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An Investigation on the Effect of Rational Emotive Behavior Therapy on Reduction of Anxiety, Depression, and Distress in People with Anxiety Disorder In the age of Corona

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Abstract

Objective: This study aimed to investigate the effect of rational emotive behavior therapy (REBT) of anxiety, depression, and distress in people with an anxiety disorder.
Method: The present study was applied and quasi-experimental in terms of the method (consisting of pre-test, post-test, and control group). The population of this study consisted of people with anxiety disorder referred to Loghman Hospital in Tehran in the age of 2019. Twenty people who were selected as participants based on the inclusion criteria were randomly divided into two groups (i.e.,REBT and control groups) equally (10 people in each group). Experimental pretest and posttest were performed using the Depression Anxiety Stress Scale (DASS), and the participants in the experimental group underwent the experiment for three months (a two-hour session per week).
Results: The results were analyzed using analysis of covariance. The results showed that REBT intervention was significantly effective (P=0.05) in reducing patients' distress, depression, and anxiety.
Conclusions: Thus, REBT can reduce patients' psychological problems by helping them recognize their irrational beliefs better and reduce their anxiety (self-blame) and hostility (blaming others and the universe).

Keywords: Rational Emotive Behavior Therapy (REBT), Distress, Depression, Anxiety.

Introduction

Anxiety disorders are considered as one of the most common psychological disorders (Sadock, Sadock, & Ruiz, 2015). Morbid anxiety causes a wide range of anxiety disorders, from cognitive and physical disorders to unwarranted fears and phobias (Norton, 2007). The American Psychiatric Association (2013) recognizes fear and anxiety as characteristics of anxiety disorders. Fear is defined as an emotional response to a real or perceived threat, and anxiety is defined as predicting a future threat. According to the American Psychiatric Association (2013), the prevalence of generalized anxiety disorder (GAD) is 0.9% and 2.9% in adolescents and adults, respectively, and women are twice as likely as men to develop the disorder.

Anxiety usually manifests itself in the form of concern and ruminating thoughts. People who experience anxiety have a strong and resilient concern for possible adverse events that may occur in the future (Barlow, cited in Iqbal & Dar, 2015). Like ruminating thoughts, anxiety occurs as a frequent overthinking of emotional distress and concern. However, ruminating thought is not the same as anxiety. The content of ruminating thought can be passed, present, and future events that have caused (or will cause) emotional distress and concern, while the content of anxiety is future events. However, these two can complement each other in

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anxiety (Laceulle, Marcel, van Aken, Ormel, & Esther Nederhof, 2015).

REBT is regarded as one of the therapeutic interventions for anxiety. REBT is designed to identify emotional problems quickly, within one to ten sessions, and introduce them to the patients to help the patients modify these problems and practice the rational philosophy in their life to solve the problems (Prochska, 2008). Studies show that REBT is effective in reducing anxiety (Shahandeh & Safarzadeh, 2010). REBT considers rational and irrational beliefs the most essential factors in cognitive vulnerability and flexibility (David, 2014). REBT regards two kinds of beliefs in the belief system: rational and irrational beliefs (David, Lynn, & Ellis, 2010; Ellis 1994).

Irrational beliefs, which are exaggerated, strict, biased, unrealistic, untrue beliefs and are the basis for psychological problems, can damage the individuals and their relationships with others (Dryden & Branch, 2008). According to REBT, irrational beliefs play a crucial role in the incidence of behavioral and emotional disorders. Researchers pointed to the relationship of irrational beliefs with depression (Vîslă, Flückiger, Grosse Holtforth, & David, 2016; Oltean, Hyland, Vallières, & David, 2017), anxiety (Culhane & Watson, 2003; DiGiuseppe, R., Leaf, R., Gorman, B., & Robin, 2018), post-traumatic stress disorders (Hyland, Shevlin, & Adamson, 2014), anger and guilt (Vîslă et al., 2016), and eating problems (Mayhew & Edelmann, 1989).

