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The Effectiveness of Pharmacotherapy and Cognitive - Behavioral Therapy in Reducing Anxiety in Women with Generalized Anxiety Disorder

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ABSTRACT: The present study was performed to the effectiveness of pharmacotherapy and cognitive - behavioral therapy in reducing anxiety in women with generalized anxiety disorder. This research is based on an experimental method with a pretest-posttest of control group. The population consisted of women 23 -40 years suffering from generalized anxiety disorder referred to psychiatrists' offices and advice centers of Rasht where their disorder was diagnosed through Zung anxiety questionnaire and structure interview of psychiatry and psychology and the method of sampling was available in sampling which the samples were randomly divided into four groups including: a group of pharmacotherapy, a group of cognitive - behavioral therapy, a group of both pharmacotherapy and cognitive - behavioral therapy and finally control group. The sample size in this study was 60 people (each group consisted of 15 people). Zung anxiety questionnaire was run on them in two sections of pre-test and post-test. Data were analyzed using the software SPSS18. The results obtained using analysis of covariance showed that pharmacotherapy and cognitive - behavioral therapy were effective in reducing anxiety.

Keywords: Cognitive, Behavioral Therapy, Pharmacotherapy, Generalized Anxiety Disorder.

INTRODUCTION

Anxiety disorder is one of the most common psychiatric disorders in the general population. In the United States, approximately 30 million people suffer from this disorder and female ratio is almost twice that of men (Kaplan & Sadock, 2003). Anxiety is a warning that the attention of the person is attracted; this means that this warns the person that a danger is coming and this causes a person to be able to take measures to deal with the risk. Feeling of anxiety has two components: finding out the person from his physical changes (such as palpitations and sweating) and finding out the person about being nervous or scared. Anxiety often creates confusion and distortions in perception; distortions not only in the perception of time and Space, which even in understanding people and meaning and significance of events. These distortions by reducing concentration, reducing the power of remembrance, disrupting the power of linking issues together – i.e., evoking – can create disrupting in teach (Kaplan & Sadock, 2003). Generalized anxiety disorder (GAD) is a common and debilitating disorder that this has been known as a century disease because of the extent and prevalence among all ages. Uncontrollable worry is the most distinguished and most essential feature of the disorder that often everyday issues are discussed and the patient is in the best of times gone by. The main feature of generalized anxiety disorder is "excessive anxiety and worry (apprehensive expectation) about a number of events and activities (such as work or school performance) that the

man was gone most days with and at least 6 months will continue". Other diagnostic features include three symbols of the six cognitive, emotional, or physical signs: 1) restlessness, feeling of anxiety or nervousness; 2) early fatigue; 3) difficulty concentrating or mind blank; 4) irritability; 5) muscle tension; and 6) sleep disturbance (Mahmoud Aliloo et al., 2012).

Cognitive – behavioral treatment (CBT) is a psychological training. The main activity of this type of treatment is to learn new skills and apply these skills in therapy sessions and at home for homework, and in real-life situations. Cognitive techniques emphasize automatic thoughts and desires which are involved in stretching, while behavioral techniques focus on actions that interact causally with the cognitive processes (Goudarzi, 2004). CBT is a psychological perspective which discusses on interactions among that how we think and feel and behave and this usually has a time limit (approximately 10 to 20 sessions) and focuses on the present problems and follows a structured style in treatment interventions. Development and application of cognitive-behavioral therapy have been evaluated by several studies and in new studies of the effectiveness of cognitive - behavioral therapy for many common mental disorders is supported. This therapeutic approach stresses the relationship among thoughts, emotions, physical symptoms, behavior, and environment and focuses on the role of thinking and processes related to it (Kindown, 2008).

Studies on the treatment of anxiety disorders have generally been in the field of pharmacotherapy and therapeutic behavior and therapeutic recognition and combination of cognitive - behavioral therapies with psychotherapy. Some experts apply psychotherapy as the first method of dealing with this disorder. Some of these drugs are benzodiazepines, venlafaxine, tricyclic medications, Buspirone and anti-seizures of anti-anxiety. The results of the research of Ball (2010) shows that combination therapy compared to both psychotherapy and cognitive - behavioral treatments alone in reducing symptoms of social phobia, anxiety and depression, and social adjustment and self-esteem have been more effective, but its effectiveness has occurred in changing unhealthy thoughts such as cognitive - behavioral treatments and had not a certain superiority. Lack of difference for combination therapy with cognitive - behavioral treatments within the parameters of recovery may be due to the short period of treatment with benzodiazepine drugs. Psychotherapy has affected the physical and mood symptoms and wanes depression and anxiety, but cognitive - behavioral treatments have affected mainly the fear thoughts and impulses and gradually extend to other real-life situations. Therefore, these two treatments are interdependent in many cases. The results of Saffosogi et al (2011) show that each of the treatments alone compared to placebo in the treatment of social phobia has had some superiority.

