The Effectiveness of Group Based Acceptance and Commitment Therapy (ACT) on Emotion Cognitive Regulation Strategies in Mothers of Children with Autism Spectrum

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ABSTRACT

Background: Autism spectrum disorder has a big impact on family life. Mothers of children with autism face many challenges. This study was conducted to determine the effectiveness of group-based acceptance and commitment therapy on cognitive emotion regulation strategies in mothers of children with autism.

Method: This is a quasi-experimental study with a pretest-posttest control group design. The research population included mothers of children with autism spectrum disorder referring to exceptional schools, who were living in Tehran. After cluster random sampling, 30 mothers of children with autism spectrum disorder were selected and randomly assigned to two groups: an experimental group and a control group, each consisting of 15 women. Participants responded to the cognitive emotion regulation questionnaire...
INTRODUCTION

Autism is a disorder characterized by sustainable destruction in reciprocal social interaction, communication delay or deviation and limited stereotypical connection pattern. According to the fifth edition of *Diagnostic and Statistical Manual of Mental Disorders*, abnormal functioning in the above-mentioned areas becomes apparent by the age of three (1). Diagnostic delay and difficulty, occurrence of symptoms after a period of normal child growth, lack of definitive and effective treatments and poor prognosis often lead to intense psychological pressure on the family and parents of a child with an autism spectrum disorder. Initially, parents may have different reactions to this problem, often under the influence of parents with different beliefs (2). Due to various problems of these children, their families and especially mothers face mental tension and stress (3). Researches showed that families of children with autism had more stress than those with mentally retarded children and Down syndrome (4). Having children with autism disorder causes depression, concern, stress, and even shame in parents, and in some cases it also has a negative impact on marital relations because of tensioned couple discussion about an autistic child’s treatment and care, which sometimes leads to a gap between husband and wife (5). Gray (6) states that mothers of children with autism disorders experience a feeling of guilt and depression. Sharpli (7) reports that these mothers usually have more stress than fathers, and some husbands even believe that the psychological stress of their wife is more threatening than the child’s problems, being a threat to their family. Fathers usually do not reveal their feelings to the same extent as mothers, who typically show a wide range of emotions such as anger, sadness, weeping and mourning. Mothers are concerned by the reactions of society and relatives, and sometimes they think there is a likely solution to put an end to all their problems in this context. Also, they spend too much mental energy and material for their assumptions and conjectures, which make them lose a precious time that should be spend on real acceptance, treatment and rehabilitation of their child (7).

Turnball et al (8) show there is an increasing stress in families who have to face problems that change over time and argue that professionals need to prepare these family for challenges by different coping strategies (*e.g.*, cognitive emotion regulation), which may help them to increase internal resistance and prevent the occurrence of consequences. Cognitive emotion regulation is useful when someone is confronted with unpleasant and stressful events (9, 10); it refers to management of information on cognitive style and emotional triggers (11) and deal with cognitive aspects related to a stressful event experience (12). It is believed that the use of cognitive emotion regulation strategies such as rumination, thought suppression, reevaluation and problem solving may be important diagnostic factors in different forms of psychopathology (13). In this context, a strong association between the use of these strategies and emotional problems has been confirmed (14, 15). In general, research findings show that people who are exploiting the maladaptive cognitive style, such as rumination, tragedy and blame, are more vul-

Before and after intervention. The experimental group received group-based acceptance and commitment therapy (eight two-hour sessions), while no intervention was given to the control group.

**Results and conclusion:** Covariance analysis of data showed that group-based acceptance and commitment therapy had a significant effect on positive/planning strategy refocusing (*p*=0.003), positive reappraisal (*p*=0.004), self-blaming (*p*=0.001), blaming others (*p*=0.007), considering a situation as disastrous (*p*=0.001), reception (*p*=0.008). However, there was not a significant difference in the dimensions of rumination (*p*=0.025). Therefore, it is recommended that welfare institutions and centers should provide a training plan based on acceptance and commitment therapy to improve the current cognitive emotion regulation strategies for mothers of children with autism spectrum.

**Keywords:** autism spectrum disorder, therapy based on acceptance and commitment, cognitive emotion regulation strategies, mothers.
nerable to emotional problems than those with organized styles such as positive reevaluation (13). Overall, emotion regulation strategies represent a fundamental principle of initiating, evaluating, maintaining and organizing behavior as well as preventing negative emotions and unorganized behavior (16). Schreiber, Grant, Orlag studies (17) showed that people with emotional disorders had higher scores in impulsivity and avoiding traumatic and cognitive reasoning.

