

Comparative Application of Positive Intervention and Cognitive-Behavioral Therapy and Investigation of its Effectiveness in Improving the Symptoms of Generalized Anxiety Disorder

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Abstract

Introduction: The purpose of this study was to investigate the effectiveness of the positive intervention developed in this research in reducing the symptoms of generalized anxiety disorder and to compare it with cognitive-behavioral therapy.

Method: This study was a semi-experimental research with a pretest-posttest control group design. The study sample included 45 people with generalized anxiety disorder who were selected by convenience sampling method by referring to the Welfare Counseling Center in Mashhad. The participants were randomly assigned to two experimental groups (positive/cognitive-behavioral) and one control group. For the experimental groups, positive intervention was performed for eight sessions and cognitive-behavioral therapy for 10 sessions.

Result: The results suggested that positive intervention and cognitive-behavioral therapy significantly reduced anxiety, negative affect, interpretation bias, autobiographical memory bias and rumination, and significantly increased positive affect and psychological flexibility. Comparative results of positive intervention and cognitive-behavioral therapy demonstrated that there was no significant difference in the effectiveness of the two methods.

Conclusion: Due to the lack of a positive intervention protocol for generalized anxiety disorder and its effectiveness in improving more symptoms in this disorder, it is suggested that the effectiveness of the developed positive intervention protocol be further investigated by researchers and therapists.

Keywords: Positive Intervention, Cognitive Behavioral Therapy, Generalized Anxiety Disorder

Introduction

Anxiety disorders, as a group of psychiatric disorders, are among the most common mental disorders in the world [1]. Epidemiological studies display that the overall prevalence of this disorder in Iran is 15.6% and the prevalence of Generalized Anxiety Disorder (GAD) is 5.2% [2]. GAD is characterized by persistent feelings of anxiety and worry at most times and in many situations from physical health to financial, family and work issues. This disorder interferes with the individual's functioning and if symptoms persist for a long period of time, they debilitate and have a destructive effect on the person's life [3]. In GAD, abnormalities have been identified in five areas: emotional abnormalities, cognitive abnormalities, adjustment abnormalities, abnormal mental preoccupation and abnormal worldview [4]. Emotional abnormalities include lack of positive affect, increased negative affect and emotional avoidance [5, 6]. Cognitive abnormalities comprise worry, attention bias, interpretation bias, memory bias and cognitive avoidance [7]. Adjustment abnormalities consist of people with GAD using problematic adjustment styles. Inefficient mental preoccupation manifests itself in the form of rumination [8] and abnormal worldview refers

to looking at the world without optimism and being distrustful of the future [4].

GAD becomes chronic if left untreated and is less likely to improve by itself. Given the fact that chronic state and long periods of GAD r cause negative and multifaceted effects on the individual, family and social life of patients, if people with this disorder do not receive proper treatment, they will be grappling with this problem most of the time. Therefore, the development of appropriate and effective therapies is one of the main priorities of researchers in this field [9].

In recent years, the pathological approach to the study of human health has been criticized, and the absence of symptoms of mental illness is not an indicator of health. Rather, happiness, self-confidence and such positive characteristics indicate health and the main goal of a person in life is to promote his own abilities [10]. Following these challenges, the positive psychology movement emerged, and scientists managed to explore patterns and positive therapeutic interventions to prevent and treat disorders. The results of empirical studies confirm that positive interventions, in addition to reducing anxiety, depression and emotional distress, can also promote happiness, life satisfaction, optimism and well-being in individuals [10, -14]. Also, positive therapy has been shown to be effective in a number of disorders, including anxiety disorders [15].