Although psychotherapy in recovery indicators (such as social phobia, depression, anxiety) is effective, this had little impact in cognitive changes of the patients and cognitive - behavioral approach lead to considerably superiority in this context. Deficiencies in social skills and social values are among the causes of anxiety and cognitive - behavioral skills trainings on the use of other situations in real life is somewhat generalized to other acts and finally include reduction of symptoms of anxiety, increase of social adjustment and self-esteem. Dehshir (2012) in his research entitled the effectiveness of cognitive - behavioral treatment on anxiety in patients with generalized anxiety disorder concluded that cognitive-behavioral therapy was effective in reducing symptoms of generalized anxiety disorder. Akbari (2010) in his research entitled the effectiveness of cognitive - behavioral therapy in treating depression and generalized anxiety of spouses scarifying in Gilan province concluded that cognitive-behavioral therapy was effective in treating depression and generalized anxiety. In the research of Alirezaei Motlagh and Asadi (2008) entitled the effect of cognitive therapy in reducing anxiety in girl adolescents with generalized anxiety disorder concluded that cognitive-behavioral therapy in reducing anxiety in girl adolescents with generalized anxiety disorder was effective. In the research of Farnam et al (2008) entitled to comparison of the effectiveness of cognitive - behavioral therapy and fluoxetine in the improvement of patients with obsessive-compulsive disorder concluded that cognitive - behavioral therapy in reducing symptoms of obsessive-compulsive patients and fluoxetine in reducing depression level of patients had major therapeutic effect.

Also, cognitive - behavioral therapy and long-term health more than fluoxetine maintain therapeutic effects. In the research performed by Abolqasemi (2003) individual effect of psychotherapy, cognitive - behavioral therapy and placebo and combination therapies on a group of patients with generalized anxiety disorder were examined. The results showed that psychotherapy was quick effect in reducing anxiety. Also, the results of the research of Mehryar (1999) in treatment of generalized anxiety disorder showed that cognitive - behavioral therapy group not only reduces anxiety levels, but this also reduces unhealthy thoughts and attitudes and improves interpersonal relations, while drug therapy is only effective in reducing anxiety levels. Nourzendeh Jonny (1995) studied in a research entitled cognitive-behavioral therapy and psychotherapy management compared to treatment in patients with generalized anxiety disorder. The results showed that cognitive - behavioral therapy could dramatically reduce anxiety. Barry (2009) in the studies has shown that cognitive - behavioral therapy can help people with social anxiety during a 6-10 week effective short-term treatment program. Fowler et al (2008) showed that cognitive-

behavioral therapy was effective in improving the mental illness and had a significant effect on improvement positive beliefs in those with dementia. Dilater (2010) discussed in his study to investigate the role of therapeutic schema in reducing anxiety in anxious and non-anxious students.

The study population included 1,100 people of anxious and healthy students referred to the university clinic. He found that he did not consider a specific schema related to anxiety factor, but he had achieved a higher level of activation of adverse schemas and compared to schemas in healthy people. The concluded on studying schemas of anxious clients compared to healthy people that in general, early maladaptive schemas were more active in anxious and unhealthy people. Therefore, the fundamental question of this study is that pharmacotherapy and cognitive - behavioral therapy were effective in reducing anxiety in women with generalized anxiety disorder?

