Investigating the effectiveness of cognitive-behavioral group therapy on increasing the general self-efficacy of patients with alexithymia

Abstract

This current research looks at how patients with alexithymia's general self-efficacy is affected by cognitive-behavioral group therapy. Using a multi-group pre-test-post-test design with control and follow-up groups, the research's methodology was quasi-experimental. All of the alexithymia patients who received referrals to the Shahid Rajaei Medical Center in Tehran during the second half of 2020 made up the statistical population for the research. Two groups of fifteen individuals each comprised the statistical sample for the research (15 individuals in the experimental group and 15 individuals in the control group). They were divided into two experimental and control groups at random after being carefully chosen. The Toronto Alexithymia Scale and the General Self-Efficacy Scale (GSE-10) were used to gather data. Both univariate and multivariate analysis of covariance tests were employed to examine the data. The outcomes showed that patients with alexithymia can benefit from cognitive-behavioral group treatment in terms of their overall self-efficacy (P<0.05).

Keywords: *Alexithymia, General self-efficacy, Cognitive-behavioral group therapy*

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Introduction

Cognitive-behavioral therapy is one of the psychotherapy methods addressing people's psychological problems at different levels. This therapeutic approach and its principles and techniques are based on cognitive psychology. It puts an emphasis on human cognitions and thoughts. It states that the type of these thoughts and cognitions contributes significantly to mental health or lack of mental health. Thus, in the course of cognitive therapy, the cognitive therapist tries to correct the person's thoughts and beliefs and help the person to have more useful cognitions. Cognitive-behavioral therapy has emerged from the combination of two approaches including behavioral therapy and cognitive approach. Nowadays, this approach includes relatively different theories and attitudes. The only common aspect of this approach is paying attention to the mediating role of cognitive processes in information processing and the emergence of a person's response to stimuli. This approach uses terms and concepts that somehow find meaning in a behavioral framework and are considered to be evaluated and measured (Leahy, 2019).

Additionally, cognitive-behavioral therapy as one of the types of psychotherapy is very reliable experimentally, so the results of 350 studies conducted in this area indicate the effectiveness of this approach in the treatment of psychiatric disorders such as anxiety disorders, depression, etc. (Beck and Weishaar, 2000). The basic assumption of cognitive-behavioral therapy is that thoughts and feelings are interdependent and ways of thinking affect behavior. According to the cognitive-behavioral therapy assumption, although a person cannot change his feelings about events, he can test his thoughts about them and ensure whether he has a balanced view of events or not. If a person's vision is unbalanced, his emotional reactions will also be unbalanced. Cognitive-behavioral therapy is typically used for treating an extensive variety of illnesses, including phobias, addictions, depression, anxiety, and alexithymia (Yalum, 2016).

Alexithymia is defined as the incapacity to cognitively absorb emotional information and control emotions (Franken 2016). Alexithymia is a multidimensional construct that includes difficulties identifying emotions, trouble describing feelings to others, and externally focused thinking. The main signs of alexithymia include the following: minimized dream recall, trouble differentiating between emotional states and bodily sensations, absence of emotional facial expressions, the severe poverty of symbolic thinking that restricts the disclosure of encounters, feelings, desires, and drivers, the inability to use emotions as symptoms of emotional problems, abstract thinking about insignificant external realities, the inability to identify and verbally define personal emotions, and a lack of ability for empathy and self-awareness. Also, one of the characteristics of alexithymia is the failure to regulate and manage emotions (transition process from processing to action) (Berking and Wupperman, 2017).

The multidimensional construct of alexithymia is characterized by poor fantasy development, restricted visualization power, trouble explaining emotions to others, and trouble recognizing emotions and differentiating between emotions and physical stimuli associated with emotional arousal. The outward manifestations of alexithymia point to deficiencies in emotion management and cognitive processing. Emotions are viewed from the perspective of cognitive science as a collection of schemas derived from information processing, encompassing both symbolic and non-symbolic procedures and representations. The reduction in emotional expression

indicates a kind of lack of emotions. Accordingly, damage in emotional processing capacities based on alexithymia may be a possible risk factor for various mental health problems (Kring and Sloan, 2019).

Nowadays, the conducted studies indicate that the cognitive-behavioral approach can be effective in increasing self-efficacy and improving people's mental health (Sindi et al., 2018). Self-efficacy is a vital concept in Bandura's cognitive-social theory. It indicates a person's belief in the ability to respond to a specific situation. In other words, efficiency expectations affect people's choices, hope, level of effort and persistence, resistance to difficulties and problems, and their vulnerability to depression. From the cognitive-social theorists' viewpoint, those who are efficient against psychological pressures are less likely to be vulnerable to psychological pressures and social dysfunction, and vice versa (Bandura, 2004). In this regard, various studies have indicated that the use of cognitive-behavioral methods can affect the self-esteem and sense of efficacy of mental patients (Feldman, 2017).

