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Comparing the effectiveness of metacognitive therapy and Barlow transdiagnostic treatment on the severity of clinical symptoms and experiential avoidance in patients with generalized anxiety disorder

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Abstract

Introduction: Regarding the prevalence rate of Generalized Anxiety Disorder (GAD) and the importance of effective psychological interventions on treatment outcome, the present study aimed to compare the effectiveness of metacognitive therapy and Barlow transdiagnostic treatment on the severity of clinical symptoms and experiential avoidance in patients with generalized anxiety disorder.

Materials and Methods: This cross-sectional study was done in 2020-2021. The samples were selected among patients diagnosed with GAD based on structured clinical interviews by clinical psychologists, who referred to three consultancy centers in Mashhad-Iran. Among these patients, 45 female patients with GAD diagnosis were selected by the convenience sampling method and divided randomly into three equal groups: Barlow transdiagnostic treatment, metacognitive therapy, and a control group. The experimental groups received the interventions in 12 forty-five-minute sessions (twice a week). The participants fulfilled The Seven-Item General Anxiety Disorder Scale (GAD-7) and Acceptance and Action Questionnaire-II (AAQ-II). The data were analyzed through descriptive statistics, covariance analysis, t-test, and SPSS version 21.

Results: The effect size of metacognitive therapy on experiential avoidance in patients with generalized anxiety disorder was 0.022, while this effect size was 0.255 in the transdiagnostic treatment. Also, the effect size of metacognitive therapy on anxiety in patients with generalized anxiety disorder was 0.019, while this effect size was 0.141 in the transdiagnostic treatment.

Conclusion: Based on the findings, both metacognitive therapy and transdiagnostic treatment reduced anxiety and experiential avoidance in patients with generalized anxiety disorder, but transdiagnostic treatment decreased these symptoms more than metacognitive therapy.

Keywords: Experiential avoidance, Generalized anxiety disorder, Metacognitive therapy, Transdiagnostic treatment

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Introduction

Generalized Anxiety Disorder (GAD) is the most prevalent disorder in anxiety disorders, and the rate of GAD has been increasing in the last decade in Asian countries (1-3). Anxiety disorders usually begin in childhood, and the symptoms continue in adult individuals, which impact academic achievements and occupational performance and impair quality of life (4-7).

Avoidance is an underlying mechanism to remain symptoms of anxiety disorders (8). Experiential Avoidance (EA) is an unwillingness to tolerate emotions, memories, stressful thoughts, or personal experiences, which leads to maladaptive efforts to avoid these experiences. EA is one of the etiological factors in developing maladaptive behaviors (9). Also, it is a predictor for GAD symptoms. So, it should be considered a target for therapeutic interventions (10-12). Despite the effectiveness of medical treatments to improve GAD, it seems that psychotherapies are associated with a large effect, especially in young patients, which suggests the importance of these interventions in patients with GAD (13). The metacognitive approach refers to involved processes in monitoring and explaining cognitions. In this approach, the psychological problems result from the effect of thinking style on internal experiences. Based on this approach, GAD patients use worry to predict probable problems and coping efforts (14). So, Metacognitive Therapy (MCT) can be applied to anxiety disorders such as GAD (15,16). On the other hand, considering the common root of mood and anxiety disorders and the role of emotion regulation in these disorders, some evidence focuses on the transdiagnostic model for treating psychiatric illnesses such as anxiety disorders (17-19). However, the effectiveness of these approaches needs to be studied in more research (20). So, regarding the key role of EA in developing and maintaining anxiety disorders and the necessity of proper psychological treatments for GAD, the present study aims to compare the effectiveness of metacognitive therapy and Barlow transdiagnostic treatment on the severity of clinical symptoms and experiential avoidance in patients with generalized anxiety disorder.

Materials and Methods

This cross-sectional study was approved by the ethical committee of Islamic Azad University, Bojnord Branch (code: IR.IAU.BOJNOURD.REC.1401.002) and conducted in 2020-2021. The samples were selected among patients with the diagnosis of GAD based on structured clinical interviews by the clinical psychologists, who referred to three consultancy centers in Mashhad-Iran. Among these patients, 45 female patients with GAD diagnosis were selected by the convenience sampling method and divided into three equal groups: Barlow transdiagnostic treatment, metacognitive therapy, and a control group.

The inclusion criteria included having a diagnosis of generalized anxiety disorder based on an I-SCID clinical interview based on DSM5, having at least a diploma, not receiving any other psychological intervention during the study, not receiving any psychiatric medications for at least six months before entering the research, lack of substance abuse, and willingness to participate in the research. The exclusion criteria included lack of cooperation to fulfill the questionnaires and absence of more than three sessions.