MATERIALS AND METHODS

The research method is based on experimental that it is implemented in pretest-posttest to evaluate the efficacy of treatment. The population consists of women 23 -40 years suffering from generalized anxiety disorder referred to psychiatrists' offices and advice centers of Rasht that they are 143 people. The method of sampling was available in sampling which the samples were randomly divided into four groups including: a group of pharmacotherapy, a group of cognitive - behavioral therapy, a group of both pharmacotherapy and cognitive - behavioral therapy and finally control group without receiving any treatment. First, on all of the population, Zung anxiety questionnaire was administered that 85 women qualified in the test. 60 subjects were selected that they were randomly replaced available in four groups of 15 people. In implementing the study, after performing sampling and replacing them with three experimental groups and one control group, the pre-test was performed for all groups and then to the experimental group, cognitive - behavioral training which 8 sessions and every session for 90 minutes per week were given a training session. A group that was in pharmacotherapy, he received the drug as prescribed by the psychiatrist, examples which in groups that were simultaneously treated both pharmacotherapy and cognitive - behavioral therapy. The control group was not given any training; at the end, the posttest was performed on both at the same time and in the same condition. Due to the design of the study, to analyze the data, multivariate analysis of covariance (MANCOVA) is used. Data were analyzed using the software SPSS18.

Research Tools

Zung Anxiety Questionnaire: The scale has 20 multiple-choice questions, and based on the physical symptoms of emotional distress is provided. Diagnostic criteria are used in order to make this scale which is consistent and coordinated with the most common features of anxiety disorders. That is clinical interview of anxious clients is recorded in detail and then individual cases have been filed in the production test. Diagnostic criteria for S.A.S have 5 signs of emotional symptom and physical symptom is 15.

Emotional symptoms of anxiety: 1- anxiety and anger, 2- fear, 3- panic and horror 4- lack of psychological consistency and 5- trepidation of waiting for an adverse event.

Physical symptoms of anxiety: 1- shaking, 2- physical discomfort and pain, 3- nausea and vomiting, 4- shortness of breath, 5- numbness and tingling and 6- illness and fatigue, 7- weakness, 8- restlessness and agitation, 9- heartbeat, 10- confusion, 11- frequent urination, 12- sweating, 13- flushed face, 14- insomnia and 15- removing nightmare.

The advantage of this scale compared to similar scales is that clients can follow less a specific manner in their answers because 20 question are used and in scale, the number of questions (16 questions) focuses on positive symptoms and others (4 items) on negative symptoms. The questionnaire is used of options of never or rarely, sometimes, often or always or almost always. At the time of grading according to the type of question, if it is positive, score one is given to never and to others are given the scores two, three and four and if the question is negative, in contrast to permanent and almost always are given score one and to never is given score four. The maximum possible score is 80 on this scale and score for each subject is equals to the total value of the sum of the scores obtained from each of the questions and anxiety for each responder equals to raw score. The scale at a statistically significant level continuously distinguishes the patients with anxiety disorders from other classes. One of these studies that indicated a correlation between Hamilton Anxiety Scale (1995) and Zung Anxiety Scale of S.A.S showed that based on information obtained from implementing two measures on over 500 cases and by the method of Pearson correlation, the correlation between two tests S.A.S and H.A.S has been 0.71.

Cognitive - behavioral training sessions

First session: Briefing

1. Greeting, motivation, an overview of the main rules of the sessions, number of sessions, duration of sessions, expressing expectations of participants in therapy sessions.
2. Proceeding to know each other (client and therapist).
3. Discussion on the interaction between the psychological and the expression of thoughts, emotions, actions and behaviors alarming.
4. Homework

Second session

1. An overview of the content of previous sessions.
2. Analysis of active events, beliefs and emotional reactions from the patient's perspective.
3. Discussion on positive self-talk and its role in controlling emotions and maladaptive behaviors.
4. Determination for the next session in recognizing dysfunctional basic beliefs of great anxiety and depression as well as positive self-talk exercise and its effect on behavior.

Third session

1. An overview of the content of the previous session with the participation of the client and the therapist.
2. Investigation of the assignments given to clients in the field of fundamental beliefs inefficient and positive self-talk and its effects on anxiety-related behaviors.
3. Muscle practical training
4. Determination for the next meeting in muscle relaxation.

Fourth session

1. An overview of the content of the previous session with the participation of the client and the therapist.
2. Checking homework in terms of muscle relaxation and its impact on the alarming behavior.
3. Discussion on problem-solving skills, exciting stages and its effects on anxiety.
4. Providing various examples of problem-solving and process it.
5. Determination of homework on problem solving in relation to the problems that have plagued it.

