

The Effectiveness of Emotion Regulation Training on Negative Emotions and Mental Health in Mothers of Children with Oppositional Defiant Disorder

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Abstract

Introduction: Children with Oppositional Defiant Disorder (ODD) have deep effects on mothers' negative emotions and mental health due to problems such as restlessness, lack of attention and impulsivity. The aim of this study was to compare the effect of emotion regulation training on negative emotions and mental health in the mothers of children with ODD.

Method: This semi-experimental study was carried out on mothers suffering from ODD referred to the education and training clinics of Mashhad, 2020. To do so, 40 people were selected by purposive sampling and were randomly placed in two experimental and control groups. Data were collected using the children's oppositional defiant disorder scale Homersen (2006), the Watson, Clark Wetelgen (1988) negative affect scale, and the Goldberg and Hiller mental health scale (1979). For the experimental group, emotion regulation training was held in eight sessions of 90 minutes; however the control group did not receive any intervention. Data were analyzed by SPSS-21 software, and the covariance analysis method.

Results: Findings revealed that emotion regulation training can improve mental health and its components such as excessive support, excessive negligence, rejection and acceptance in the mothers of children with ODD; while the emotion regulation training decreased negative emotion in mothers ($p < 0.001$).

Conclusion: Emotion regulation training with increasing knowledge and flexibility of mothers of children with ODD led to improvement of mental health and reduction of negative emotions.

Keywords: Emotion Regulation Training, Negative Emotion, Mental Health, Oppositional Defiant Disorder

Introduction

One of the most common externalizing behavioral disorders is Oppositional Defiant Disorder (ODD) [1]. The specific symptoms of ODD include eight characteristics of rage, holding a grudge, arguing with elders and authority figures and calling them to fight, disobeying the requests or orders of authority figures and rules, and deliberately doing actions that hurts other people, blames others for their mistakes or misbehavior, is quick-tempered, angry, unwilling, and malicious [2]. Children with externalizing symptoms have little ability to correctly infer the thoughts, intentions, and feelings of others [3], and children with ODD often misinterpret social cues and are afraid of expressing their negative feelings with an appropriate expression [4]. The communication problems of these children with others may be the result of faulty social cognitions or cognitive-social deficiencies [5].

The presence of a child with ODD often causes irreparable damage to the mother's body. The level of mother's vulnerability to this injury is sometimes so great that the mother's mental health is severely damaged [6]. The World Health Organization (WHO) has defined

mental health as follows “the ability to communicate harmoniously with others, to change and modify the personal and social environment, and to resolve conflicts and personal desires in a fair, reasonable and appropriate manner” [7]. Also, research have shown that the personality traits of family members, especially the mother, can be effective in adjusting children's behavioral problems [8]. One of these characteristics is negative emotion. Negative emotion is an experience of special emotions such as anger and fear, which generally arise in response to conditions and situations [9]. People with high negative emotions are usually irritable, restless, depressed, pessimistic and unhappy. People who have high negative emotions often have a pessimistic view of themselves and suffer from mistakes, disappointments, threats and shortages [10]. Negative emotion, as a popular field in recent years, deals with the study and discovery of individual and interpersonal capabilities, the reduction of which leads to progress and resistance in difficult situations. Negative emotion is not only inability to face injuries or threatening conditions, but a person with negative emotion is also unable to participate actively and constructively in his environment. Negative emotion is said to be a state that manifests itself in times of suffering and debilitating stress. This definition of negative emotion indicates that it is highly dependent on risk factors [11]. The importance of negative emotion due to the inability to go back, lack of recovery or successful adaptation in the face of injuries, lack of protective factors and the role of structural blocks to empower a person to overcome life's stressful factors is of great importance for studies [12].

Considering that ODD has a high prevalence, and on the other hand, in many cases, the aggravation of some maladaptive behaviors of children with this disorder is influenced by the inappropriate reactions of parents, especially mothers, so many in treatment, therapists focus on providing education to the parents of these children [13]. One of the intervention methods that is used for parents of children with ODD is emotion regulation training. Mothers' emotion regulation training programs are based on the principles of social learning and teach mothers how they can establish a more positive interaction with children and reduce the amount of negative behaviors and internal family conflicts [14, 15].