Rational beliefs are healthy, logical beliefs consistent with reality and lead to constructive emotional and behavioral reactions (Dryden & Branch, 2008). Rational beliefs are grouped into four basic categories which are preference (referring to flexible desires and inclinations), non-catastrophizing beliefs (referring to the evaluation of negative realities of life in a realistic sense), high frustration tolerance (can be tolerant and withstand essential and unbearable events) and unconditional acceptance of oneself and the others (unconditional acceptance of oneself, others and the world, even if something happens against individual's will) (Hyland et al., 2014). Hyland et al. (2014) showed that rational beliefs play an essential protective role in the emergence of PTS symptoms (Hyland et al., 2014). Rational beliefs, as a protective factor, show that these beliefs moderate the relationship of irrational beliefs with emotional states of distress, depression, and anxiety. The positive relationship of irrational beliefs with distress, depression, and anxiety is stronger when the level of rational beliefs is low and if the level of rational beliefs is high, this relationship is weaker (Caserta et al., 2010).

REBT tries to correct the irrational thoughts and beliefs of the patients (Buschmann, Horn, Blankenship, Garcia, & Bohan, 2018). In this method, REBT powerfully directs the irrational thoughts of the patients to their consciousness and makes the patients aware of them. It shows the patients how these irrational thoughts have caused them emotional discomfort, it makes clear how exactly the inner sentences are irrational, and it teaches the patients how to rethink and reconstruct these irrational sentences and turn them into rational thoughts (Balkıs & Duru, 2018). Research has also shown that cognitive techniques reduce emotional distress in MS patients (Abolghasemi, Mikaeili, Khoshnoodnia Chomachaei, & Karimi Yousefi,2018). Thus, the overall goal of emotional rational behavior therapy is to minimize the client's main point of view on self-destruction and help him or her acquire a more flexible and realistic philosophy of life.

Anxiety causes psychological and social changes. Anxiety makes a person feel miserable, alone, helpless, hostile, and revengeful towards others (Beck, 2008). Various negative and annoying consequences of this disorder make it necessary to understand its nature as well as treatment methods (Ashayeri, Hooman, Jamali Firoozabadi, & Watankhah, 2009). Given the wide range of treatments introduced in society to treat this problem, it is beneficial to recognize therapies such as REBT for further actions. Given the abovementioned discussions, the present study seeks to answer whether REBT affects the reduction of anxiety, depression, and distress in people with an anxiety disorder.

Method

The present study was a quasi-experimental research with pre-test, post-test, and control group. The population of this study consisted of people with anxiety disorder referred to Loghman Hospital in Tehran who had an active anamnesis in the period of winter 2018 to spring 2020. Twenty people (10 people in each group) were selected in this study as control and experimental groups. Inclusion criteria were DSM-5 diagnostic criteria for anxiety disorder diagnosed by a psychiatrist, no history of psychological treatments before entering the study, minimum age of 18 years and maximum age of 50 years, holders of high school diploma and higher academic degrees, and the patient signed written consent to participate in the research. Exclusion criteria were having psychiatric and other physical illnesses, not attending training sessions for more than two sessions, not willing to participate in the research, and receiving psychological therapies for any reason. The sample of this study was selected using the purposive and convenience sampling methods. To do this, we talked to a number of anxious patients in counseling centers and hospitals in Tehran and explained the purpose of the research and how to conduct it and questionnaires. After informing the patients about the subject and how to conduct the research, patients who were ready to participate in the research were selected as the subjects to conduct the research.

Procedure and participants

To conduct this study, a pretest-posttest experimental design was performed using the Stress Anxiety Depression Scale (DASS) and the experimental group was treated for three months (a two-hour session per week) with REBT in the group.

Ethical Statement

To take into account the ethical considerations, the participants were informed that they have full authority to participate in the research. In addition, control group were included in the waiting list for psychological intervention.

