

The Effectiveness of Acceptance and Commitment Group Therapy on Anxiety, Depression and Rumination in the mothers of Children with Special needs

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ABSTRACT:

Background: Acceptance and commitment therapy is a third generation behavior therapy mainly used in treatment of mood and anxiety disorders. The main goal of this study was to investigate the effectiveness of acceptance and commitment group therapy on anxiety, depression and Rumination in mothers of children with special needs.

Materials and Methods: The statistical society included mothers of children with special needs in Hamedan city. In this semi-experimental design, by using convenience sampling; 18 mothers were selected and they were divided into two groups of intervention and control randomly. Mental evaluation included a clinical interview (based on DSM-V), a clinical psychologist conducted Beck Depression Inventory (BDI-II), Beck Anxiety Inventory (BAI) and Rumination Response Scale (RRS).

Depression, anxiety and rumination Scales were assessed at three stages: prior and after first intervention session and three weeks after the intervention sessions. Data were subjected to descriptive statistics and the analysis with a mixed ANOVA design.

Results: Findings showed significant decrease in scales of Depression, Anxiety and Rumination and in post-test and follow up after Acceptance and commitment therapy intervention. Thus, group treatment based on the acceptance and commitment therapy caused significant changes in the treatment of anxiety, depression and rumination in mothers of children with special needs.

Conclusion: The result of this study highlights the efficient role of acceptance and commitment group therapy on mothers of children with special needs and it introduces new horizons in clinical interventions.

Keywords: *Acceptance and Commitment Group Therapy (ACT), Anxiety, Depression, Rumination, Mothers of children with special needs, Beck Depression Inventory (BDI-II), Beck Anxiety Inventory (BAI), and Rumination Response Scale (RRS).*

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INTRODUCTION:

Although having a child, may give a sense of joy, pride or self-development to mother; in a process of raising a child there are some challenges¹. These parents comparing to the parents who don't have any children, experience higher level of anxiety and depression². In our society, mothers are more involved in their children's activity due to occupancy of fathers. Thus, they experience higher level of stress and due to these stressful circumstances; they manage to nurture less social-accepted skills in their children³. This flawed cycle will affect the performance of parents in taking care of their children and this will result in negative consequences for the children.

Mood disorders are the group of clinical disorders that the main feature of them is that the sense of control and domination will be vanished and a person will experience a great deal of misery and emotional pain and these disorders are located on a trajectory which includes normal fluctuations of the mood⁷.

World Health Organization (WHO) has estimated that mood disorders are at the pick of psychiatric disorders and this group includes 25% of total patients of health centers in the world⁸. Anxiety disorders are one of the most prevalence disorders in general population⁶. Based on WHO's report, 100 million of European and 19 million American are suffering from this group of disorders⁹ and prevalence of this group of disorders in women are two times more than men. Based on researches conducted in Iran, spectrum of these disorders is fluctuating between 11.9% and 23.8% and as same as most of global researches, its one of the most prevalence group of disorders¹¹. New researches suggest that prevalence rate of this disorder is increasing in a critical manner¹². Roughly, 8% of psychiatric outpatients are diagnosed with anxiety disorders¹³. Problems regarding anxiety are pretty common and in western countries 30-40% of people will experience a disorder that somehow it is linked to anxiety. Thus, anxiety disorders are a heavy burden on society and individuals¹⁴. The duration of this disorder is long and it can be as paralyzing as physical illness¹⁵. Therapeutic process of this disorder is one of the most expensive treatmentsprocesses¹⁶.

Child requiring special needs, can induce stress in mother and the parents having these children with developmental problems may experience high level of stress¹⁷. In these disorders, children experience sense of worthlessness, guilt, impaired physical functions and fatigue¹⁸. Due to more involvement of mothers than fathers, they experience even more pressure and they may get devastated regarding these problems¹⁹.