Emotion regulation training programs for mothers are based on the point of view that children's behavioral disorders are created and continued as a result of improper interaction between the child and the parent, especially the mother [16]. Studies have shown that emotion regulation training has a greater effect on negative emotions compared to mental health [17-19]. It is necessary to mention this point that in the treatment of this group of behavioral disorders, these interactions should be reviewed and corrected. This is why paying attention to the training of mothers in the treatment of children with oppositional disobedience has increased significantly in recent decades [20]. In this regard, an emotion regulation training program has been created for mothers of disobedient children with an emphasis on the

entire family system. In this program, mothers' concerns about the cause, treatment and prognosis of their children's disorders are raised in group meetings, and mothers can receive the necessary information and support from those present in the meeting. Also, in the light of new information, mothers can better understand the problems of confrontational disobedience children and by receiving the necessary training, they are equipped with behavior management skills and subsequently feel more mentally healthy [21]. A review of the research context shows that emotion regulation training has a significant effect on the mental health of mothers of children with ODD [22-24].

Due to the importance of the role of mothers in adjusting, controlling and aggravating this disorder, attention to the education of mothers in the treatment of these children has increased significantly in recent decades. Teaching parents in this field can have a significant effect in reducing the symptoms of this disorder in children, reducing negative emotions in mothers, improving interpersonal relationships, reducing psychological stress, depression, and resolving marital disputes among the parents of these children [21]. Also, so far, no research has been done to investigate the effect of emotion regulation training on negative emotions and mental health of mothers of children with ODD. Therefore, the present study was conducted with the aim of investigating the effect of emotion regulation training on negative emotions and mental health of mothers of children with ODD.

Method

This study was a quasi-experimental study conducted with a pretest-posttest design. The research population included all mothers suffering from ODD who referred to educational clinics in districts 4 and 6 of Mashhad in 2020. In order to collect information from the research samples, by referring to the education and training clinics of the 4th and 6th districts of Mashhad, after obtaining the necessary permits, children who had been treated according to the opinion of a specialist psychologist with a diagnosis of defiant disobedience disorder, were identified. Among the mothers of children suffering from ODD, 60 people were selected by available sampling method. Out of this number, 40 people who had the necessary criteria to enter the research were selected as the statistical sample and were randomly divided into two experimental and control groups.

The inclusion criteria included the age range of 30 to 50 years, first secondary education, the possibility of attending the meetings and providing a written informed consent. The exclusion criteria included the absence of more than two sessions in treatment, being treated for mental disorders and at the same time being under training and other interventions.

In order to collect data, children's ODD scale [25], negative emotions scale [26], and general health questionnaire [27] were used. For the experimental group, emotion regulation training was held during eight sessions of 90 minutes, and the control group was not subjected to any

therapy program. At the end, the post-test was done from both groups.

The tools used in this study were as follows:

Children's ODD Scale: This scale was developed by Hommersen et al., [25] based on the criteria of the revised version of the DSM-IV to diagnose children with ODD. The ODD has eight items with a 4-point Likert scale (from 0 = not at all to 3 = very much). This scale is used for children aged 5 to 15 years. Its reliability coefficients were obtained 0.92 and 0.95 by Cronbach's alpha and retest methods, respectively [28]. Faramarzi et al. reported its internal consistency and reliability coefficients on Iranian students using Cronbach's alpha and the retest methods 0.93 and 0.94, respectively [29]. Also, in the present study, the Cronbach's alpha and retest coefficients of the ODD scale were equal to 0.73 and 0.71, respectively.

Positive and Negative Affect Schedule (PANAS): The Positive and Negative Affect Schedule (PANAS) was developed and validated by Watson et al., in 1988 [26]. This 20-question scale has two positive and negative subscales, each of which includes 10 questions. Each of its items are rated on a 5-point Likert scale of very little =1 to very much =5. The minimum and maximum score of subject in each of the subscales is 10 and 50, respectively. The internal consistency coefficient of this scale was 0.87 and its test-retest reliability with an interval of eight weeks was 0.71 [30]. In Sohrabi and Hosseini's research, Cronbach's alpha coefficient of this scale was equal to 0.85, which indicates its

internal stability [31]. Moreover, in our study, its reliability was calculated as 0.84 and 0.82 through Cronbach's alpha coefficient and test-retest correlation.

