



## Comparison of emotion-focused therapy and cognitive behavioral therapy in the treatment of generalized anxiety disorder in patients with chronic low back pain: A short communication

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### Short Communication

#### Abstract

**BACKGROUND:** Generalized anxiety disorder (GAD) is prevalent among chronic pain conditions. The aim of this research was to evaluate the efficiency of emotion-focused therapy (EFT) and cognitive-behavioral therapy (CBT) for managing GAD in individuals dealing with chronic low back pain (CLBP).

**METHODS:** The study used a semi-experimental approach that included a pre-test, post-test, and control group design. The statistical population included patients suffering from chronic back pain with GAD at Khatam-ol-Anbia Hospital in Tehran City, Iran, from June to August 2022. 45 patients as a sample size were selected through a purposeful sampling method (three groups, 15 for each group). The experimental groups underwent EFT for 12 sessions and ten sessions of CBT, 90 minutes once a week, while the control group received no training. In this research, the Social Anxiety Questionnaire for Adults (SAQ-A30) was implemented. Multivariate analysis of covariance (MANCOVA) method was conducted for data analysis using SPSS software.

**RESULTS:** Both treatments had a significant effect on the treatment of GAD. Moreover, compared with CBT, EFT had a significant advantage ( $P < 0.05$ ).

**CONCLUSION:** The results suggest that EFT, like the CBT, can benefit patients with GAD by improving their anxiety levels.

**KEYWORDS:** Emotion-Focused Therapy; Cognitive-Behavioral Therapy; Generalized Anxiety Disorder; Chronic Back Pain

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### Introduction

The experience of pain is described as unpleasant both physically and emotionally, and is linked to both current and possible damage to tissues. Chronic pain occurs when the sensation of pain continues even after

standard treatments have been administered and extends beyond the normal recovery time for a sudden illness or injury, which is typically 3 to 6 months.<sup>1</sup> Chronic low back pain (CLBP) is a public health problem with the disease characteristics of long duration, illness, and high disability rate, which has caused widespread concern worldwide.<sup>2</sup> It is widely recognized as the leading factor contributing to disabled individuals globally.<sup>3</sup> It is crucial to

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note that psychological factors play an important role in the experience of pain, as patients with CLBP who experience anxiety tend to exacerbate the pain sensation and increase illness behavior.<sup>4</sup>

Advancements in clinical psychology theories have played a role in the creation of innovative psychological interventions for pain management, which are tailored to addressing emotional factors.<sup>5</sup> Emotional approach coping (EAC) is a coping strategy that focuses on emotions and involves the understanding and appropriate expression of one's emotions.<sup>6</sup> Change happens by addressing emotional avoidance and demoralization, boosting distress tolerance, identifying and understanding underlying painful emotions, communicating unmet needs, and cultivating healthy emotions like assertive anger and self-compassion.<sup>7</sup> Boersma et al. indicated that emotion-focused therapy (EFT) could be a suitable, trustworthy, and effective treatment choice for patients with chronic pain who also had emotional issues.<sup>8</sup>

Moreover, cognitive-behavioral therapy (CBT) has been established as another non-pharmacological therapy of choice, including psychoeducation about pain, cognitive restructuring, difficulty resolution, relaxation, and behavioral activation.<sup>9</sup> CBT is a well-known therapeutic method used to address various issues. Through numerous meta-analytic studies, it has been shown that CBT is particularly effective for anxiety disorders, somatoform disorders, bulimia, anger management issues, and overall stress. Several studies have also found that CBT yields better response rates compared to other treatments and control conditions. According to several reviews, CBT had better response rates compared to other treatments in seven instances. However, one review found that CBT had lower response rates than the compared treatments.<sup>10</sup> Given that no previous research has combined these two methods for the sample group, this study

aims to evaluate the effectiveness of these interventions in reducing generalized anxiety disorder (GAD) in women with CLBP. Additionally, it seeks to determine which intervention is more effective at decreasing anxiety levels in the study sample. The primary goal of this research is to compare how EFT and CBT impact GAD in individuals with CLBP.