Onset of depression is mostly due to substantial adverse changes in life under circumstances, such as dealing with a great loss of beloved person or changing a living environment²⁰. Researchers suggest that there is a positive correlation between negative adverse events in life and depression is common between 20-50% among who experience severe stress or trauma²¹. In

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the past, depression was 2nd major psychiatric disorder and approximately 121 million patients were diagnosed with depression all around the world. Now days, depression is second most costly disease and in 1990 depression was forth. This shows increasing and risky trend of depression²³. According to current statistics, prevalence of depression in lifetime is around 15% and among women this number is 25%. Less severe types of depression, which don't meet the full criteria of MDD, are more common. Even existence of few symptoms, which will not fulfill MDD criteria, will lead to decrease in social and physical function of the person. Additionally, this group is at higher risk for depression. Despite the high prevalence of depression's subtypes we have a few studies conducting in this area²⁴. In Iran, researches regarding depression show that depression symptoms are one of the most common problems in society. Conducted studies, among mothers of children with special needs illustrated that rate of depression in these mothers are higher than mothers with normal children²⁵ and behavioral problems of a child are more stressful for mothers than the disorder itself²⁶.

As aforementioned, depression is one of the subtypes of mood disorders and rumination is one of the diagnostic factors of depression²⁷. In recent years, assessing thinking patterns in mood disorders and studying unwanted thoughts and their role in persistency of mood disorders has drawn researchers' attention to itself.

One of the subtypes of unwanted thoughts is rumination. Met cognition approach considers rumination to be one of the dominant factors of depression.

Rumination is preoccupation regarding a thought or a subject and over thinking about it⁶. These thoughts are passive and they have recurring features; they prevent adaptive problem solving process and they will lead to increase in negative thoughts²⁸. Although, repression of thoughts is one of the common features of depression disorder, there are some depressed people who ruminate their thoughts due to commitment. These people think that rumination regarding negative thoughts and emotion will give them sort of intuition and it will facilitate problem solving. Nonetheless, rumination will affect the mood adversely and will entangle the person between bipolarity of suppression and rumination²⁹. Depression intensifies the low-mood and focus on negative thoughts and this will lead to rumination, which eventually will sustain depression. Martin and Tesser³⁰ defined depression as occurrence of bothersome, self-aware and disgusting thoughts. These thoughts are uncalled and they will interfere with normal function of the person. Contents of these thoughts can be any negative incidences like loosing a friend or having a surgical operation in near future or giving birth to a child with impaired function that may induce guilt in mother and may cause sense depression and anxiety.

So far regarding treatment of this disorder, in addition to pharmacotherapy, different psychological methods have been implemented. First generation of behavioral approaches based on classical and operant conditioning were introduced as appose to psychoanalytical approach in 1960. Second generation of these treatments, under the name of cognitive-behavioral therapy, was initiated till 1990. This generation mainly focused on cognitive aspects. Furthermore, they

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mainly targeted role of beliefs, cognitions, schemas and system of internal processing in inducing mental disorders. Another controversy is that whether therapist should tackle the problematic situation with various techniques in order to modify or maintain a balance, or the problem should be eliminated totally. Now days, we are facing third generation of these therapies and it can be considered 3rd wave of behavioral therapy. Some of these interventions are dialectical behavioral therapy, integrative couple behavioral therapy, mindfulness-based cognitive therapy and acceptance and commitment therapy and the latter is main focus of current study³¹. Recently, alternatives have been offered regarding this approach, which declares that developed clinical method is based on directly altering content of thoughts, emotions and physical symptoms.

The abbreviation of Therapy based on Acceptance and Commitment is called ACT and it is somehow third wave of behavioral Therapy and it supports this notion: altering the function of thoughts and emotion instead of their forms, contents or frequencies. ACT is based on a pragmatic philosophy called functional contextualize. ACT is based on relational frame theory (RFT), a widespread theory of language and cognition that is a branch of behavior analysis. ACT has six central processes, which will lead to psychological plasticity.

These six cores include:

1. Cognitive diffusion: Acquiring techniques to moderate the tendency to disturbing thoughts, images, emotions, and memories.
2. Acceptance: Letting thoughts to come and go without fighting with them.
3. Contact with the present moment: Awareness of present moment(Attentiveness),experienced with sincerity, interest, and receptiveness.
4. Observing the self: Accessing a supreme sense of self, a permanence of consciousness, which is unchanging.
5. Values: Determining what is most important to one's true self.
6. Committed action: Setting goals according to values and carrying them out maturely. ACT Intervention has shown meaningful increase in individual regarding involvement in hard activity and severe emotional situation (32,33,34).

Due to absence of any research regarding quality of life in this group of mothers in Iran, this research seemed to be crucial for assessing the rate of damages. Hopefully with the result of it, proper program will be facilitated for this group. Main goal of this study was to assess the efficacy of ACT on anxiety, depression and rumination of mothers of children with special needs. Research's hypothesis was whether ACT is effective on mental health treatment of mothers of children with special needs. Concordant to research studies about effectiveness of ACT on anxiety and depression, in this study 10 sessions of ACT were assessed on 7 patients.