In a review of studies in the field of positive interventions, the researcher concluded that loving-kindness meditation interventions, kind deeds and gratitude exercises can be used as effective interventions for GAD [4]. A review of research on these three positive interventions revealed that their effectiveness in improving the symptoms of GAD has been proved [16-19]. The effectiveness of each of these interventions has been evaluated separately for several symptoms of GAD. For example, the effectiveness of loving-kindness meditation in reduced anxiety [20], increased positive affect, decreased negative affect [21] and improved memory bias [22] has been proved. Moreover, gratitude exercises have been demonstrated to be effective in interpretation bias [23], memory bias through making positive memory more accessible [24], reduced anxiety and increased positive affect [25] and enhanced psychological flexibility [26]. In the investigation of kind deeds, its effectiveness in reducing anxiety [27], increasing positive affect [16] and decreasing rumination [28] has been proved in various studies. Based on the results of the studies about the effectiveness of three interventions of loving-kindness meditation, gratitude exercises and kind deeds in improving the symptoms of GAD, the researcher decided to develop a multifaceted positive intervention and examine its effectiveness in improving the symptoms of GAD. To further evaluate and ensure the effectiveness of the mentioned protocol, cognitive-behavioral therapy was used as the first line of treatment for GAD for comparisons. Thus, the purpose of this study was to investigate the effectiveness of positive intervention in the symptoms of GAD and also to compare this intervention with cognitive-behavioral therapy.

Method

The statistical population of the present study comprises all people with GAD who referred to psychological counseling centers under the supervision of the Welfare Organization in Mashhad in 2020.

From the above statistical population, 45 women who met the inclusion criteria of the present study were chosen by convenience sampling method and were randomly assigned to two experimental groups and one control group. The research inclusion criteria were as follows: a diagnosis of GAD by a specialist and its confirmation by a Structured Clinical Interview for DSM-5 Disorders (SCID) and GAD Scale (GAD-7) and no history of drug use to treat GAD. The exclusion criteria included a history of receiving other psychological therapies in the past six months, failure to complete a full course of treatment, suffering from other psychological disorders and substance abuse and the presence of other comorbid disorders (such as panic disorder).

Initially, by referring to the counseling center of Mashhad Welfare Organization, the clients who were diagnosed with GAD by the counselors working in the center were selected and examined clinically by the evaluator (PhD in Clinical Psychology working in the Welfare Organization counseling center). Then, 7-item GAD Scale was administered to the participants. Finally, according to the inclusion and exclusion criteria, 45 clients were selected and were randomly divided into two experimental and control groups, each containing an equal number of subjects. During the research, six people were withdrawn from the study (14 in the positive intervention group, 12 in the cognitive-behavioral therapy group and 13 in the control group). Prior to starting the study, the participants were assured that their information would be kept confidential and that the results would be used for research purposes only. After the participants' agreement on attending the research, a written consent was obtained to participate in the research. The control group was also placed on a waiting list to be treated after the study.

The present study was a pretest-posttest semi-experimental research design with two experimental groups (positive intervention and cognitive-behavioral intervention) and one control group. In this project, the independent variable is the type of intervention (positive/cognitive-behavioral) and the dependent variables are anxiety, positive and negative affect, interpretation bias and autobiographical memory bias, psychological flexibility and rumination in people with GAD. The control group did not receive any intervention. Before starting the study, the participants were assured that their information would be protected and the results of the work would be used only for research purposes. After agreeing with the participants to participate in the research, a written consent form was received from them to participate in the research.

The tools used in this study were as follows:

Structured Clinical Interview for DSM-5 Disorders (SCID): The diagnostic interview is conducted by a

psychiatrist or psychologist and is based on the diagnostic criteria for GAD in the DSM-5.

7-item Generalized Anxiety Disorders Scale (GAD-7):

This questionnaire was developed by Spitzer and et al. with the aim of creating a brief measure to diagnose GAD and assess the severity of patients' clinical symptoms. This scale contains seven main questions and one additional question that measures the effect of the disorder on individual, social, family and occupational functions of patients. In terms of scale reliability, the calculated alpha coefficient is equal to 0.85. According to the research by Nainian et al. [29], the Persian version of GAD-7 Scale has acceptable validity and reliability and is able to distinguish people with GAD from non-patients.

Positive and Negative Affect Schedule (PANAS): This scale was developed by Watson et al. in 1988 and includes 10 items for each of the subscales of positive and negative affect. The questions are designed on a five-point scale (1 = very little, to 5 = very much). The interpretation of the PANAS positive and negative emotion scale is that a higher score in each subscale indicates a higher intensity of positive and negative emotion in it.