General Health Questionnaire (GHQ-28): This questionnaire created by Goldberg and Williams is an internationally acknowledged and reliable tool to measure mental health. It has 28 questions and includes four dimensions of physical symptoms and general health status, anxiety, social function, and depression with four points Likert's scaling (0, 1, 2, 3). The maximum score of the subject in the questionnaire is 84 [27]. In the study of Arévalo et al., [32] the internal consistency of the total and subscales scores were evaluated by the Cronbach's alpha as 0.86, 0.81, 0.86, 0.87, and 0.79, respectively.

In the study of Taghavi, the reliability of GHQ was investigated and Cronbach's alpha was 0.90 for all its items [33]. Moreover, in Malakouti et al.'s research, the Cronbach's alpha and test-retest reliability coefficients were respectively reported as 0.94 and 0.86, respectively [34]. Here, its reliability was also calculated using Cronbach's alpha coefficient of 0.87.

The experimental group underwent emotion regulation training during eight 90-minute sessions, the summary of which is presented in Table 1.

Data were analyzed using SPSS version 24. Quantitative variables were expressed as Mean \pm standard deviation and inferential methods such as univariate and multivariate covariance analysis tests were used in order to control the effect of pretest in both experimental and control groups.

Table 1. Summary of Emotion Regulation Training Sessions

Sessions	Content
First	Knowledge and communicate with each other, describing ODD
Second	The selection of situation and the definition of emotion, recognition and also training of the types of emotions
Third	Evaluating of the emotional vulnerability and emotional skills of members
Fourth	Creating a change in the exciting situation and training the skills needed to solve interpersonal problems were given
Fifth	The skills of changing attention were taught and the necessary exercises were performed
Sixth	The change of cognitive evaluations was discussed
Seventh	The skills of expressing and venting emotions were taught
	The achievement of the mothers of affected children was summarized.
Eighth	The insufficiency of disobedience was dealt with by regulating problem-causing emotions and problem-solving skills, and the necessary recommendations were provided

Results

The mean of mental health and negative emotion in the experimental and control groups have been shown in Table 2. According the results, the scores of experimental group in protest has increased compared to the pretest in both variables of mental health and negative emotion.

The results of the multivariate covariance analysis related to the components of mental health and negative emotion are presented in Table 3. Based on the results, there is a significant difference between the components of mental health and

negative affect in the experimental and control groups after controlling the pre-test scores ($p < 0.001$).

Table 4 shows the results of covariance analysis for each of the subscales of mental health and negative emotion. There is a significant difference in all the components between the two experimental and control groups in the pre-test and post-test, after removing the pre-test effect ($p = 0.001$). Also, results reveal that the effect of emotion regulation training on negative emotions was more compared to mental health ($p = 0.001$).

Table 2. Mean Scores of Mental Health and Negative Emotion in Experimental and Control Groups (n=40)

Variable	Group	Mean ± Standard Deviation		
		Pre-test	Post-test	
Mental health	Physical symptoms	Experiment	18.90 ± 1.11	2.35 ± 1.59
		Control	19.05 ± 1.14	17.65 ± 1.59
	Anxiety	Experiment	19.50 ± 1.39	2.05 ± 1.57
		Control	18.85 ± 1.66	18.30 ± 1.34
	Social function	Experiment	16.75 ± 1.40	5.10 ± 1.25
		Control	16.80 ± 1.10	16.05 ± 1.43
Depression	Experiment	17.90 ± 1.65	2 ± 1.41	
	Control	17.95 ± 1.35	17.85 ± 1.42	
Negative emotion	Experiment	45.90 ± 2.04	13.85 ± 1.98	
	Control	44.95 ± 0.99	46.10 ± 2.10	

Table 3. The Multivariate Covariance Analysis Related to the Components of Mental Health and Negative Affect

Variable	Test	Value	F	df Hypothesis	df1	P	Eta
Mental health	Pillais Trace	0.98	541.42	4	31	0.001	0.98
	Wilks Lambda	0.01	541.42	4	31	0.001	0.98
	Hotelling's Trace	69.86	541.42	4	31	0.001	0.98
	Roy's Largest Root	69.86	541.42	4	31	0.001	0.98
Negative emotion	Pillais Trace	0.99	199.52	2	35	0.001	0.99
	Wilks Lambda	0.0009	199.52	2	35	0.001	0.99
	Hotelling's Trace	113.74	199.52	2	35	0.001	0.99
	Roy's Largest Root	113.74	199.52	2	35	0.001	0.99