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MATERIALS AND METHODS:

Design of this study was semi-experimental study with pretest and posttest. Statistical society of the study was included the mothers who had children with special needs in Hamadan city (Iran). Children included the ones who were referred to clinical centers, functional-therapy centers, speech therapy centers and physiotherapy centers in Hamadan city. Mothers signed a consent form after vindicating group session, which illustrated goals and process of the study for mothers. People who tended to cooperate in the study filled an exam form and those who had +1 standard deviation as result were included in experiment group. Case group included 18 mothers with children with special needs and after abscission 14 of them remained.

Inclusion Criteria:

- ¹. Child having met diagnosis criteria of incurable disorder.
- ². Diploma as minimum educational level of mothers.
- ³. Mothers' age should have been between 25-37.
- ⁴. Non-existence of any therapeutic methods in order to treat anxiety or depression
- ⁵. Mothers having another healthy child who were diagnosed with depression and anxiety

Based on moral ethics after finishing the study, control group was educated about ACT approach too. In this study, which was based on acceptance and commitment, the main target of therapy was elevating mental flexibility. Mental flexibility means individual being able to choose the most suitable action among variety of choices. This action is not being made just because of getting relieved from disturbing or imposing thoughts or memories³⁵. Initially, ACT will focus on boosting acceptance of psychological experience of the patients and mutually it will reduce ineffective controlling actions. Patients will be taught that any kind of action against this kind of thoughts is useless or it will magnify them and patients should accept these thoughts completely without any internal or external reaction. In the second step, present psychological awareness of the person will be increased; it means that individuals are aware of all psychological processes in the moment. In the third step, individuals will be taught to detach themselves from their psychological experiences (Cognitive diffusion) in a way that they can respond independently and regardless of their thoughts. The fourth step is to reducing the focus on self-visualization based on personal narratives like self-scarification. In a fifth step, ACGT tends to benefit the individual elucidate their personal values and to take action on them, producing more vitality and meaning to their life (Values clarification). Finally, generating motivation leading to committed actions with acceptance of psychological experiences. These experiences may contain depressing thoughts, thoughts related to trauma, phobias or social anxieties. Empirical evidences about efficacy of this method in treatment of various disorders are increasing. For instance, effectiveness of this method regarding chronic disorders such as depression³⁶, psychoses³⁷, misuse and substance dependency³⁸, job exhaustion³⁹ and chronic pain⁵⁰ has been supported vastly by academics.

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ASSESSMENT TOOLS:

BDI(2nd Edition): BDI is one of the most suitable tools for assessing depression. This inventory contains 21 questions, which will assess physical, behavioral and cognitive symptoms of depression. Each question has similar set of four possible choices and they will rank different degree of depression from minimal to severe degree ⁴¹. This questionnaire mostly assesses the psychological aspect of depression rather than physical. Correlation of this Inventory with Hamilton Questionnaire is %75. 21 questions of BDI are categorized under 3 subgroups of emotional symptoms, cognitive symptoms and physical symptoms. Meta-analyses about BDI show that internal consistency coefficient is between 73% and 93% with a mean of 86% and alpha coefficient for patient group is 86% and for non-patient group has been reported 81%. For assessing reliability and validity of BDI(2nd Edition), a study was conducted between students of Allame-Tabatabaye University and University of Tehran. The results postulated that Chronbach's Alpha was 78% and retest validity in two weeks was 73% ⁴².

BAI: Aron Beck created Beck Anxiety Inventory in 1988. BAI is a 21-questions multiple-choice self-report inventory, one of the most widely used instruments for measuring the severity of anxiety. Each question has the similar set of four possible answer choices, which are organized in columns and are answered by marking the appropriate one with a cross. These are:

1. NOT AT ALL (0 points)
2. MILDLY: It did not bother me much. (1 point)
3. MODERATELY: It was very unpleasant, but I could stand it. (2 points)
4. SEVERELY: I could barely stand it. (3 points)

In this test, score between 0-23 is an indicator of low anxiety; score between 24-28 is indicator of mild anxiety and score more than 29 is indicator of pathological anxiety (29). In Iran, Lotfizadeh and Ghamari had translated BAI to Farsi. Correlation coefficient of this Inventory is 0.89 with physiological factors.