Based on Bandura (2000), self-efficacy refers to people's judgment about their capabilities and feelings of sufficiency, competence, and capability to cope with life. According to Bandura, individuals are only able to assess their own ideas and behaviors through self-thinking or self-reflection. Efficacy beliefs influence people's mental processes and emotional responses, as well as how much time they devote to their job, how resilient they are in the face of adversity, and how adaptable they are while handling different roles. As a result, those with low self-efficacy may think there is no way to resolve the issue. This refers to a belief that results in tension, melancholy, and a limited perspective (Rajabi 2015, pp. 111-113).

Self-efficacy, as a concept of social learning concepts, was first proposed by Bandura in 1997 (Bandura, 1982). Based on Bandura, people who have a low-efficacy feel helpless and cannot control their life events. They believe that any effort they make is futile (Schultz and Schultz, 2005, translated by Seyed Mohammadi, 2007, p. 460). Self-efficacy beliefs have created a new area in psychological studies. Any study in this area can have an exploratory aspect and help to know its nature. Scientifically, the significant effects of hope on self-efficacy beliefs highlight the importance and necessity of conducting this type of study. Thus, after reviewing the theoretical background, the primary question raised here is whether cognitive-behavioral group therapy is effective in increasing the general self-efficacy of patients with alexithymia.

Methods

The present study was a quasi-experimental study (with a multi-group pre-test-post-test design with control and follow-up groups). The statistical population of the study includes all patients with alexithymia who were referred to counseling and psychology clinics for treatment in the second half of 2020-2021. They included more than 100 people. The inclusion criteria of the study were voluntary participation and suffering from alexithymia. The exclusion criteria of the study included having a history of hospitalization in psychiatric centers due to psychiatric disorders such as addiction, anxiety, widespread use of psychiatric drugs, non-cooperation, and irregular participation in training and treatment sessions. In the sampling, 70 people from the total population of the statistical population were voluntarily interviewed clinically. After the implementation of the questionnaire, 30 people were finally selected based on the symptoms of alexithymia with the inclusion criterion score of 14 and above. They were considered eligible and were selected as a sample of this study after a psychiatric interview about alexithymia. Finally, based on the research plan, 30 people were randomly assigned to experimental (15 people) and control (15 people) groups, and they answered the research questionnaires.

Measurement tools

The GSE-10, or General Self-Efficacy Scale: Ten items on this scale, which was created by Schwarzer (2000) in 1979 and amended in 1981, gauge one's degree of overall self-efficacy. The Likert scale has four points, ranging from 1 to 4, for each of its items. Scores falling between 10 and 20 are regarded as low self-efficacy, those falling between 21 and 30 as medium self-efficacy, and those above 30 as high self-efficacy. This scale has a range of scores from 10 to 40. It has been used in 23 countries and its Cronbach's alpha coefficient has been reported at 83% in Iran. Rajabi (2006) obtained Cronbach's alpha coefficient at 0.82 among the students.

The TAS-20, or Toronto Alexithymia Scale: The exam, which has 20 items, was created by Bagby et al. It consists of three parts: seven questions for difficulty identifying emotions (DIE), five questions for difficulty describing emotions (DDE), and eight questions for externally oriented thinking (EOT). A 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), is used to score the questions. The overall score for alexithymia is also determined by adding the results from the three subscales. This scale's test-retest reliability was validated in 67 participants over a four-week period; results ranged from $r = 0.80$ to $r = 0.87$ for the overall alexithymia and several subscales. The Persian version of the Toronto Alexithymia Scale-20 demonstrated difficulties in defining emotions and externally oriented thinking, as supported by the results of component analysis. Every one of the three groups took the pre-test. Subsequently, the experimental group received cognitive-behavioral treatment, whereas the control group received no intervention. Subsequently, the post-test was administered to all three

groups. Finally, after three months, follow-up was implemented for all three groups.

Descriptive and inferential statistics were employed to analyze the data. The terms frequency, frequency percentage, graph, mean, and standard deviation were used in the section on statistical description. In the section on inferential statistics, the main hypothesis was tested using the statistical technique of multivariate analysis of covariance (MANCOVA), while the sub-hypotheses were tested using ANCOVA. All statistical analyses in this study were performed in SPSS software.