It is clear that emotional reaction to stressful events can be adjusted by using cognitive emotion regulation (18). Although conceptualization of emotion regulation may differ (19), many authors agree upon considering a combination of physiological, behavioral and cognitive processes which enables a person to adjust experience and tools of positive and negative emotions (19). The idea of social learning theory is that the negative belief system leads to maintenance of destructive behavior, and so, interventions based on cognitive restructuring should be used (20). In the third wave of psychotherapies which are known to postmodern psychotherapy, cognitions and emotions should be considered in the context of conceptual phenomena. For this reason, instead approaches such as cognitive-behavioral therapy to reform inefficient beliefs and knowledge to reform emotions and behaviors, the patient is taught to accept his/her emotions in the first step and acknowledge that life (here and now) provides more psychological flexibility. That is why these therapies typically combine cognitive-behavioral techniques with mindfulness (21).

Acceptance and commitment therapy (ACT) is a third wave behavior therapy that openly admits that thoughts require functional changes instead of modifying their form, content or frequency. Acceptance and commitment therapy has six central processes leading to psychological flexibility, including acceptance, defusion, self as background, contact with present, values and committed action (21). It has been shown that ACT interventions lead to a meaningful increase in attempts to participate in difficult activities while experiencing difficult emotions (22). The central process of ACT teaches people how to stop the inhibition of thoughts and not to be mixed up with intrusive thoughts, thus making them tolerate more unpleasant emotions.

Overall, mothers of children with autism spectrum who use ACT succeed in creating a new relationship with their emotional thoughts instead of thought control, inhibition of thoughts, avoidance, etc, meaning that negative emotional thoughts are experienced as simple thoughts, and emotion and anxiety are simply felt as emotions, which allows them focus on what is really important and valuable instead of spending too much time thinking and avoiding stress reduction.

In general, with respect to the role of emotion regulation strategies in development and maintenance of emotional problems, it seems that skill training based on ACT and its effect of reducing emotional problems faced by mothers of children with autism spectrum can help to increase knowledge on how to manage emotions and how to provide care to their children.

Recent research on ACT offered satisfactory results and rationale for use of ACT in clinical practice and especially in working with patients with anxiety and behavioral disorders. Therefore, the present study aims to answer to the question whether education based on ACT has any influence on cognitive emotion regulation strategies in mothers of children with autism spectrum.

**METHOD**

In this study, we used a quasi-experimental method with pretest and posttest design of the control group. The research population included all mothers of children with autism spectrum disorder in Tehran whose children were trained in the academic year 1995-96 in specialized educational centers. The sample consisted of 30 mothers of children with confirmed diagnosis of autism spectrum disorder in Tehran whose children were trained in a specialized center (training centers in Tehran include Beh Ara, Tehran autism, Neday Asr, second Avril, Farzandan). Cluster methods were used for sampling the selected population that was randomly assigned to the experimental group and control group. To measure cognitive emotion regulation, we used the cognitive emotion regulation inventory of Garnefski et al (12) with 36 items which were scored on the five-point Likert scale and, according to the studies of Samani and Sadeghi (23), it included seven factors: self-blaming,
blaming others and positive reevaluation, blaming, rumination, considering a situation as disastrous, reception, planning/positive refocuses. Samani and Sadeghi (23) reported that alpha coefficients for these factors ranged from 62% to 91% and the reliability factor was 0.79-0.88. In the study of Shojaei et al (24), validity of cognitive emotion regulation inventory was obtained by factor analysis with Varimax rotation; items on this scale focused on seven factors, including considering a situation as disastrous, planning/positive refocus, blaming others, self-blaming, positive reevaluation, reception and rumination, and the obtained factor was equal to 6.04, 5.19, 4.32, 3.79, 3.63, 3.04, and 2.12, respectively. Overall, these components accounted for 78.21% of variance in scores on the cognitive emotion regulation questionnaire. In this research, in order to determine the reliability of cognitive emotion regulation, Cronbach alpha coefficients in the questionnaire were calculated for each of the seven dimensions – considering a situation as disastrous, planning/positive refocus, blaming others, self-blaming, positive reevaluation, reception, and rumination (0.91, 0.90, 0.91, 0.86, 0.88, 0.79, and 0.80, respectively) – and for all items (0.89), which represents an acceptable inventory score reliability. Treatment included eight group sessions and its plan was designed according to Lillis et al (25), based on metaphors and practice in each therapy session. Tasks were assigned at the end of each session. Posttest was conducted in the last session. The summary of therapy sessions was shown in Table 1. The experimental group received treatment based on reception and commitment for eight two-hour sessions. During this time, no intervention was administered to the control group. Both groups completed the brief symptom inventory for negative thoughts before the treatment sessions of the experimental group and after the therapy sessions. □

RESULTS

As seen in Table 2, there is a meaningful statistical difference between the experimental
group and the control group during the pretest and posttest steps. In order to examine this difference, multivariate analysis of covariance was used to see whether changes were statistically meaningful. Regression homogeneity and variance homogeneity were used before covariance, which showed that the use of covariance analysis was permitted. Also, examining the relation between random variables and auxiliary revealed a linear relation. Results of the multivariate analysis of covariance showed that there was a meaningful relation between the experimental group and the control group in at least one of the seven subscales of the cognitive emotion regulation strategy (Eta ≥ 0.01). In order to identify this difference and analyze the research questions, we used the statistical test of univariate analysis of covariance for every dimension, and the results were summarised in Table 2.