Research instruments

Depression Anxiety Stress Scale (DASS): The DASS (Lovibond & Lovibond, 1995) is a 21-item measure that includes three subscales assessing symptoms of depression, anxiety, and stress on a four-point scale from the lowest score 0 to the highest score 30. The score of each individual on each scale is measured through seven items specific to that scale. This scale is one of the most valid tools for assessing the symptoms of negative emotions and its reliability and validity is confirmed in numerous studies (Antony, Bieling, Cox, Enns, & Swinson, 1998; Brown, Chorpita, Korotitsch, & Barlow, 1997; Lovibond & Lovibond, 1995). Besharat (2005) analyzed the scores of a sample selected from a general population (n=278) and reported that Cronbach's alpha coefficients of the DASS are 0.87, 0.85, 0.89, and 0.91 for depression, anxiety, stress, and the total scale, respectively. Moreover, the scores of a clinical sample (n = 194) were analyzed and it was reported that these coefficients are 0.89, 0.91, 0.87, and 0.93 for depression, anxiety, stress, and the total scale, respectively. These coefficients confirm the internal consistency of the DASS to a reasonable extent. Concurrent, convergent, and diagnostic (discriminant) validities of the DASS were calculated and approved through implementing the Beck Depression Inventory (BDI; Beck, Rush, Shaw, & Emery, 1979), Beck Anxiety Scale (BAI; Beck & Epstein, 1993), Positive and Negative Affect Schedule (PANAS; Watson, Clarke, & Tellegen, 1988) and the Mental Health Inventory for subjects simultaneously and comparing the scores of the general and clinical populations (Besharat, 2005). The results of the Pearson correlation coefficient showed that there is a significant positive correlation from 0.41 to 0.61 ($p < 0.001$) among the subjects' DASS scores for depression, anxiety, and stress scales and their BDI, BAI, Negative Affect, and psychological helplessness scores and there is a significant negative correlation from 0.41 to 0.58 ($p < 0.001$) among subject's DASS scores for depression, anxiety, and stress scales and their Positive effect and Psychological Well-being. These results confirm the concurrent, convergent, and diagnostic validities of the DASS.

Table 1. Goals listed in Ellis's educational intervention

Session	Goal
1st	To build communication and trust, to obtain a general understanding of the logic of Ellis' approach. Expressing goals, making members more familiar with the rational-emotional-behavioral approach and irrational beliefs, examining the problem from the point of view of each member, task and end
2nd	Start by recalling the task of the last session, expressing the role of thoughts and ideas on psychological well-being, helping members to be aware of the role of ideas and beliefs in creating problems.To introduce the main concepts of Ellis's approach and to present the A-B-C-D model
3rd	Start by recalling the assignment of the last session, helping members to become aware of the role of ideas and beliefs in creating the problem.To create awareness of how anxiety is formed
4th	Mention examples of life events and group discussions on how beliefs affect the well-being and mental health, teaching the principles of A8C-DC, examining the role of irrational do's and don'ts in creating problems and homework
5th	To teach how to recognize and control frustrating, pessimistic, dysfunctional, and anxious thoughts. Teaching methods of arguing with irrational beliefs through role-playing and homework
6th	To change and eliminate wrong beliefs and replace the beliefs and to recognize correctly according to the A-B-C-D model Teaching methods of arguing with irrational beliefs through emotional rational imagery, homework, and termination.
7th	To recognize unpleasant emotions and change them Through training and implementation of cognitive, emotional and behavioral techniques such as relaxation, attack against shame, joke, self-management, meanings of expression, task and termination.
8th	To work on dysfunctional behaviors to change them according to the A-B-C-D model and teaching cognitive, emotional, and behavioral management techniques
9th	To teach the problem-solving method Through relaxation, attack against shame and jokes. practical exercises
10th	To present programs to perpetuate the achievements Teaching ways to prevent mental problems, doing practical exercises in a group and summarizing and concluding by group members, appreciation and thanks, Khaimeh.

The REBT protocol is prepared based on a step-by-step guide to REBT by Wendy Dryden (2011).

Analysis of covariance is used in this study based on the type of this research. All analyses of this study were performed using IBM SPSS Statistics Student Version 18.0.

Results

Table 2 displays descriptive indices related to the demographic factors of the sample under study, including sex, education, and age.