The researchers explained the research goals and ensured the participants' confidence in the data, and the patients participated voluntarily in this research.

Research instruments

A) The Seven-Item General Anxiety Disorder Scale (GAD-7): This self-report instrument was developed by Spitzer et al. (2006) to diagnose and assess the severity of anxiety symptoms for clinical and research goals. The respondents were asked to score their anxiety symptoms from 0 (not at all) to 3 (nearly every day) in the last two weeks. The total score of this scale ranges from 0 to 21. A score higher than 5, 10, or 15 indicated mild, moderate, and severe anxiety levels, respectively (21,22). This scale has been translated and applied in different cultures and countries (23-26). In Iran, Naeinian et al. assessed the validity of this scale and reported the Cronbach alpha to be equal to 0.85 and had acceptable psychometric properties among university students (27).

B) Acceptance and Action Questionnaire-II (AAQ-II): Bond et al. developed this questionnaire with ten questions in 2011. This instrument assesses acceptance, experiential avoidance, and psychological inflexibility. Each item is scored in a 7-degree Likert system. Its Cronbach alpha was calculated equal to 0.84 (28). In Iran, Abbasi et al. assessed the psychometric properties of this questionnaire on

four groups of university students: the general population, patients with depression, and patients with generalized anxiety disorder. The internal consistency and half-splitting coefficient were reported as acceptable in the four mentioned groups (0.71 to 0.89) (29). The experimental groups received the interventions in 12 forty-five-minute sessions (twice a week). The summary of these interventions is presented in Tables 1 and 2.

Table 1. The summary of the content of Well's metacognitive therapy (30,31)

Session	Content
First	Conducting the pre-test, introduce the group members and review the group rules, state the goals of the meeting and create motivation
Second	Introducing the treatment in general and conducts the suppression test with thought
Third	Re-examination of suppression with thought, initiation of challenge with belief related to uncontrollability, mindfulness training detachment, introduction, postponement of concern
Fourth	Continuing preparation if needed, verbal and behavioral re-documents of uncontrollability, continuation of delaying, concern and introduction of loss of control test
Fifth	Continuing the challenge with the belief of uncontrollability, presenting various evidences, performing the test of loss of control in the meeting, treatment, examination and cessation of maladaptive control and avoidance behaviors, the task of continuing to postpone worrying and reversal of anxiety-avoidance behaviors, testing loss of control
Sixth	Continuing the challenge with the belief of uncontrollability if needed, the start of the challenge with the beliefs related to risk, try hard losing control or self-harm through anxiety testing dangers
Seventh	Continuing the challenge with the belief related to the dangerousness of worry, the implementation of the challenge test according to believe related to danger, task of behavioral experiments to challenge belief related to danger
Eighth	Continuing to challenge the belief related to risk, emphasizing the reversal of any non-adaptive strategies that remain, behavioral experiments to challenge beliefs about risk
Ninth	Starting the challenge with positive beliefs, if the negative beliefs reach zero, implementing the disproportionality strategy, other behavioral tests to challenge positive beliefs
Tenth	Continuing the challenge with positive beliefs, implementing the strategy of non-compliance in the treatment session, the assignment of behavioral experiments (such as the test of increasing and decreasing the level of concern)
Eleventh	Working on reversing the remaining symptoms, implementing the strategy of disproportion in the therapists' meeting, Continuing the process positive beliefs, asking the person to write a treatment summary sheet
Twelfth	Reviewing assignments, working on the treatment plan (relapse prevention), strengthening the crime prevention program and clarifying it, for example, scheduling reinforcement sessions, specifying ongoing treatment applications, conducting the post-test

Table 2. The summary of the content of Barlow transdiagnostic treatment (31)