Watson et al. reported the internal consistency coefficients of 0.88 and 0.87, respectively, for the subscales of positive affect and negative affect and obtained the test-retest reliability coefficients of 0.68 and 0.71, respectively, for positive affect and negative affect with an interval of eight weeks [30]. According to Bakhshipour et al.'s [31] research, this tool has an acceptable construct validity. Internal consistency coefficient (alpha coefficient) was reported to be 0.85 for both positive and negative affect scales.

Interpretation Bias Questionnaire-Revised: The original version of this questionnaire was applied in 1983 by Butler et al. [32] to compare the interpretation of events in people with anxiety disorder and depressive disorder and normal subjects.

Amir et al. [33] also reviewed this questionnaire in terms of content, form and items to examine the interpretation bias in people with social anxiety disorder and presented their final or revised form. The revised form of the interpretation questionnaire has two versions; one related to self (22 items) and the other related to other people (22 items). In the version related to self, the alpha coefficient was equal to 0.85 and in the version related to others, the alpha coefficient was equal to 0.88 [33]. In the study by Hedayati et al. [34] the content validity and face validity of both versions were estimated. Internal consistency of the version related to self (an alpha coefficient of 0.83) and the version related to others (an alpha coefficient of 0.79) was obtained in outpatients. In this study, the version related to self has been used.

Autobiographical Memory Test (AMT): This test was developed in 1986 by Williams et al. and has 60 stimulus-words with emotional connotation. Kaviani et al. [35] validated 15 words out of these 60 words for the Iranian population. These are 15 stimulus-words with positive emotional connotation (five positive words), negative emotional connotation (five negative words) and neutral emotional connotation (five neutral words). The study of

the psychometric indices of this test indicates the test validity for examining the autobiographical memory. They also reported the internal consistency of 0.86 by calculating the Cronbach's alpha coefficient [35].

Psychological Flexibility Questionnaire (PFQ): This questionnaire was developed by Ben-Itzhak et al. in 2014. It consists of 20 items and five subscales. The subscales include positive interpretation of change (five items), defining oneself as a flexible person (five items), defining oneself as an open-minded and creative person (three items), interpreting reality as dynamic (four items) and changeability and interpretation of reality as multifaceted (three items). The questionnaire reliability through Cronbach's alpha method has been obtained to be 0.918. For the questionnaire validity, construct validity and convergent validity were investigated. For construct validity, five factors of the questionnaire explained 66.8% of the total variance. For convergent validity, a positive correlation was obtained between the mentioned questionnaire with the Openness Scale and the Self-Efficacy Scale [36]. In examining the psychometric properties of this questionnaire in Iranian students, the questionnaire's reliability was 0.89. Additionally, the questionnaire's validity was measured with the help of construct validity, and five factors of the questionnaire explained 83.59% of the total variance [37].

Ruminative Response Scale (RRS): This scale was developed by Nolen-Hoeksema et al. It evaluates negative mood responses and consists of two subscales of ruminative responses and distraction responses, each containing 11 expressions. Treynor et al. [38] reported an alpha coefficient of 0.90 and test-retest reliability of 0.68 for this scale. In the study by Farrokhi et al. [39], the questionnaire's reliability was obtained to be 0.78 through Cronbach's alpha coefficient. In construct validity, the factors of the questionnaire explained 78% of the total variance and the concurrent validity of the questionnaire was obtained through correlation with Beck Depression Inventory and Wells Metacognition Questionnaire (0.87 and 0.72, respectively).

After sampling, a pretest was initially conducted and then for the first experimental group, positive intervention was performed during eight sessions of one hour (one session per week). For the second experimental group, cognitive-behavioral therapy was conducted in ten sessions of one hour (one session per week), but the control group received no intervention and was placed on a waiting list. At the end of the treatment sessions, in the posttest phase, the research sample was re-evaluated by the assessment tools used in the pretest.

Cognitive-Behavioral Therapy Protocol: Cognitive-behavioral therapy is a combination of cognitive and behavioral approaches. This type of treatment helps the patient recognize distorted thinking patterns and dysfunctional behaviors. In order to be able to change these distorted thoughts and dysfunctional tasks, regular discussions and precisely organized behavioral tasks are used [40]. The treatment protocol used in this study was Aaron Beck and David A. Clark's cognitive behavioral therapy protocol [41].