## Methods

The study used a semi-experimental approach involving pre-test, post-test, and control group. The statistical population included all patients with chronic back pain with GAD who were referred to Khatam-ol-Anbia Hospital in Tehran City, Iran, from June to August 2022. Using G\*Power software ( $\beta = 0.95$  and  $\alpha = 0.05$ ), 45 samples were selected for three groups ( $n = 15$  for each group) (Figure 1).

The inclusion criteria of the study were: being in the age range between 35 and 45 years old, having GAD, and having at least diploma education level. Additionally, the following exclusion criteria were applied: concurrent psychological treatment, simultaneously participating in a mental health support group (concurrent involvement in a mental health support group was permitted), the absence of more than two treatment sessions, and the consumption of alcohol and addictive drugs. In this study, the researchers were referred to the multi-specialty pain center with written permission from the head of the Khatam-ol-Anbia Hospital before the implementation, so that they could determine the desired samples according to the entry criteria. After determining the samples, they were contacted, and to facilitate communication between researchers and patients, we tried to select only patients who were mostly in one area (District 6 of Tehran City) in cooperation with the Yasmin Counseling Center located in the same district. After receiving the consent, participants were randomly assigned to three groups (two experimental and one control) by throwing coins.

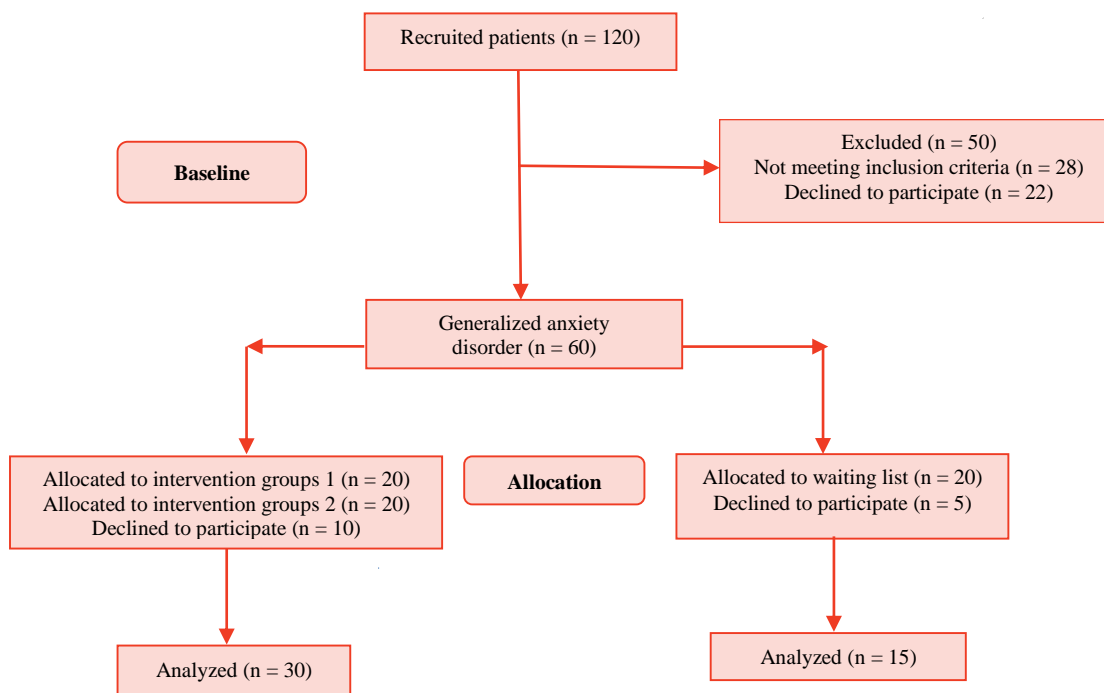


Figure 1. Study flow chart

Then, they were asked to fill out a questionnaire about the 7-item Generalized Anxiety Disorder (GAD-7) scale. To protect the privacy of patient's data, researchers assured them that their data would be kept confidential. An educational program focused on EFT<sup>11</sup> and CBT<sup>12</sup> was administered to the experimental groups, while the control group did not undergo any interventions. The summary of the interventions is reported in tables 1 and 2.

During the above-mentioned meetings, the experimental group received 12 sessions of

training in emotion-focused intervention and ten sessions of cognitive-behavioral intervention (training sessions were held once a week, each session lasting 90 minutes). Three groups received post-test evaluations following these sessions. It is noteworthy that researchers answered participants' questions and alleviated any concerns they might have had throughout the procedure.