Fifth meeting

1. An overview of the content of previous sessions and techniques presented at the beginning of therapy sessions so far.
2. Checking homework on problem-solving skills and their impact on anxiety behaviors.
3. Discussion on objective analysis, logical analysis and useful analysis in relation to anxiety behaviors.
4. Providing homework on logical analysis, useful and objective behaviors that are alarming.

Sixth session

1. An overview of the content of the previous session with the participation of the client and the therapist.
2. Checking homework on objective analysis, logical analysis and useful analysis and its effect on anxiety behaviors.
3. Discussion on social skills such as assertiveness, interpersonal skills and self-control.

Seventh session

1. An overview of the content of the previous session with the participation of the client and the therapist.
2. Checking homework on assertiveness, interpersonal skills and self-control in stressful behaviors.
3. Discussion on the role of documents in great anxiety, as well as lectures and training on different beliefs and experience both emotional inconsistent.
4. Determine home assignments in the field of documentation, and the two opposing beliefs emotional state is inconsistent in relation to the problems that plagued the client.

Eighth session

1. An overview of the content of the previous session and all techniques that have been discussed.
2. Checking homework on documents, and the two opposing beliefs inconsistent emotional state of great anxiety.

3. Discussion on stopping thinking and biofeedback and their role in reducing and controlling and amazing anxiety behaviors.
4. Determination of homework on stopping thinking and biofeedback and their role in reducing and controlling and amazing anxiety behaviors.

Pharmacotherapy

The name of drug and dose: anti-anxiety benzodiazepines

Alprazolam, lorazepam or clonazepam, depending on the severity of anxiety and the patient's condition can be prescribed for one to three weeks and the dose based on the severity of the disease and the patient's condition and age of the patient is determined and dose of drugs is reduced due to recovery. Since it is possible that there are other disorders with anxiety, other drugs are prescribed. Depression is common with anxiety disorders and that is why antidepressants are prescribed since the beginning of treatment. Taking medication is short. Antidepressants include SSRI and TCA (tricyclics). Tricyclics have anti-anxiety properties in addition to anti-depressants property, but anxiolytic effect is appeared four to six weeks after taking anti-anxiety medication and concurrently with anti-anxiety medication is prescribed.

When the anxiolytic effect of antidepressants was appeared, we reduce anti-anxiety medication.

RESULTS

According to current research project which is based on pretest-posttest with a control group; therefore, the best way to analyze the data is to use multivariate regression analysis (MANCOVA). All statistical analyses of this section are performed by the use of the software SPSS 18.

Table 1. Test of effect size based on Wilk's Lambda.

Value	F	df	Degree of Freedom of Error	Sig.	Effect size of Wilk's Lambda
0.089	28.4	2	55	0.000	0.911

As it can be seen from the above table, the effect of cognitive - behavioral therapy and pharmacotherapy practices of education in a combined variable has had a significant effect $F = (2, 25) = 28.4$, Wilk's Lambda = 0.089 $p<0.01$, Partial$\eta^2 = 0.91$. This means that cognitive - behavioral therapy and pharmacotherapy teaching methods have been effective in reducing anxiety and share square of ETA shows intensity of this effect 0.91 indicating very high intensity of the effect.

Table 2. Test results of cognitive-behavioral effect of education on reducing anxiety.

Sources of Changes	SS	df	MS	F	Sig.
Anxiety	1984.53	1	1984.53	15.34	0.000
Error	4913.06	38	129.29		

According to the table above, cognitive - behavioral training on reducing anxiety has been effective $F = (1, 38) = 15.34$. Therefore, it can be said that the assumption of the research on that cognitive - behavioral training is effective in reducing anxiety, is approved.

Table 3. Test results of pharmacotherapy effect on reducing anxiety.

Sources of Changes	SS	df	MS	F	Sig.
Anxiety	1038.40	1	1038.40	8.12	0.007
Error	4857.56	38	127.2983		

According to the table above, pharmacotherapy on reducing anxiety has been effective F = (1, 38) = 8.12. Therefore, it can be said that the assumption of the research on that pharmacotherapy is effective in reducing anxiety, is approved.

DISCUSSION AND CONCLUSION

One of the factors that influence the behavior and human emotions is attitudes and personal beliefs about the incident or more generally about the issue or phenomenon to that individual schema. This is the core of the cognitive approach because there is a belief in cognitive approach that the type person's belief determines his feelings and behavior and perceptions. That is why beliefs of people in therapeutic recognition are the main target for treatment.