Session	Content
First	The introduction of the therapist and a brief explanation about the goals of individual therapy, giving importance to the client's emotions, talking about the importance of treatment and examining the advantages and disadvantages of changing or staying in the previous state, helping clients to set short-term long-term goals, summarize the meeting and receive feedback, advantages and disadvantages worksheet, Treatment goals are given to clients as homework.
Second and Third	Review of the previous week assignment, paying attention to clients' emotions and raising clients' emotional self-awareness, presentation positive functions of emotion, presenting a three-part model of emotional experiences that includes thoughts, behavior and feelings physiological as an assignment, The worksheet fills in the three components of excitement.
Fourth	Review the previous week homework and pay attention to emotions, identifying triggers of negative emotions and responding to them, emotions and attention to the short and long term consequences of his/her answers, understanding the effect of experience on emotions current behaviors, presenting the concept of emotional behaviors, emotion monitoring worksheet as homework
Fifth	Review the previous week assignment, introducing non-judgmental emotional awareness, introducing present-oriented awareness, doing exercise, awareness of emotions in the meeting, applying mindfulness techniques, using the emotion monitoring form and non-judgmental emotional awareness worksheet and focus on the present worksheet for homework
Sixth	Review of the previous week assignment, check the interpretation form, explaining how thoughts affect emotions, education about the type of cognitive evaluation and recognition of cognitive trap and the implementation of cognitive re-evaluation to increase flexibility and dealing with negative emotions for the assignment of the evaluation worksheet and identifying your evaluations, future and down arrow technique worksheet
Seventh	Review of the previous week assignments, explanation about the concept of emotional avoidance, show the process of occurrence of avoidance and explaining its role in the vicious cycle of negative behavior, paying attention to the emotional behavior of clients, helping references to discover his/her avoidance, strategies against unpleasant emotions for the strategy worksheet assignment avoidance is given to him/her.
Eight	Review the previous week assignment, explaining the working process of excited behaviors, emphasizing the need to deal with excited behaviors, helping the clients to identify the behaviors of the origin of excitement and move towards replacing those behaviors. It is given for the task of changing emotional behaviors.
Ninth	Review of the previous week assignment, acquainting clients with physiological feelings and their arousals, explanation the role of physiological feelings in our behavioral reactions, facing clients with unpleasant feelings with exposure exercise. It is used for the symptom induction worksheet assignment.
Tenth and Eleventh	Review of the previous week assignment, explaining the purpose of the implementation of facing unpleasant feelings, getting to know how doing exercises to deal with unpleasant emotions, practice and repeat the practice of dealing with emotions instead to avoid, continuation of emotional exposure training focusing on physiological changes for the lineage worksheet assignment levels of emotional avoidance and emotional exposure worksheet are given
Twelfth	Review of the previous week homework, reviewing the necessary skills to deal with emotions, evaluation of the progress of references, learning strategies to maintain progress and prevent relapse

The data were analyzed through descriptive statistics, covariance analysis, and SPSS version 21.

Results

In the presented study, 45 females with generalized anxiety disorder participated. The mean age was 45 years, and all women were married. Among them, 25 had bachelor's degrees (53%), and 20 had master's degrees (47%). There were not any significant differences between the three groups in educational degrees. The descriptive results of the variables are presented in Table 3.

Table 3. The descriptive data related to experiential avoidance and anxiety in the three groups

Variable	Stage	Transdiagnostic treatment	Metacognitive therapy	Control
Experiential avoidance	Pre-test	95.0 ± 10.2	92.0 ± 13.9	94.0 ± 13.6
	Post-test	74.0 ± 16.9	78.0 ± 16.9	92.0 ±12.9
Anxiety	Pre-test	43.0 ± 5.9	44.0 ± 3.9	41.0 ± 4.0
	Post-test	27.0 ± 4.9	29.0 ± 8.8	39.0 ± 4.8

Based on the results presented in Table 3, both interventions led to significant decreases in the scores of experiential avoidance and anxiety in patients. At the same time, we did not find any significant change in the post-test compared to the pre-test in the controls. We used the Kolmogrov-Smirnov test to assess the normality of the data, and we found that the data has a normal distribution (P> 0.05). So, the parametric tests were applied to test the effectiveness of transdiagnostic treatment and metacognitive therapy. Also, the results related to the Mauchely sphericity test showed that the variance of variables in the interventional groups and the control group was not different (P> 0.05). In addition, we used the Box test, and the findings showed that the covariance of the variables in the post-test stage in the interventional groups was not significant (P= 0.495). To assess the effects of metacognitive therapy and transdiagnostic treatment on anxiety and experiential avoidance, we applied the multivariable covariance, and we concluded significant differences in at least one variable between the groups (F= 0.974; P= 0.009; Eta= 0.577). The results of covariance analysis between the control and experimental groups are presented in Table 4.