This study met all the standards of ethical behavior in research. The Ethics Committee of the Islamic Azad University of Tehran (R.IAU.REC.1401.131) confirmed this study.

Table 1. Summary of emotion-focused intervention

Session	Contents
First	Introducing and creating therapy unity and a safe environment, collaborating and explaining therapy goals
Second	Talking about what they have done so far to improve their condition, implementing the concepts of emotion-focused therapy
Third to fifth	Each client shared their narrative of the pain disorder and expressed excitement.
Sixth to eighth	Explaining two-chair techniques to repair self-restraint and self-criticism in clients
Ninth to eleventh	Using the two-chair technique for each client, self-compassion, self-healing, and self-organization were facilitated.
Twelfth	Re-running the questionnaires, finalizing, and consolidating

**Table 2. Summary of cognitive-behavioral intervention**

Session	Contents
First	Introducing, stating the rules, and explaining how psychological factors affect thinking, emotion, physiology, and behavior (cognitive triangle)
Second	Identify anxious thoughts
Third	Assigning homework for the next session, explaining the benefits of stopping negative thoughts, and discussing cognitive techniques to deal with anxious thoughts
Fourth	Identifying passive avoidance behaviors, mental relaxation training, and assigning homework for the next session
Fifth	Reviewing the assignments of the previous session, the logic of muscle relaxation
Sixth	Identifying and examining core beliefs, and training progressive relaxation
Seventh	Continuing to identifying and examining core beliefs, mental exposure and coping practice, and regular desensitization
Eighth	Identifying and examining disturbing metacognitive beliefs, continuing mental exposure and coping practice, and inefficient assumptions and rules
Ninth	Identifying incompatible schemas and their relation to inefficient assumptions and negative thoughts
Tenth	Reviewing the assignments from the previous session, perceptual change

For the analysis of the data, multivariate analysis of covariance (MANCOVA) was conducted in the SPSS software (version 24, IBM Corporation, Armonk, NY, USA). To analyze the research data, methods of mixed analysis of variance (ANOVA) and Bonferroni's post hoc test were used. To do the mixed ANOVA, the assumptions of observation independence, normality of data (Kolmogorov-Smirnov test), and homogeneity of variances (Levene's test) were examined.

**The GAD-7:** The GAD-7 is a questionnaire consisting of seven items that are used for self-report purposes, with the intention of identifying GAD and assessing the intensity of symptoms in accordance with Diagnostic and Statistical Manual of Mental Disorders, Fourth edition (DSM-IV) guidelines.<sup>13</sup>

The GAD-7 inquires about the frequency of anxiety symptoms experienced by participants over the past 2 weeks. Responses to items are based on a 4-point Likert scale, measuring symptom occurrence from 0 (none at all) to 3 (almost every day). The total scores range from 0 to 21, with higher scores suggesting a greater presence of GAD symptoms. The scale provides guidelines for interpreting total scores, categorizing them into no/minimal anxiety (0-4), mild (5-9), moderate (10-14), or severe (15-21) anxiety levels, with a recommended threshold of 10 points for indicating cases of GAD. The

Persian version of the GAD-7 demonstrated reliability and validity through its application on 199 students and 24 patients with GAD, as per the original authors.<sup>14</sup> Moreover, Cronbach's alpha of the whole questionnaire in this study was calculated as 0.72.

## Results

The results of the demographic findings of the research participants showed that the mean and standard deviation (SD) of age in the EFT, CBT, and control groups were  $38.75 \pm 4.18$ ,  $39.00 \pm 4.12$ , and  $39.75 \pm 4.22$ , respectively. There was no significant difference between the research groups in terms of age, education, and marital status ( $P < 0.05$ ).

In the post-test stage, the mean and SD of GAD in two experimental groups of EFT ( $9.73 \pm 2.01$ ) and CBT ( $10.40 \pm 2.13$ ) was reduced compared to wait-list or usual care ( $13.60 \pm 2.89$ ). The F ratio of univariate analysis of covariance (ANCOVA) was obtained for GAD ( $F = 48.45$ ,  $P = 0.001$ ). This finding shows that there was a significant difference in the dependent variable (GAD) between the treatment groups focused on EFT and CBT.