Positive Intervention Protocol: Positive intervention

includes a positive therapy model. Kind deeds, gratitude exercises and loving-kindness meditation are the components of this therapy model. The researcher

reviewed the existing research on these components and developed the present positive intervention.

Table 1. Description of Cognitive-behavioral Therapy Sessions

First session	Introducing and establishing a therapeutic relationship, examining clients' problems
Second session	Explaining the cognitive-behavioral therapy model and the logic of treatment
Third session	Teaching the identification of cognitive thoughts, working with automatic thoughts, filling out unhealthy thoughts note sheet
Fourth session	Investigating cognitive distortions, presenting an anxiety profile discovery sheet
Fifth session	Categorizing dysfunctional beliefs, challenging dysfunctional beliefs through Socratic dialogue
Sixth session	Training relaxation and assertiveness, providing profit and loss sheets
Seventh session	Identifying the type of concerns, depicting and describing the concern model
Eighth session	Correcting cognitive errors, replacing anxious thoughts with normal thinking
Ninth session	Using alternative interpretations, practicing the normalization approach
Tenth session	Reviewing the work done and completing the treatment process

Table 2. Description of Positive Intervention Sessions

First session	Reviewing the structure and goals of the sessions, introducing, introducing positive psychology and gratitude, meditation and kindness. Assignment: Being aware of the thoughts and reactions of the participants during the days of the week
Second session	Explaining the importance of self-love, peace of mind and loving-kindness meditation Assignment: Practicing loving phrases for 5 to 10 minutes during the day, such as: O'God, protect me from danger; O'God, give me mental happiness; O'God, give me physical health; O'God, give me a comfortable life
Third session	Explaining the importance and place of gratitude and types of gratitude Gratitude task: Preparing a gratitude notebook, writing five blessings daily for which you are grateful. Loving-kindness meditation task: Practice of a benevolent person; in this exercise, they focus on the person they respect and direct loving phrases towards him/her
Fourth session	Discussing the benefits of kindness and positive relationships with others and ways to improve positive relationships Kindness task: Performing 5 loving acts during a week Loving-kindness meditation task: Practice of a dear friend; in this exercise, they direct expressions of love and friendship towards someone they are particularly interested in. Gratitude task: Appreciating 5 people who are influential in their life
Fifth session	Talking about emotions and symptoms of the disease Kindness task: Performing 5 loving acts during a week Loving-kindness meditation task: Practice of a neutral person; they concentrate for 10 minutes each day and direct loving phrases towards a neutral person. Gratitude task: Appreciating themselves for the 5 good things they have done.
Sixth session	Reviewing the exercises of the previous sessions Kindness task: Performing 5 loving acts during a week Loving-kindness meditation task: Practice of a maladjusted person; they concentrate for 10 minutes every day and direct loving phrases towards a maladjusted person. Gratitude task: Appreciating God for the 5 blessings they have in life.
Seventh session	Reviewing the exercises of the previous sessions Kindness task: Performing 5 loving acts during a week Loving-kindness meditation task: Practice of love and friendship to all beings; they concentrate for 10 minutes every day and send loving phrases to all beings in the world. Gratitude task: Daily counting of 5 blessings for which they are grateful
Eighth session	Reviewing the assignments, summing up the effects of gratitude, kindness and meditation on physical and mental health and completing the treatment process

Results

After collecting the data, in the descriptive section, statistical indicators related to each of the research variables, such as mean and standard deviation, were applied to describe the data and in the inferential section, the analysis of covariance (ANCOVA) test and post hoc test with Bonferroni correction were used for inferential analysis of the findings.

The demographic characteristics of the sample

were as follows: All participants were aged between 20 and 30 years; 45% were undergraduates and 55% were postgraduates; 42.5% were single and 57.5% were married; all of the participants were female; 35.90% formed the positive intervention group, 30.77% formed the cognitive-behavioral therapy group and 33.33% formed the control group.

The mean and standard deviation of pretest and posttest

scores in the studied groups have been provided in Table 3. The assumption of homogeneity of variances of the three groups for the research variables was examined by the Levene's test, the results of which are displayed in the

Table 4. The Levene's test results for all variables demonstrate that it is not statistically significant. Hence, the assumption of homogeneity of variances has been observed.