Chi-squared test was performed to examine the homogeneity of groups in terms of sex and education, and since the significance levels of the tests are more than 0.05, it can be concluded that there is not a significant difference between the frequencies of different sexes and educational levels and control and experimental groups were homogenous regarding these variables. One-way analysis of variance was performed to evaluate the homogeneity of the groups in terms of age variable. The result showed that

Table 2. Descriptive indices related to the demographic factors of the sample under study

Variable	Levels	Groups			
		REBT	Control		
Sex	Male	5	6		
*	Female	5	4		
	Total	10	10		
Education	High school diploma	4	3		
**	A.A.	1	1		
	B.A.	3	4		
	M.A.	1	1		
	Ph.D.	1	1		
	Total	10	10		
Age	Groups	Min	Max	Mean	SD
***	REBT	19	48	32.90	10.06
	Control	18	49	33.10	11.12

* χ^2=3.581, P=0.31 ** χ^2=3.067, P=0.995 ** F=0.169, P=0.917

because significance levels of the tests were greater than 0.05, there was no significant difference between the groups in terms of age. therefore, the experimental and control groups were homogeneous regarding age.

Table 3 shows the descriptive indices of central tendency and dispersion of distress, depression, and anxiety pre-test and post-test scores of patients in REBT and control groups. According to this table, the scores of all subscales of the REBT decreased in the post-test. This can indicate the effect of therapeutic interventions on reducing patients' distress, depression, and anxiety. Its significance is examined in the hypothesis testing section.

Table 4 shows the results of the F-tests, which can

Table 3. Descriptive indices related to distress, depression, and anxiety pre-test and post-test scores of patients in REBT and control groups

Variable	**Conditions**	**REBT**		**Control**	
		Mean	**SD**	**Mean**	**SD**
Distress	Pre-test	26.20	5.77	27.40	5.66
	Post-test	11.00	1.70	29.80	4.94
Depression	Pre-test	25.20	6.48	27.00	4.55
	Post-test	10.00	1.63	27.80	4.47
Anxiety	Pre-test	28.40	6.10	26.00	6.67
	Post-test	11.40	2.67	28.40	6.10

Table 4. Results of subject's effect tests

Dependent variables (post-test scores)	Sum of squares	Degree of freedom	Mean square	F	Significance level	Partial eta squared
Distress	2688.187	1	2688.187	76.182	0.001	0.874
Depression	1.663	1	1.663	70.481	0.001	0.865
Anxiety	0.047	1	0.047	42.951	0.001	0.796

be used to examine the effects on the subjects. These tests examine the significance of the effect of the independent variable on each dependent variable (post-test scores) separately after controlling the effect of covariate variables (pre-tests). The results of this table show that there is a statistically significant difference among all dependent variables in the REBT group because their significance level is smaller than 0.05. In other words, when the effect of pre-test means is controlled, there is a significant difference among the REBT and control groups concerning distress ($F = 76.182$, $p = 0.001$, $\eta 2 = 0.874$), depression ($F = 70.481$, $p = 0.001$, $\eta 2 = 0.865$), and anxiety ($F = 42.951$, $p = 0.001$, $\eta 2 = 0.796$). It can also be concluded from the coefficients of the partial eta squared that the effect of this difference is large (Cohen, 1988). In other words, the efficacy percentages of the independent variable group in explaining the dispersion observed in the distress variable, depression scores, and anxiety variable were 87.4, 86.5, and 79.6, respectively.

Discussion and conclusion

The aim of this study was to investigate the effect of emotional rational behavior therapy on reducing anxiety, depression, and distress in people with anxiety disorder. The results of the analysis of covariance showed that REBT is effective in reducing anxiety, depression, and distress. The findings of the present study are in line with the findings of Vîslă et al. (2016), Otlean et al. (2017), Culhane and Watson (2003), DiGiuseppe et al. (2018), Hyland et al. (2014), and Eifediyi, Ojugo, and Aluede (2017).