As seen in table 3, there was a significant difference between the control group and the EFT group in GAD, in favor of the EFT group. Furthermore, EFT had a significant advantage in comparison with CBT.

**Table 3. Bonferroni's post hoc test results of emotion-focused therapy (EFT) and cognitive-behavioral therapy (CBT) groups**

Variable	Comparison groups	Adjusted means	Mean differences	SE	P
GAD	Group 1-control group	67.91 ± 27.55	40.36	1.35	0.001
	Group 2-control group	67.91 ± 34.26	33.64	1.78	0.001
	Group 1-group 2	34.26 ± 27.55	6.71	1.23	0.002

GAD: Generalized anxiety disorder; SE: Standard error

Group 1: emotion-focused therapy (EFT) and Group 2: Cognitive-behavioral therapy (CBT)

## Discussion

This study aimed at the efficacy of EFT and CBT on GAD in patients with CLBP. The results showed that both EFT and CBT had a significant effect on reducing GAD. EFT has a significant advantage over CBT. These results are in agreement with those of Hesari et al.<sup>12</sup> and Fazeli Sani et al.<sup>13</sup> Inconsistent with the study findings, the study of Fazeli Sani et al. revealed no significant difference between the groups using either EFT or CBT. Moreover, the results of Hesari et al. study. did not indicate any significant differences between positive mindfulness and EFT and CBT. Furthermore, it has been proposed that the client often attempts to cope with painful feelings through problematic self-treatment when these triggers occur.<sup>12</sup>

CBT has shown effectiveness in treating GAD and CLBP in individuals. By targeting catastrophic thinking and avoidance behaviors that hinder participation in physical treatment methods, as well as focusing on anxiety and pain-coping strategies, there may be a combined advantage for addressing both disorders simultaneously.<sup>1</sup> Goldberg et al.<sup>15</sup> suggested that mindfulness therapy may have a greater impact on pain relief compared to cognitive behavioral therapy. However, a study conducted by Khoo et al. revealed comparable outcomes in pain intensity, physical functioning, and depression levels after six months.<sup>16</sup> Contrary to our findings that EFT was effective in reducing GAD among people with CLBP, the findings of Richmond et al.<sup>17</sup> found clinically significant effects in favor of CBT intervention.

Regrettably, this research did not evaluate the impact of the interventions based on demographic characteristics, unlike the studies referenced in this paper. The researchers were unable to analyze how factors such as age, gender, or ethnicity may have influenced the outcomes of the interventions. This oversight limited the depth of understanding regarding the effectiveness of the interventions across different demographic groups.

However, it is worth noting that previous studies have shown that demographic variables can play a significant role in determining the success of interventions. By omitting this analysis, the researchers missed an opportunity to gain valuable insights into how these variables may impact the effectiveness of the interventions.

This limitation highlights the need for future research to consider the influence of demographic factors on intervention outcomes. Moreover, understanding the role demographics play in intervention effectiveness is crucial for developing targeted and tailored interventions that are more likely to yield positive results. By addressing this gap in research, future studies can provide a more comprehensive and nuanced understanding of how interventions work in diverse populations.

Additionally, considering demographic variables can help researchers identify disparities in intervention outcomes and develop strategies to address these inequalities. This, in turn, can lead to more effective and equitable interventions that are tailored to meet the specific needs of diverse demographic groups. Ultimately,



incorporating demographic variables into intervention research can enhance the quality and impact of interventions, leading to better outcomes for all individuals involved.

Thus, by examining the influence of demographic variables on intervention effectiveness, researchers can gain valuable insights that can inform the development and implementation of interventions.

Consequently, future studies should strive to include demographic analyses to ensure that interventions are as effective and inclusive as possible.

### Conclusion

The current EFT-CBT helps many patients with CLBP. Continuing clinical research should improve the adaptation of treatments to the patient's characteristics and change the focus of treatment to behavior changes that are mostly related to positive results. Further studies of fear, attention, readiness to adopt self-management strategies, pain acceptance, and new compounds in interdisciplinary treatments may lead to improved interventions.

### Conflict of Interests

Authors have no conflict of interests.

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