Table 4. Covariance Analysis Test in the Components of Mental Health and Negative Affect

Variable	Sum of squares	Mean square	F	df	P	Eta squared
Physical symptoms	3208.16	3208.16	922.25	1	0.001	0.96
Anxiety	2498.90	2498.90	134.61	1	0.001	0.97
Social dysfunction	1140.50	1140.50	685.41	1	0.001	0.95
Depression	2255.63	2255.63	124/93	1	0.001	0.97
Negative emotion	9087.53	9087.53	277.92	1	0.001	0.98

Discussion

This study was conducted with the aim of comparing the effectiveness of emotion regulation training on negative emotions and mental health of mothers of children with impotence disorder. Based on the results, emotion regulation training had a greater effect on negative emotions compared to mental health. The results of this study are consistent with the results of previous studies [17, 35, 36]. Bell [35] reported that emotion regulation training reduces negative emotions. Also, Fredrickson et al. [36] and Ganai et al. [17] emphasized the effectiveness of emotion regulation training on negative emotions and mental health of mothers. It can actually be stated that emotion regulation training reduces the experience of unwanted emotions and as a result reduces negative emotions [18] and such a person is more resistant to life's problems and as a result will have more mental health [35]. Therefore, it can be concluded that emotion regulation training has a greater effect on reducing negative emotions than mental health and is more effective on negative emotions.

In the present study, the results showed that emotion regulation training reduces negative emotions in mothers of children with ODD. This finding is consistent with the results of previous research [19, 37, 38]. Actually, it can be said that people with low negative affect were more inclined to show positive emotions when faced with emotional events of neutral and unknown nature. This may be due to the ability of people to consciously cope

successfully when facing difficult situations. In fact, emotion regulation acts as a person's protector in difficult and stressful situations and leads to the reduction of negative emotions and, as a result, reintegration in these situations. Emotional regulation strategies are effective on personality, emotional, cognitive and social development, so when these factors are affected, they will play a prominent role in the development and maintenance of emotional disorders and provide the means to reduce negative emotions. Actually, emotion regulation includes a wide range of conscious and unconscious psychological, behavioral and cognitive processes [39]. Emotion regulation skills, in a correct and efficient manner, can be considered a prelude to other successes in life, which increase positive emotions and decrease negative emotions.

The results of this study showed that emotion regulation training had a significant effect on the mental health of mothers of children with ODD. This finding confirmed the results of previous studies [22-24]. These researchers reached the results that emotional regulation training is effective on the mental health of mothers. The fact is that no mother wants to have an abnormal child, but when this happens, their first emotional reaction is shock and denial. It is said that it takes time for these mothers to cope with such a difficult situation. This is due to the fact that these children have more behavioral problems than other children, such as impulsive behaviors, temper tantrums and physical aggression, and more mental health

problems [40]. When a mother gives birth to a child with ODD, her emotional functions are messed up. This causes the mother's mental health, dynamism and purposefulness to be overshadowed at a macro level and her most important psychological functions are also affected at a micro level [40, 41]. Children suffering from ODD often misinterpret social signs and express their negative emotions with appropriate fear, so mothers should have sufficient control over their emotions when faced with the behavior of these children [41]. Emotion regulation training helps people to have more control over their emotions, and as a result, their mental health will be improved.

This research was exclusive to mothers of elementary school students in Mashhad city; therefore, caution should be taken in generalizing the results to the mothers of students in other grades and cities. According to the results, it is suggested to use cognitive emotion regulation training in educational centers to treat negative emotions and raise the level of mental health. Moreover, the effectiveness of the emotion regulation training program in the treatment of mothers with children suffering from other disruptive behavioral disorders such as conduct disorder and attention deficit/hyperactivity disorder can be investigated in future research.

Conclusion

According to the results of this research, emotion regulation training was effective on negative emotion and mental health, but its effectiveness was more on negative emotions than mental health. It can be concluded that, emotion regulation training can be used in order to reduce the level of negative emotion in mothers of children with oppositional defiant disorder.

Conflict of interest

The authors declare that they have no conflicts of interest.

Ethical Approval

In this study, following the ethical principles, necessary information about the goals and duration of the research was given to the participants. Informed written consent was obtained from the subjects and they were assured that their information would remain confidential.

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