Regarding the efficacy of REBT education in reducing psychological problems, it can be said that this approach emphasizes the thought processes related to behavior and feelings that are associated with psychological and emotional problems. People in the therapy group are encouraged to change their thoughts about personal experiences and behavior change, and this changes the individuals' feelings about themselves. REBT emphasizes the need to replace people's irrational beliefs with rational ones and provides solutions during the treatment process to help the individual identify dysfunctional thought patterns that lead to feelings of inadequacy and replace them with rational and functional thought patterns. Adolescents who undergo this group education experience increased happiness by replacing irrational and dysfunctional beliefs with rational and functional ones, resulting in a shift from negative to positive emotions (Dobson & Strawn, 2016).

It can also be said that what defines human and gives meaning to his life and behavior are his beliefs and how he looks at events. Man is what he thinks. He deals with issues based on his beliefs and how he defines life, and individuals deal with a common accident differently according to their knowledge and beliefs, and this important thing is often taught by the family and social interactions. People sometimes are so enclosed in irrational "musts" and "necessities" that they cannot enjoy their current lives. Sometimes, they do not even realize that what hinders their vitality is themselves, not external factors. Since many of these beliefs are irrational and unreasonable, they negatively affect people's lives and cause depression and tension. For example, depression is one of the disorders that affect many people every year and it is rooted in negative and morbid thoughts and beliefs. This disorder distorts one's view of oneself, others, and the world, weakens one's judgment, and leads to unreasonable behaviors. A depressed person cannot lead a normal daily life, and almost all aspects of life, from concentration at work to sleep at night, are affected by depression (Trip, Vernon, & McMahon, 2007).

People choose irrational and unreasonable goals because of irrational perceptions of themselves that lead to feelings of worthlessness, and as a result, they feel inefficient when they cannot achieve their goals. REBT acknowledges the existence of irrational beliefs in the individual and emphasizes the need to replace irrational beliefs with rational ones (Dryden, 2011). Moreover, the way people think and interpret life events and situations plays an essential role in the occurrence of their psychological problems and irrational thoughts cause emotional disturbances such as stress and depression.

Given that practicing is an exercise in coping with problematic and challenging situations in real life that increases the effectiveness of treatment, it is important to assign practices in education sessions and

to continue practicing at home. Cognitive techniques are identifying and challenging irrational thinking, seeking help to find alternative ways of thinking. These techniques lead to a change in behavioral and emotional reactions by changing and transforming the belief system of the individual, which enables the person to correctly understand and interpret the truth. REBT enables people to face the challenges and unpleasant experiences of life adaptively and realistically by recognizing their irrational beliefs and challenging these thoughts and replacing them with realistic thoughts, as well as experiencing functional and effective emotions.

According to this approach, many people unconsciously believe that life should go on without a challenge which is considered intolerable. In this regard, the REBT-based intervention tries to question this general belief and then lead people to the view that different challenges in life are inevitable, and although challenges are somewhat stressful and require effort and preparation, it is not rational to think that they are unbearable or should not exist (Connor & Davidson, 2003). Thus, REBT increases distress tolerance and reduces emotional problems such as depression and anxiety in three stages: 1. putting aside this general belief that life challenges are unbearable and catastrophic; 2. accepting life challenges and mild negative emotions accompany them as a reality of life and perceive them as tolerable; 3. teaching behavioral skills to strengthen problem-solving abilities and the ability to deal realistically with solvable challenges. The limitations of the present study can be the lack of adequate time for training, the researcher's lack of communication with the clients' families, the impossibility of random sampling, the lack of selection of subjects based on their general health level (existing research subjects may already be The intervention also had high public health), and the impossibility of experimental control of irrelevant variables.

Based on the findings, it is recommended that future research screen the subjects based on the levels of their psychological problems. Future research can also determine the number of group therapy sessions based on the subjects' progress so that the subjects who progress more leave the treatment sessions sooner and the therapist focuses on the subjects who progress more slowly. Moreover, the effectiveness of REBT in reducing anxiety and treatment progress of patients with emotional problems in low, medium, and high socioeconomic classes can be compared.

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