Table 3. Mean and SD of Scores of Dependent Variables in Studied Groups in the Pretest and Posttest

Dependent variable	Intervention	Group description	Mean	SD
Anxiety	Positive	Pretest	18.93	1.62
		Posttest	8.8	1.32
	Cognitive-behavioral	Pretest	19.16	1.27
		Posttest	9.17	2.89
	Control	Pretest	18.83	1.47
		Posttest	19.17	1.19
Negative affect	Positive	Pretest	36.4	4.7
		Posttest	19.67	3.61
	Cognitive-behavioral	Pretest	36.33	5.28
		Posttest	22.25	7.82
	Control	Pretest	39.83	5.37
		Posttest	38.92	4.72
Positive affect	Positive	Pretest	17.4	4.1
		Posttest	36.4	4.9
	Cognitive-behavioral	Pretest	15	3.64
		Posttest	29.67	3.77
	Control	Pretest	13.67	2.19
		Posttest	12.92	2.02
Interpretation bias	Positive	Pretest	64.20	6.89
		Posttest	42.25	4.68
	Cognitive-behavioral	Pretest	50.65	8.50
		Posttest	44.27	4.90
	Control	Pretest	64.20	6.89
		Posttest	62.31	4.09
Autobiographical memory	Positive	Pretest	3.33	0.83
		Posttest	6.47	0.97
	Cognitive-behavioral	Pretest	4.17	0.94
		Posttest	6.83	1.03
	Control	Pretest	3.50	1
		Posttest	3.42	1.08
Psychological flexibility	Positive	Pretest	31.80	8.49
		Posttest	70.80	14.96
	Cognitive-behavioral	Pretest	28.58	10.19
		Posttest	42.25	17.31
	Control	Pretest	26.67	9.05
		Posttest	26.42	8.32
Rumination	Positive	Pretest	65.67	8.32
		Posttest	25.20	4.52
	Cognitive-behavioral	Pretest	63.67	6.45
		Posttest	29.42	11.49
	Control	Pretest	67.75	11.60
		Posttest	67.33	11.87

Table 4. Levene's Test Results to Investigate the Homogeneity of Variances for the Scores of the Three Groups in Research Variables

Variable	Test statistic	P
Anxiety	1.85	0.17
Negative affect	2.539	0.093
Positive affect	2.568	0.091
Interpretation bias	2.826	0.072
Autobiographical memory	0.898	0.415
Psychological flexibility	0.46	0.50
Rumination	2.193	0.126

The results of analysis of covariance to compare the posttest scores of the research variables after adjusting the pretest scores have been shown below.

According to the results of Table 5, the F-values of the interaction between the independent variable and the covariate are 0.64 for anxiety, 2.589 for negative affect, 0.109 for positive affect, 0.889 for interpretation bias,

0.815 for autobiographical memory, 2.343 for psychological flexibility and 0.334 for rumination, which are not significant (significance level of greater than 0.05). Therefore, it can be concluded that the assumption of homogeneity of regression slopes has been observed for the research variables and the analysis of covariance can be used.

Furthermore, the results of Table 5 indicate that in all variables, there is a significant difference between the positive intervention group and the cognitive-behavioral therapy group and the control group in the scores of individuals (significance level of less than 0.05). As a result, it can be found that there is a significant difference at least between the two groups out of the three groups in the posttest scores of the research variables.

The Bonferroni test has been used to compare the means of independent groups under four groups. Thus, to evaluate the difference between the groups, a post hoc test with Bonferroni correction was employed.

The results of Table 6 suggest that there is a significant difference between the positive intervention group and the control group in the posttest scores of all the research variables. Moreover, a significant difference was found between the cognitive-behavioral therapy group and the control group in the posttest scores. However, there is no significant difference between the cognitive-behavioral therapy group and the positive intervention group in the posttest scores.