According to the results of Table (1), cognitive - behavioral therapy and pharmacotherapy therapy practice training is effective in reducing anxiety. The result obtained is in line for the studies of Akbari (2010), Farnam et al (2008), Abolqasemi (2003), Mehryar (1999), and Ball (2010). In explaining this hypothesis, it can be stated that anxiety completely depends on individual assessment of the situation and of itself. An individual cognitive framework and its position can be changed and enhanced by training. Believing a person for trying to achieve the desired objectives, due to the positive feedback after the presentation of assignments will be trained in the next sessions and this can play an important role in this effectiveness and the subjects gradually from the experience of group efforts and receiving positive feedback can increase social adjustment. Since cognitive - behavioral therapy will be effective in improving the relationship of the individual with society in its turn, and it is also important in the ability of the individual in dealing with situations and emotions control, so on the whole it can be concluded that change in attitude and way of thinking, identify etc. and as a result, pharmacotherapy and cognitive - behavioral training can reduce anxiety by nature.

According to the results in Table 2 shows that cognitive-behavior training on reducing anxiety F = (1, 38) = 15.34 has been effective at the level of significance ($P<0.01$). The result obtained is in line for the studies of Dehshir (2012), Abolqasemi (2003), Mehryar (1999), Dilater (2010), Barry (2009) and Ball (2010). In explaining the result, it can be said that behavioral therapy is a clear method and includes an evaluation in the experimental method because all its aspects, such as behavior that needs to change, the aim of behavioral therapy is to correct some specific observable behaviors such as isolation and withdrawal and not discussing on activities of courage that they are the symptoms of anxiety disorder. In this short tutorial course, the therapist tries to teach a person how he can change this behavior. Cognitive - behavioral treatments are considered as new development in psychological treatment. This process is based on that the anxiety is the result of the discrepancies between the pressures incurred on individual and personal resources to cope with these pressures. Finally, this study showed that in general, cognitive-behavioral training has had a great impact on reducing anxiety.

According to the results in Table 3 shows that pharmacotherapy on reducing anxiety F = (1, 38) = 8.12 has been effective at the level of significance ($P<0.01$). Therefore, it can be said that the assumption of the research on that pharmacotherapy is effective in reducing anxiety, is approved. The result obtained is in line for the studies of Farnam et al (2008), Dilater (2010), Ball (2010), and Fowler and Nehodgekine (2008). In explaining the result, it can be said that since anxiety can have a significant role in people's lives, and often involves impulse, emotions or attitudes control, and without a doubt, this is one of the factors that can lead to hamper in the adjustment process. Pharmacotherapy approach has an important effectiveness in reducing person's anxiety as a result of creating flexibility or social adjustment of the subjects. Since physiological changes are fundamental symptoms of anxiety, taking medication by making some adjustments results in eliminating these symptoms. Drugs are mainly affected the activity of different neurotransmitter (serotonin, norepinephrine, dopamine and GABA) and result in the above neurotransmitter activity.

Anticholinergic stimulation leads to inhibiting central nervous system stimulations and this act also leads to inhibiting irritations and finally reducing anxiety. Venlafaxine inhibits the reuptake of serotonin and norepinephrine, and Buspirone decreases cognitive symptoms, anger and militancy of anti-anxiety and anti-seizure finally began to flow through the inhibition of calcium ions which lead to releasing less neurotransmitter and this has an influence on reducing anxiety. So, it can be said that this method of therapy is a process that can be used, and also changes the adjustments to life environment. Cognitive - behavioral therapy focuses on the relationship among thoughts, emotions, physical, behavioral, and environmental symptoms, and also emphasizes on the main role of thoughts and processes related to it but pharmacotherapy has affected the physical and mood symptoms and reduces their anxiety and these two methods are interdependent. Therefore, cognitive - behavioral therapy along with pharmacotherapy can reduce anxiety by nature. Cognitive - behavioral therapy and pharmacotherapy may be a promising therapy for women with generalized anxiety disorder. Because of the limitations including poor cooperation for some of the

different subjects (impatience) and restrictions on the ability to control all the variables affecting the position of research, so, it is suggested that the effectiveness of this method are investigated on the groups and other examples in different cities.

Conflict of interest

The authors declare no conflict of interest.

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