Table 4. The results of covariance analysis in experiential avoidance and anxiety between the control and experimental groups

Group	Variable	Source	Sum of squares	Degree of freedom	Mean of squares	F	P	Effect size
Metacognitive therapy	Experiential avoidance	Group	86.416	1	86.416	0.396	0.536	0.017
		Error	5024.980	23	218.477	-	-	-
	Anxiety	Group	8.954	1	8.954	0.747	0.396	0.031
		Error	237.883	23	237.883	-	-	-
Transdiagnostic treatment	Experiential avoidance	Group	63.267	1	63.267	5.316	0.305	0.188
		Error	5024.980	23	218.477	-	-	-
	Anxiety	Group	237.883	1	237.883	2.230	0.149	0.088
		Error	275.532	23	11.980	-	-	-

Based on the results of the above table, metacognitive therapy explains 0.017 and 0.031 differences in experiential avoidance and anxiety, respectively, between the two groups. While these explained differences in transdiagnostic treatment were 0.188 and 0.88, respectively. Also, the results of Levene's test indicated that the assumption of regression slope is considered in variables of experiential avoidance and anxiety in experimental groups (P> 0.05). Table 5 presents the results of the covariance analysis of the scores of experiential avoidance and anxiety in the metacognitive, transdiagnostic, and control groups.

Table 5. The results of covariance analysis in post-test scores of experiential avoidance and anxiety with pre-test scores between the control and experimental groups

Group	Variable	Source	Sum of squares	Degree of freedom	Mean of squares	F	P	Effect size
Metacognitive therapy	Experiential avoidance	Group	118.252	1	118.252	8.059	0.006	0.022
		Error	5341.855	27	197.848	-	-	-
	Anxiety	Group	9.111	1	9.111	0.052	0.048	0.019
		Error	473.118	27	17.523	-	-	-
Transdiagnostic treatment	Experiential avoidance	Group	101.826	1	101.826	5.925	0.005	0.255
		Error	297.076	27	11.003	-	-	-
	Anxiety	Group	437.393	1	437.393	8.441	0.045	0.141
		Error	2672.764	27	98.991	-	-	-

The results of Table 5 indicate a significant difference between the two groups. The effect size of metacognitive therapy on experiential avoidance in patients with generalized anxiety disorder was 0.022, while this effect size was 0.255 in the transdiagnostic treatment.

Also, the effect size of metacognitive therapy on anxiety in patients with generalized anxiety disorder was 0.019, while this effect size was 0.141 in the transdiagnostic treatment. So, it seems that transdiagnostic treatment had greater effects on anxiety and experiential avoidance in patients with GAD.

Discussion

In the present study, 45 women with generalized anxiety disorder were divided into metacognitive therapy, transdiagnostic treatment, and the control group. Based on the findings, both cognitive therapy and transdiagnostic treatment reduced anxiety and experiential avoidance in patients with GAD, but transdiagnostic treatment decreased these symptoms more than metacognitive therapy.

Consistent with the present findings, Abbasi et al. assessed 30 patients with generalized anxiety disorder. They divided these patients into two groups: metacognitive therapy and control.

The patients fulfilled the GAD-7 questionnaire, Beck Anxiety Inventory, and Psychological Well-being Questionnaire. The experimental group received metacognitive therapy in weekly 90-minute sessions. The results indicated that metacognitive therapy improves psychological well-being and decreases anxiety. Although this study has one experimental group and did not apply transdiagnostic treatment, the results revealed the effectiveness of metacognitive therapy in reducing anxiety (30). The results of Solem et al. also supported the effectiveness of metacognitive therapy in reducing anxiety in GAD patients (32).

Also, Sadr et al. investigated the effectiveness of Barlow's transdiagnostic treatment and Mennin and Fresco's emotion regulation therapy in the symptoms of four patients with GAD. They concluded that transdiagnostic treatment was more effective in treating the symptoms of GAD (33). This finding is consistent with our results.

In addition, Hasanpoor et al. investigated the effect of transdiagnostic treatment on experiential avoidance and cognitive emotion regulation in 40 patients with Obsessive-Compulsive Disorder (OCD) compared to exposure and prevention response therapy. They concluded that the effect of transdiagnostic treatment was greater than exposure and prevention response therapy to reduce experiential avoidance and improve cognitive emotion regulation (34).

Regarding the common root of anxiety in OCD and GAD patients, these findings support the effect of transdiagnostic treatment to reduce anxiety and experiential avoidance in GAD patients. This study has limitations, such as limited samples to one geographical region and one gender (females), use of self-reported instruments, and lack of follow-ups. Future studies on larger sample sizes and both genders, different cultures, and long follow-ups may lead to more precise results.

Conclusion

Based on the findings, both metacognitive therapy and transdiagnostic treatment reduced anxiety and experiential avoidance in patients with generalized anxiety disorder, but transdiagnostic treatment decreased these symptoms more than metacognitive therapy.

Acknowledgments

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