As shown in Table 2 by using covariance and pretest score difference with control, treatment education intervention based on reception and commitment on planning/positive refocus (Eta = 0.85, P = 0.003), positive reevaluation (Eta = 0.83, P = 0.004), self-blaming (Eta = 0.88, P = 0.001), blaming others (Eta = 0.74, P = 0.007), considering a situation as disastrous (Eta = 0.87, P = 0.001), and reception (Eta = 0.67, P = 0.008) lead to a meaningful difference between the control group and the experimental group in posttest. In the dimension of rumination there was a non-meaningful difference between the experimental group average (6/38) and the control group average (6/08).

### DISCUSSION AND CONCLUSION

The aim of this study was to investigate the efficacy of group-based ACT on cognitive emotion regulation strategy among mothers of children with autism spectrum disorder. Results showed that mothers who had received acceptance and commitment of skill training had more progress than non-receivers in planning, positive refocuses, positive reevaluation, self-blaming, blaming others, considering a situation as disastrous.
trous and reception. Findings of this research were in line with those of Sanderes (26) and Begdeli (27) in terms of reporting that training of parents of children with autism spectrum disorder succeeded in reducing depression, anxiety and stress as well as marital conflicts. Heydari, Sajadyan and Heydarian (28) showed that therapy group based on reception and commitment has been effective on reducing psychological distress and negative self-come thoughts in mothers of children with autism spectrum disorder. The treatment based on reception and commitment was aimed to create a meaningful and productive life, in which persons accept the inevitable suffering, based on the belief that feelings such as anxiety, sorrow and grief are an integral part of life and cannot be controlled, thus having simply to be accepted. Control functions as a problem, and this treatment helps parents to experience paradoxical effects of their efforts to control their thoughts and feelings, as in most cases efforts to control thoughts and feelings not only prove to be ineffective but increase the importance of thoughts and feelings. This action makes sense to think bigger rather than smaller. If clients are able to communicate with thoughts and feelings, it is more likely that they leave the control on them and change their ways to examine them. In this treatment, using metaphor sensitive devices as self-control problem helps clients to find out that controlling their own feelings is partly accountable for their problems (29). In explaining the effectiveness of ACT on cognitive emotion regulation strategy, these trainings help mothers of children with autism spectrum disorders to better identify their emotions and feelings and carefully evaluate them, to find out the rationale and irrational thoughts associated with them, finally discerning between efficient and inefficient as well as positive and negative emotions. When a person reaches self-awareness relatively to one’s own positive and negative emotions, he/she can better manage them. Also, parents of children with autism spectrum disorder, especially mothers, endure a lot of pressure due to the special features of this disorder. Most mothers blame themselves for their child’s disorder and compare him/her with normal children. Training based on ACT as a support program can help mothers to overcome emotional problems and has a meaningful effect on their psychological well-being. Actually, increasing emotional awareness, knowledge of functionality and experience, and change processes in mothers of children with autism spectrum may contribute to changing their relationships with others and having more control over them. ACT training tries to make people with emotional problems who are aware of their disturbing negative thoughts and emotions to avoid them when building relationships with others, overcome their maladaptive self-talk in stressful situations and choose more compatible ways. Furthermore, the cognitive approach used in this study allowed mothers to obtain self-awareness, helping them to identify their strengths and weaknesses, change their attitudes and beliefs, increase their emotional management skills and ability to effectively deal with negative mood, and learn many effective ways to solve conflicts.

ACT training can be a source of change for beliefs and attitudes, which in turn increases compatibility and acceptance. It also helps people to better understand their current conditions, identify their own strengths and weaknesses, improve reality acceptance, and thus, reduce their mental pressure.

Results also show that ACT training has no impact on rumination strategy, which is most likely influenced by different factors and associated with other factors and conditions that these parents are involved with, because using this strategy in mothers of children with autism spectrum disorder may affect several environmental and social factors due to special conditions, behavioral changes and needs of these children. Treatment based on the fault of mothers of children with autism spectrum disorder uses train metaphor to help them distinguish between the built world of thoughts and minds as a continuous process; thus, the trained person may distinguish between who is thinking and verbal categories that people give to themselves by thinking. Fault can lead to peace of mind but not because it necessarily ends subjective war but because that person is not mentally in a war zone. Therefore, it was found that, using this approach, mothers of children with autism spectrum were not sticking to their thoughts regarding why the adhesive opinion keeps them from dealing with reality and life issues, being impossible for someone to give appropriate answers and reactions in various life situations.
**Limitations of the study**

In the present research, subjects were selected only from mothers of children with autism spectrum, who constitute a homogenous group. If father had been also sampled, results would have been more generalisable. Therefore, it would be useful that future studies aiming to explore the effectiveness of ACT training on cognitive emotion regulation strategy should also include fathers of children with autism spectrum disorders.

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