body, stress coping and emotional control, review of opinions, and questions and answers.

**Fifth session:** Relaxation practice, methods of increasing self-confidence, how to create positive interactions between individuals, methods of increasing communication skills, review of opinions, and questions and answers.

**Sixth session:** Abdominal breathing exercise, stress management, efficient and inefficient types of coping, talk about stress management strategies, review of opinions, and questions and answers.

**Seventh session:** Imagination and self-induction training, meditation methods, effective management steps, effective management and countermeasures training, healthy lifestyle education for effective stress management, review of opinions, and questions and answers.

**Eighth session:** Performing mental meditation, breathing exercises, problem solving training, personal stress management program, progressive muscle relaxation, imagination and abdominal breathing, review of opinions, and questions and answers.

Finally, one month after the last training session, the mothers completed the post-intervention questionnaire (CPSS questionnaire).

## STATISTICAL ANALYSIS

Data analysis was performed using SPSS/16 software (SPSS Inc. Released 2009. PASW Statistics for Windows, Version 16.0. Chicago: SPSS Inc.). Descriptive statistics were used to set tables. In addition, paired t-test was used to measure the effect of training and linear regression method was utilised to determine the relationship between demographic characteristics.

## RESULTS

Based on the findings, the highest percentage 33 (47.1%) of the participants aged 35-44 years and the lowest percentage 14 (18.6%) aged 45-54 years. The highest and lowest age of mothers was 54 and 25 years. The mean±SD of age of participants was 37.67±6.52 years. The highest percentage 28 (40%) of the participants had diploma and the lowest percentage 5 (7.1%) of the participants had Master's Degree. Most of the participants were housewives 55 (78.6%) and also, the most of the mothers participating in the study also lived in the west area 28 (39.2%). Other demographic information is provided in [Table/Fig-1].

Analysis of the findings showed that most of the participants 51 (72.9%) had moderate stress level, 14 (20%) had high and severe stress, and 5 (7.1%) had mild stress prior to stress management training. While the majority of the studied participants 46 (65.7%) had mild stress and 24 (34.3%) had moderate stress (According to the categorisation carried out in the CPSS questionnaire) after stress management training [Table/Fig-2]. It should be noted that the prevalence of severe stress after stress management training has reached to zero. The mean±SD of stress was 2.13±0.50 before stress management training and 1.34±0.47 after stress management training. There was no significant relationship between demographic characteristics and maternal stress ( $p>0.05$ ). According to the findings, t-test showed a statistically significant difference at the level of  $p<0.001$  before and after stress management training [Table/Fig-3].

## DISCUSSION

One of the factors that affect the physical and psychological health of individuals is having a disease or having a diseased person among their relatives. Karande S and Venkataraman R, found that mothers of children with autism have poorer mental health compared to others [23]. Therefore, they may need more support and services to improve their behaviour and management skills for the mental

Variable		Frequency n (%)	Variable		Frequency n (%)
Age (years)	25-34	24 (34.3)	Marital status	Married	54 (77.1)
	35-44	33 (47.1)		Single	7 (10)
	45-54	13 (18.6)		Divorced	9 (12.9)
Monthly income (IRR Million)	10>	3 (4.3)	Level of education	Under the diploma	8 (11.4)
	10-20	14 (20)		Diploma	28 (40)
	20-30	22 (31.4)		Associate's degree	12 (17.1)
	30-50	22 (31.4)		Bachelor's degree	17 (24.3)
	50<	9 (12.9)		Master's Degree	5 (7.1)
Residential area	North	24 (34.3)	Number of family members	3	23 (32.9)
	East	17 (24.3)		4-5	42 (60)
	West	28 (39.2)		6-7	5 (7.1)
	Centre	1 (1.4)			
Employment status	Housewife	55 (78.6)			
	Employed	15 (21.4)			

**[Table/Fig-1]:** Sample characteristics (n=70).

\*Demographics of participants are described based on age, marital status, monthly income, level of education, residential area, number of family members and employment status.