Ruminative Responses Scale(RRS): This scale was created by Hoeksema and Morrow which is 22 items scale. Each question has four degree which is scored between 1-4 and the domain is between 22-88⁴⁴. RRS demonstrates very high internal reliability, with Cronbach's Alpha ranging from %88 to %92⁴⁵. The intra-class correlation throughout five times of measurement was elevated ($r = 0.75$) and retest correlation of RRS for the period of 12 months was $r = 0.67$ ⁴⁷. Chronbach in Iran's sample was %90⁴⁸ and retest correlation coefficient within 3 weeks period reported %83⁴⁹.

FINDINGS:

In general, 14 mothers of children with special needs (Developmental disorders, Destructive behavioral disorder and Emotional disorder) were assessed and their specifications regarding education, age and job were noticed. According to analyzed data, higher frequency was noticed in Control group with Master degree level and lower frequency were noticed in case group with Upper-Diploma(college) degree level and lower frequency noticed in control group with Diploma degree level. Mean age of participants in case group was $2/52 \pm 27/72$ and in control group was $2/91 \pm 29/09$. Regarding occupation, highest frequency was noticed among housewives in both groups. In this study, descriptive statistics method like mean-frequency test and standard

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deviation in anxiety, depression and rumination were used in pre-test, post-test and follow up stages (Table No1).

	Case Group						Control Group					
	Pretest		Posttest		Follow up		Pretest		Posttest		Follow up	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Depression	16/86	5/98	7/69	4/37	7/72	4/95	15/79	3/83	14/93	3/05	15/03	3/41
Anxiety	21/26	6/74	13/37	5/82	13/63	5/93	20/74	4/84	20/26	4/17	21/81	3/85
Rumination	16/86	5/98	7/69	4/37	7/72	4/95	15/79	3/83	14/93	3/05	15/03	3/41

Table No1: Mean and SD in Anxiety, Depression and Rumination in Pre-test, Post-Test and Follow-up stages.

According to data in Table No1, in case group depression, anxiety and rumination were decreased after intervention and teaching ACT approach. One month after therapy, comparing follow-up stage to post-test stage, changes were consistent and these changes were the same for control group. Nonetheless, conclusion of meaningful results in these variables implicates using proper tests. Thus, in order to assess the data, MANOVA(multivariate analysis of variance) was used. In assessment of presumptions of MANOVA showed that presumptions of equality of variances for anxiety, depression and rumination variables were correct and presumption of analogy of covariance in different stages of assessment with single matrix for variables has not been fulfilled. Anyhow, due to equality of both groups, fully consideration of presumptions is not necessary and using MANOVA is reasonable⁵⁰.

Results of MANOVA in order to assess the interventional effectiveness of study on anxiety scores in entire 3 stages(Pre-test, Post-Test, Follow-Up) is shown in Table No2.

	Sum of Squares	Degree of Freedom	Means Square	F	Statistical Significance	Eta Square	Statistical Power
Test	89/04	2	44/52	13/71	0/00	51	0/97
Test Group	62/37	2	31/185	8/27	0/00	37	0/90
Error	94/94	18	5/28				

Table No2: Assessment of interventional effectiveness of study on anxiety scores in 3 stages

As it can be observed in Table No2, differences between both case and control group, in entire 3 stages considering anxiety variable are meaningful. Thus, according to results of Table no2, it can be inferred that intervention of the study has led to decrease in anxiety index in case group comparing to control group.

Results of MANOVA in order to assess the interventional effectiveness of study on depression scores in entire 3 stages(Pre-test, Post-Test, Follow-Up) is shown in Table No3.

	Sum of Squares	Degree of Freedom	Means Square	F	Statistical Significance	Eta Square	Statistical Power
Test	117/85	2	58/93	35/10	0/00	0/76	0/94
Test Group	96/38	2	48/19	29/57	0/00	0/70	0/85
Error	41/71	18	2/32				

Table No3: Assessment of interventional effectiveness of study on Depression scores in 3 stages

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As it can be observed in Table No3, differences between both case and control group, in entire 3 stages considering depression variable are meaningful. Hence, according to results of Table no3, it can be inferred that intervention of the study has led to decrease in depression index in case group comparing to control group.

Results of MANOVA in order to assess the interventional effectiveness of study on rumination scores in entire 3 stages(Pre-test, Post-Test, Follow-Up) is shown in Table No4.