Table 5. Results of analysis of covariance to compare the posttest scores of variables after adjusting the pretest scores in the groups under study

Variable	Source of change	Sum of squares	Degree of freedom	Mean square	F statistic	P	Impact
Anxiety	Pretest*group	4.49	2	2.25	0.64	0.53	0.004
	Group	865.865	2	432.928	118.31	0.000	0.868
Negative affect	Pretest*group	54.016	2	27.008	2.589	0.090	0.136
	Group	1785.926	2	879.463	77.286	0.000	0.815
Positive affect	Pretest*group	3.381	2	1.690	0.109	0.897	0.007
	Group	3389.269	2	1694.648	114.637	0.0001	0.868
Interpretation bias	Pretest*group	44.142	2	22.071	0.889	0.421	0.051
	Group	2094.872	2	1047.436	42.479	0.0001	0.708
Autobiographical memory	Pretest*group	9.425	2	4.712	0.815	0.424	0.373
	Group	84.059	2	42.029	46.004	0.0001	0.724
Psychological flexibility	Pretest*group	594.643	2	297.322	2.343	0.112	0.124
	Group	10477.370	2	5238.685	38.339	0.000	0.687
Rumination	Pretest*group	416.039	2	208.020	0.334	0.719	0.020
	Group	12149.612	2	6074.806	103.651	0.0001	0.856

Discussion

The present study sought to investigate the effectiveness of a positive treatment protocol for GAD to improve the symptoms of this disorder including anxiety, positive and negative affect, interpretation bias, autobiographical memory bias, psychological flexibility and rumination. To compare the effectiveness of this protocol with other therapeutic approaches, cognitive-behavioral therapy was selected to better determine the effectiveness of this treatment. Thus, while reviewing the research literature on the areas of abnormality and deficit in GAD and identifying the effective factors in improving these abnormalities, a treatment protocol including gratitude exercises, kind deeds and loving-kindness meditation was developed. As the results show, the positive intervention could affect the dependent variables (anxiety, negative affect, positive affect, interpretation bias, biographical memory bias, psychological flexibility and rumination). Similar results were obtained for cognitive-behavioral therapy. However, results revealed no significant difference between the positive and cognitive-behavioral

interventions in terms of effectiveness in the dependent variables. So far, no research has examined the protocol developed in this study. Meanwhile, the results of the studies about the effectiveness of loving-kindness meditation, gratitude exercises and kind deeds are consistent with the results of the present study. The effectiveness of loving-kindness meditation has been demonstrated in reducing anxiety [20], increasing positive affect and decreasing negative affect [21] and improving memory bias [22]. Similarly, the effect of gratitude exercises on reduced anxiety and increased positive affect [25], interpretation bias [23], memory bias through making positive memory more accessible [24] and enhanced psychological flexibility [26] has been proved. Finally, the effect of kind deeds on reducing anxiety [27], increasing positive affect [16] and decreasing rumination [28] has been proved in studies.

The findings are the same as the main assumption of positive interventions. In this approach, it is assumed that the creation of positive emotions, engagement, the meaning of life, and the development of capabilities

reduce emotional and cognitive problems [24]. Also, increasing social and friendly communication through

acts of kindness can increase positive feelings, create optimism and flexibility [13].

Table 6. Post hoc Test with Bonferroni Correction for Pairwise Comparisons of Groups in Research Variables

