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*Original Article*

## Comparing the effectiveness of metacognitive therapy and Barlow transdiagnostic treatment on cognitive emotion regulation in patients with generalized anxiety disorder

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### **Abstract**

**Introduction:** Regarding the high prevalence of anxiety disorders and the importance of emotional regulation in these disorders, the present study aimed to compare the effectiveness of metacognitive therapy and Barlow transdiagnostic treatment on cognitive emotion regulation in patients with generalized anxiety disorder.

**Materials and Methods:** The statistical community of this study consisted of all patients with clinical symptoms of generalized anxiety disorder referred to consultancy centers in Mashhad-Iran in 2020-2021. Among them, 45 patients were selected by the convenient sampling method and randomly divided into three groups (metacognitive therapy, Barlow transdiagnostic treatment, and the control group). The experimental groups received treatment in 8 ninety-minute sessions. The research instruments included the Brief Measure for Assessing Generalized Anxiety Disorder (GAD-7) and Difficulties in Emotion Regulation Scale (DERS). The data were analyzed through descriptive statistics, the Kolmogorov-Smirnov test, the Mauchly sphericity test, and covariance analysis.

**Results:** The findings revealed that both interventions reduced difficulty in emotional regulation significantly, but the transdiagnostic treatment had a higher effect size than the metacognitive treatment (0.449 vs. 0.141).

**Conclusion:** The present study showed that both metacognitive therapy and transdiagnostic treatment approaches could significantly reduce emotional regulation difficulty in patients with generalized anxiety disorder. However, transdiagnostic treatment has more effectiveness than metacognitive therapy.

**Keywords:** Emotional regulation, Generalized anxiety disorder, Metacognitive therapy, Transdiagnostic treatment

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## Introduction

Generalized Anxiety Disorder (GAD) is one of the most prevalent anxiety disorders (1,2), which is characterized by severe, persistent, and unrealistic worry about daily events (3). The lifetime prevalence of GAD is estimated to equal 6.2% in the Iranian population (4). This disorder impacts patients' lives and conditions significantly (5).

Emotional dysregulation is common in many psychological disorders, such as depression and anxiety (6). Severe and persistent negative emotions explain these disorders, so emotional regulation strategies effectively treat anxiety disorders and mood disorders (7).

The cognitive-behavioral therapy is a standard psychological treatment for anxiety disorders. Still, this therapy is related to high rates of recurrence and remaining symptoms at the end of the treatment process (8,9). So, these approaches may increase costs and clients dropping (10). Regarding the high comorbidity of anxiety disorders and mood disorders (11), therapists tend to conduct unified protocols due to the meta-diagnostic factors of these disorders (12,13).

Barlow's integrated transdiagnostic treatment is presented for emotional disorders such as anxiety (14). Barlow's protocol focuses on emotion and maladaptive emotional regulation strategies, increased awareness about emotions and cognitions, body feelings, and behaviors (15).

Although some studies suggest the superiority of Barlow's integrated transdiagnostic treatment compared to specified cognitive-behavioral therapies in anxiety disorders (16), some evidence indicates its limitations due to providing a unique protocol for all patients and ignoring personal differences (17).

Therefore, clinicians should compare this treatment with other standard techniques, such as cognitive-behavioral therapies. In this line, the present study aims to compare the effectiveness of metacognitive therapy and Barlow transdiagnostic treatment on the difficulty in emotional regulation in patients with generalized anxiety disorder.

## Materials and Methods

The statistical community of this study consisted of all patients with clinical symptoms of generalized anxiety disorder referred to consultancy centers of Mashhad-Iran in 2020-2021. They were evaluated through the interview by a psychologist and

the Spitzer Brief Measure for Assessing Generalized Anxiety Disorder (The GAD-7). All cases with scores above ten were diagnosed as patients with a generalized anxiety disorder (18).

Among these patients, 45 cases were selected through the convenient method of sampling, and they were randomly divided into three equal groups (2 experimental groups and 1 control group). The first and the second experimental groups received metacognitive therapy (19) and Barlow transdiagnostic treatment (20), respectively, through the eight ninety-minute sessions (2 sessions per week). In contrast, the controls did not receive any intervention.