	Sum of Squares	Degree of Freedom	Means Square	F	Statistical Significance	Eta Square	Statistical Power
Test	127/97	2	63/96	38/95	0/00	0/83	0/99
Test Group	101/47	2	50/74	30/16	0/00	0/79	0/95
Error	83/73	18	4/66				

Table No4: Assessment of interventional effectiveness of study on Rumination scores in 3 stages

As it can be inferred from Table No4, difference between both case and control group, in entire 3 stages considering rumination variable are meaningful. Hence, according to results of Table No1, it can be concluded that intervention of the study has led to decrease in rumination index in case group comparing to control group.

DISCUSSION:

The results are demonstrating that at the end of the therapy, depression, anxiety and rumination score of the case-group faced a substantial decrease as appose to control group. This result illustrates the effective role of ACT on mothers of children with special needs.

Effectiveness of Acceptance and Commitment therapy is mostly noticeable on GAD patients. Furthermore, effectiveness of ACT on various mental problems and some chronic illnesses such as depression, psychosis, misuse and substance dependency, social anxiety, exhaustion and chronic pain has been supported. ACT approach is a subgroup of behavioral therapy, which uses mindfulness techniques, acceptance and cognitive diffusion for enhancing psychological flexibility. In ACT, cognitive flexibility is about elevating the power in individuals in order to connect them with their experiences in a present moment and based on something that is attainable in that specific moment and congruent with their chosen values ⁵¹.

The result of this study is consistent with the result of the study conducted by Izadiet colleagues which was about effectiveness of ACT on reducing depression, anxiety and obsession. In their study, noticeable reduction in obsessive actions, believing in obsessive thoughts, severity of obsessive symptoms, being provoking and urge to respond to these thoughts has been observed. Additionally, reduction in Depression and anxiety scores after receiving ACT was noticed and this result resituated even after one month after intervention ⁵¹. In another study, which was conducted between cancer patients in their NDE (Near Death Experience) phase, traditional CBT and ACT were used. Patients who were under ACT treatment, showed much more elevated improvement than those who were treated by traditional CBT method ⁵².

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In this study we focused on exercising the assessment of internal and external world, avoiding useless activities, altering and understanding the subject of controlling the problems, introducing the alternatives for controlling behavior, recognizing values of individuals, affirmation of values, affirmation of actions and obstacles, deepening understanding of aforementioned concepts, understanding of fusion and diffusion and conducting some exercises for diffusion, being in a present moment and assessing life's narratives and maintaining committed actions with respect to specific goals and values as a part of ACT process. This process led to decrease in level of severity of anxiety, depression and rumination of mothers of children with special needs. In this method, the main focus was on internal world, in order to assist individuals to experience their disturbing thoughts only as a thought. ACT will benefit individuals in understanding the useless notion of their actions and it helps them that instead of responding to useless thoughts, they can focus on what is important for them in their lives and they can operate in accord to their beliefs and values⁵¹.

As statistical results showed, ACT led to meaningful decrease in anxiety, depression and rumination. Core procedures of ACT taught the people to let go of idea of thought inhibition, be free from disturbing thoughts; instead of conceptualized ego, they should magnify their observing ego, accepting internal events rather than controlling them, affirming their values and goals. In this method individuals will learn to accept their emotions rather than distancing from them and to focus on their goals and values with elevated sense of consciousness and it will help them bond with goal-oriented activities. In conclusion, ACT will educate individuals to experience their thoughts and emotions; instead of controlling them, it will demand individuals to work on their values and goals and experience their values and emotions⁵¹.

This method can positively decrease trend of depression, anxiety and rumination in mothers of children with special needs and it will lessen avoidance experience in them and this will finally lead to elevating hope of life, conformance with conditions of illness, better interactions with environment and reducing the comorbid problems of anxiety and depression such as suicide and sluggish psychomotor activity.

Regarding limitations of this study, lack of sufficient time in order to follow-up the results in longer period, not assessing the fathers of children with special needs, not assessing the families of these patients, small size of current sample and not mentioning other problems and crisis of these families, can be named. For future studies, it would be advised to study the fathers of children with special needs and it would be better to conduct a study with bigger samples in order to enhance the reliability. Furthermore it is better to compare this method with other therapeutic methods. Regarding the assessing efficacy of this method, it is advised to evaluate this method on individuals with other special illnesses.

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