Stress	Pre-training		Post-training	
	Frequency		Frequency	
	Absolute	Relative	Absolute	Relative
Mild (5-19)	5	7.1	46	65.7
Moderate (20-35)	51	72.9	24	34.3
Severe (35<)	14	20	0	0
Total	70	100	70	100

**[Table/Fig-2]:** Distribution of absolute and relative frequency of the units under the scale of stress before and after the intervention.

\*Use the spss software to determine the frequencies

Statistics Stress	Mean	SD	Df	t	p-value
Before intervention	2.13	0.50	69	9.12	0.001
After intervention	1.34	0.47			

**[Table/Fig-3]:** Comparison of stress before and after intervention in the studied units.

\*The paired t-test was used

well-being of themselves and their children. It can be noted that compared to the parents of normal children, parents of children with disabilities, instead of focusing on issues that improve their lives are constantly involved with their children and their problems. These parents usually limit their communications with others which leads to hidden stress in them. In addition, the environment in which parents live has tension and anxiety which ultimately affects the health of parents, particularly mothers who spend hours with their child [23].

The findings of the present study indicate that the training intervention has been effective in stress management of mothers. Approximately 24 (34.3%) of the participants had moderate stress after stress management training sessions and none of them had severe and intense stress after intervention. These findings are consistent with the study of Walsh CE and O'Leary DK, comparing stress management training in parents of children with autism and

parents with a healthy child [24]. Also, in line with the research under investigation, a study was conducted by Schieve LA et al., on the effectiveness of stress management on the stress and anxiety of divorced women with autistic children [25]. Analysis of covariance showed that the mean scores of stress and anxiety in the experimental group decreased significantly compared to the control group at the post-test stage ( $p < 0.001$ ) [25].

The overall results of the study showed that stress management can be an effective way for women who are stressed and anxious and can improve their mental status. Hobart HM, also studied the impact of the training intervention program on the stress levels of patients with physical disabilities [26]. Their results showed no statistically significant difference in the stress score of patients in the intervention and control groups before training program ( $p > 0.001$ ). However; after intervention, there was a statistically significant difference regarding stress in the intervention group ( $p < 0.001$ ). The results of the study are in accordance with our findings [26]. Sally J et al., concluded that reducing stress relies on the ability of humans to adapt to stressors and highlighted the importance of training [27].

Several studies have shown that training interventions reduce stress and anxiety [28-30]. Learning how to overcome stress reduced anxiety and depression in many patients after intervention [31]. Sadeghi-Hassanabadi Z, also found in their research that using different educational methods is an effective approach to disease recovery, coping with psychological problems, and increasing the quality of life in depressed individuals [32]. Also, the effect of education has been emphasised on the various aspects of these patients' lives, including general health, psychological and social performance, mental function, and role retention [32]. The results of many studies suggest the effect of training on behaviour change, especially in patients and patient carers [33-36].

## LIMITATION

Among the limitations of the present study is the fact that the present study examined a small number of people and given the small size of the sample extrapolating these findings to other community members should be done with caution. In addition, individual differences of the participants should be noted. Mental and psychological status of mothers, having current family problems, and previously having attended stress management intervention was not controlled for in the research participants.

## CONCLUSION

The findings of the present study showed that stress management training has been effective in reducing the stress level of mothers with autistic children to some extent. Therefore, considering the adverse social, financial, psychological impacts of autism on children and other family members, employing stress management strategies is recommended. Adopting the present approach by mental health professionals seems necessary in treatment centres.

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**PARTICULARS OF CONTRIBUTORS:**

1. Postgraduate Student, Department of Nursing, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.
2. Lecturer, Department of Nursing, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.
3. Associate Professor, Department of Statistics, Islamic Azad University, Tehran, Iran.

**NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:**

Dr. Faezeh Sahbaei,  
Lecturer, Department of Nursing, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.  
E-mail: sahbai.f@gmail.com

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