### Research instruments

A) *The Brief Measure for Assessing Generalized Anxiety Disorder (GAD-7)*: Spitzer et al. designed this brief measure to assess the anxiety frequency in the past two weeks. This tool consisted of seven main questions and one additional question, which sets the effect of disorder on personal, social, familial, and occupational functions. The questions were scored 0 (never) to 3 (every day). The re-test coefficient with two weeks intervals was reported equal to 0.83 (21). The psychometric properties of this tool in the Iranian population were acceptable (Cronbach alpha= 0.85) (18).

B) *Difficulties in Emotion Regulation Scale (DERS)*: Gratz and Roemer developed this 36-item scale. It assesses the difficulties in emotion regulation in six domains, including non-acceptance of emotional responses, lack of emotional awareness, problems engaging in goal-directed behaviors, impulse control difficulties, limited access to emotion regulation strategies, and lack of emotional clarity. The items of this scale were scored in a five-degree Likert system (1: never to 5: always). The Cronbach alpha of the total scale through internal consistency was calculated at 0.93 (22). In Iran, Kermani Mamazandi and Talepasand evaluated the psychometric properties of this scale and the Cronbach alpha of the six domains of non-acceptance of emotional responses, lack of emotional awareness, difficulties engaging in goal-directed behaviors, impulse control difficulties, limited access to emotion regulation strategies, and lack of emotional clarity were obtained 0.75, 0.74, 0.68, 0.66, 0.73, and 0.63, respectively (23).

**Results**

In this study, 45 patients with generalized anxiety disorder participated. Table 1 presents

the descriptive statistics of the scores of difficulties in emotional regulation in the three groups.

**Table 1.** The pre-test and post-test scores of difficulty in emotional regulation in the experimental groups and the control group

Group	Pre-test (M ± SD)	Post-test (M ± SD)
Metacognitive	46.00 ± 6.75	31.00 ± 6.53
Transdiagnostic	47.00 ± 6.73	27.00 ± 6.86
Control	46.00 ± 6.84	42.00 ± 6.90

Regarding the results of the Kolmogorov-Smirnov test and the normal distribution of the data ( $P > 0.05$ ), the parametric tests were used to assess the effectiveness of the interventions. Also, the Mauchly sphericity test results indicated that the variance of variables in the experimental and control groups was not different ( $P > 0.05$ ). The Box test revealed that the covariance of the variables in the post-test stage in the experimental groups was not

significant ( $P = 0.495$ ). The results of multivariable covariance to assess the effect of metacognitive and transdiagnostic treatments on the difficulty in emotional regulation indicated a significant difference in at least one variable between the groups ( $P = 0.009$ ). So, we assess the results of covariance analysis between the control and experimental groups (Table 2).

**Table 2.** The results of covariance analysis between the control and experimental groups in difficulty in emotional regulation

Group	Source	Sum of squares	Freedom degree	Mean of squares	F	P	Effect size
Metacognitive treatment	Group	395.156	1	395.156	6.002	0.022	0.207
	Error	1514.273	23	65.838	-	-	-
Transdiagnostic treatment	Group	810.133	1	810.133	20.605	0.147	0.473
	Error	904.277	23	39.316	-	-	-

The results of the above table indicate that metacognitive treatment and transdiagnostic treatment explain 0.207 and 0.473 differences between the two groups, respectively. The assumption of regression slope is considered

based on the interaction between the independent variable and control ( $P = 0.333$ ). Table 3 presents the covariance analysis of the scores of difficulty in emotional regulation in the metacognitive and control groups.