Variable	Group	Group	Mean difference	Standard deviation	P
Anxiety	Positive	Cognitive-behavioral	-0.367	0.741	1
		Control	-10.367	0.741	0.0001
	Cognitive-behavioral	Positive	0.367	0.741	1
		Control	-10	0.781	0.0001
Negative affect	Positive	Cognitive-behavioral	10.361	0.741	0.0001
		Control	10	0.781	0.0001
	Cognitive-behavioral	Positive	-2.583	2.141	0.707
		Control	-19.250	2.141	0.0001
Positive affect	Positive	Cognitive-behavioral	2.583	2.141	0.707
		Control	-16.667	2.257	0.0001
	Cognitive-behavioral	Positive	19.250	2.141	0.0001
		Control	16.667	2.257	0.0001
Interpretation bias	Positive	Cognitive-behavioral	-2.65	3.09	0.069
		Control	23.483	1.498	0.0001
	Cognitive-behavioral	Positive	2.65	3.09	0.069
		Control	3.750	1.579	0.0001
Autobiographical memory	Positive	Cognitive-behavioral	-23.483	1.498	0.0001
		Control	-3.750	1.579	0.0001
	Cognitive-behavioral	Positive	-8.817	3.235	0.30
		Control	-19.817	3.235	0.0001
Psychological flexibility	Positive	Cognitive-behavioral	8.817	3.235	0.30
		Control	-11	3.409	0.008
	Cognitive-behavioral	Positive	19.817	3.235	0.0001
		Control	11	3.409	0.008
Rumination	Positive	Cognitive-behavioral	-0.367	0.367	0.973
		Control	3.050	0.367	0.0001
	Cognitive-behavioral	Positive	0.367	0.367	0.973
		Control	3.417	0.387	0.0001
Rumination	Positive	Cognitive-behavioral	-3.050	0.367	0.0001
		Control	-3.417	0.387	0.0001
	Cognitive-behavioral	Positive	0.047	0.551	1
		Control	44.383	5.472	0.0001
Rumination	Positive	Cognitive-behavioral	-0.047	0.551	1
		Control	15.833	5.768	0.028
	Cognitive-behavioral	Positive	-44.383	5.472	0.0001
		Control	-15.833	5.768	0.028
Rumination	Positive	Cognitive-behavioral	-4.217	3.702	0.787
		Control	-42.133	3.702	0.0001
	Cognitive-behavioral	Positive	4.217	3.702	1
		Control	-37.917	3.903	0.0001
Rumination	Positive	42.133	3.702	0.0001	
	Control	37.917	0.781	0.0001	

One of the other important principles in positive interventions is appreciation and gratitude, and its effectiveness has been shown in various studies [19-22]. Gratitude exercises made people learn the principle of positive thinking and speaking positively and increased positive emotions and also increased positive feedback from the people around them. Apart from this, in this intervention, people were taught to focus on positive things in life. The goal was to actually strengthen the positive aspects, not to change the negative aspects of a person's life. This is because humans are naturally more capable of remembering negative experiences. Meditation exercises are one of the effective interventions in reducing rumination, as a result of which anxiety and attention bias are also improved [18].

Concerning the comparison of the positive intervention and cognitive-behavioral therapy, the results indicated that there is no significant difference between the two interventions in improving the symptoms of GAD. No research has so far compared the positive intervention protocol developed in this study with cognitive-behavioral therapy for the treatment of GAD. However, a limited number of studies have compared other positive interventions with cognitive-behavioral therapy. For example, Ghazanfari et al. [42] in their research compared Rashid's positive intervention with cognitive-behavioral therapy in the treatment of academic rumination and academic stress of gifted female students and observed no significant differences between the two methods. Kiamarsi et al. [43] compared the positive therapy [24] with cognitive-behavioral therapy in psychological well-

being of perfectionist students and did not find a significant difference between the two treatments. These two studies obtained results consistent with the results of the present research.

On the other hand, Jabbari et al. [13] compared the effectiveness of a positive educational package with cognitive-behavioral training in reducing the symptoms of depression, anxiety and stress and increasing life satisfaction of female adolescents. The results of their study displayed that the positive training is more effective than cognitive-behavioral training in reducing depressive symptoms and dysfunctional attitudes and increasing life satisfaction and happiness, and the effectiveness of these two types of training in reducing anxiety and stress symptoms is not significantly different and both of them are effective in decreasing these problems. Perhaps the difference in the existing findings can be attributed to the difference in positive interventions or the difference in the study groups.

Conclusion

Since according to the results, the positive protocol developed in this study could be effective in the treatment of GAD, further study of this effect in anxious patients in Iran is necessary. The lower number of sessions and the simplicity and ease of positive protocol techniques are among its advantages over cognitive-behavioral therapy. In practice, considering the tendency of medical systems and clients to effective and at the same time short-term treatment methods, it is necessary to evaluate the effectiveness of such a new method. By revealing the results of this study and considering its effectiveness, one can take a step towards meeting this growing need.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical Approval

This study is taken from the doctoral thesis approved under the number 96/17/349 in Al-Zahra University. All ethical considerations were applied in this study.

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