**Table 3.** The covariance analysis of the scores of difficulty in emotional regulation in the metacognitive group and the control group

	Source	Sum of squares	Freedom degree	Mean of squares	F	P	Effect size
Metacognitive treatment	Group	437.393	1	437.393	4.418	0.045	0.141
	Error	2672.764	27	98.991	-	-	-

The results of Table 3 indicate a significant difference between the two groups. The effect size of 0.141 presents a significant effect of metacognitive treatment on the difficulty in emotional regulation in patients with generalized anxiety disorder. Also, to assess the effect of transdiagnostic treatment, the

results of interaction between the independent variable and control ( $P = 0.134$ ), assumption of regression slope is considered. Table 4 presents the covariance analysis of the scores of difficulty in emotional regulation in the transdiagnostic and control groups.

**Table 4.** The covariance analysis of the scores of difficulty in emotional regulation in the transdiagnostic group and the control group

	Source	Sum of squares	Freedom degree	Mean of squares	F	P	Effect size
Transdiagnostic treatment	Group	921.076	1	921.076	22.026	0.000	0.449
	Error	1129.066	27	41.817	-	-	-

The results of Table 3 indicate a significant difference between the two groups. The effect size of 0.449 presents a significant effect of transdiagnostic treatment on the difficulty in emotional regulation in patients with generalized anxiety disorder. Also, based on

### Discussion

The present study was conducted on 45 patients with generalized anxiety disorder. The results showed that both metacognitive therapy and transdiagnostic treatment reduced difficulty in emotional regulation in these patients, although transdiagnostic treatment has more effectiveness than metacognitive therapy.

In this line, Zemestani and Imani assessed the effects of transdiagnostic treatment on emotion regulation and depression/anxiety symptoms in 34 university students who suffered from comorbid anxiety and depression (16 cases in the transdiagnostic group and 18 cases in the control group). The participants fulfilled The Beck Depression Inventory, Beck Anxiety Inventory, and the Emotion Regulation Questionnaire in three phases pre-test, post-test, and follow-up. The results showed that transdiagnostic treatment reduced depression/anxiety symptoms while it increased emotion regulation (24). This study supported our finding about the effectiveness of transdiagnostic treatment on emotion regulation. However, we evaluated the participants in three groups and compared the effectiveness of this treatment with metacognitive therapy.

Like our research, Ghaderi et al. compared the effects of transdiagnostic and integrated cognitive-behavioral therapy on 10 patients with comorbid depression and anxiety. The patients completed the GAD-7, BDI-II, and Pennsylvania Worry Questionnaire questionnaires. According to the scores of GAD-7, cognitive-behavioral therapy had more effects on anxiety and worry scores. At the same time, the transdiagnostic treatment was associated with more improvement in the scores of depression (19). This study used different tools to measure the effects of cognitive-behavioral therapy and transdiagnostic treatment on worry,

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the findings and the larger effect size of transdiagnostic treatment than metacognitive treatment, it seems that it impacts more than metacognitive treatment on the difficulty in emotional regulation in patients with generalized anxiety (0.449 vs. 0.141).

depression, and anxiety. Although this study did not evaluate difficulty in emotion regulation, the worry scores in patients with depression and anxiety were more reduced by cognitive-behavioral treatment than transdiagnostic therapy. Worry, as one of the main characteristics of generalized anxiety disorder and a common transdiagnostic factor in emotional disorders, is an explicit goal of transdiagnostic treatment (25,26). This finding is inconsistent with our results, which indicate higher effects of transdiagnostic treatment than metacognitive therapy. This difference may be explained by the smaller sample size of Ghaderi et al.'s study than ours. In addition, we did not evaluate the patients in the follow-up stages.

This study has limitations, such as limited samples referred to consultancy centers of Mashhad city and the lack of evaluating comorbidities and lack of follow-up stages. These limitations reduce the generalizability of the findings. It is recommended that future studies be conducted on a greater sample size with follow-up evaluations and psychiatric assessments of comorbid disorders.

### Conclusion

The present study showed that both approaches, metacognitive therapy and transdiagnostic treatment, can significantly reduce difficulty in emotional regulation in patients with generalized anxiety disorder. However, transdiagnostic treatment has more effectiveness than metacognitive therapy. So, therapists can apply the transdiagnostic approach to improve emotional regulation in patients with anxiety disorders.

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