Results

Description of research variables

Table 1 displays the mean and standard deviation of the self-efficacy measure at the pre-test, post-test, and follow-up stages for both the study's control group and experimental groups (cognitive-behavioral treatment).

Table 1- Mean and standard deviation of self-efficacy variable in experimental and control groups in pre-test, post-test, and follow-up stages

Variable	Group	Pretest		Posttest		Follow-up	
		M	SD	M	SD	M	SD
Self-efficacy	Control group	107.33	5.792	106.533	5.553	106.800	5.518
	cognitive-behavioral therapy group	112.000	5.168	103.666	5.259	101.800	4.768

Examining the normality of the data

Table 2: The results of Levene's test and Kolmogorov-Smirnov test in research variables

Row	Research variable	Kolmogorov-Smirnov test		Levene's test	
		statistics	sig	statistics	sig
1	Self-efficacy	0.123	0.173	2.961	0.062

As shown in Table 2, all research variables have a normal distribution ($p<0.05$). Also, the research variables have equal error variance.

Table 3: The results of the Box and Machley's tests in the research variables

Row	Research variables	Box's test		Machley's test		Huynd-Feldt 0.616
		statistics	sig	statistics	sig	
1	Self-efficacy	1.287	0.259	0.884	0.190	

As shown in Table 3, the equality of the variance-covariance matrix was observed in the self-efficacy variable ($p<0.05$). In Machley's test, the presumption of sphericity has been observed in the self-efficacy variable.

Testing hypotheses

1- Patients with alexithymia benefit from cognitive-behavioral group treatment in terms of their overall self-efficacy.

Table 4- The results of multivariate analysis of covariance for the effect of the independent variable on the dependent variable

Test name	Value	df hypothesis	df error	f-value	sig	Eta coefficient
Pillai trace	0.910	4	25	63.507	0.00	0.910
Wilks' lambda	0.090	4	25	63.507	0.00	0.910
Hotelling trace	10.161	4	25	63.507	0.00	0.910
Roy's largest root	10.161	4	25	63.507	0.00	0.910

Table 4's results indicate that there was a substantial variance in the aggregate variable of interest (Pillai trace = 0.910, $p < 0.001$, $F = (4,25)$) between the two experimental and control groups. Thus, the calculated F is statistically significant. Also, the relationship or effect size is 0.910 ($Partial \eta^2 = 0.910$). Therefore, considering the F-value, the hypothesis H0 is rejected. Thus, with 95% confidence, it can be concluded that cognitive-behavioral group therapy is effective in the general self-efficacy of patients with alexithymia.

Table 5- The results of the between-subject effect tests for the general self-efficacy scores in the two groups

Statistical index of variable	Sum of squares	df	Mean of squares	F-value	sig	Eta coefficient
General self-efficiency	61.633	1	61.633	2.107	0.158	0.070

The findings of the between-subject effects test in Table 7, which compares the two experimental and control groups, indicate that there is a substantial variance (p<0.05) in the overall self-efficacy variables between the participants of the two groups. The distinction is such that the experimental group's mean post-test scores for the general self-efficacy measure are considerably lower than those of the control group, as indicated by the descriptive indices in Table 1.

2- Patients with alexithymia benefit from cognitive-behavioral group treatment in terms of their overall self-efficacy (in two stages: follow-up and post-test).

Table 6 presents the findings from the repeated measures ANOVA concerning the general self-efficacy intra-group component (pre-test, post-test, and follow-up) and the interaction between the intra-group factor and the inter-group factor (control and experimental groups).

Variable	Source of	Type of analysis	Sum of squares	df	Mean of squares	F-value	sig	Eta coefficient
General self-efficacy	Time	By observing the sphericity	84.929	2	42.465	69.346	0.000	0.712
		Greenhouse-Geisser	84.929	1.814	46.827	69.346	0.000	0.712
		Huynd-Feldt	84.929	2	42.465	69.346	0.000	0.712
		Lower limit	84.929	1	84.929	69.346	0.000	0.712
	Time interaction×group	By observing the sphericity	627.495	2	313.748	312.358	0.000	0.848
		Greenhouse-Geisser	627.495	1.814	345.977	312.358	0.000	0.848
		Huynd-Feldt	627.495	2	313.748	312.358	0.000	0.848
		Lower limit	627.495	1	627.495	312.358	0.000	0.848

As shown in Table 6, the results based on statistical analysis while observing the assumption of sphericity (F=69.346, df=2 and p<0.01), Greenhouse-Geisser (F=69.346, df=1.814, and p<0.01), and Huynd-Feldt (F=69.346, df=2, and p>0.01) show that there is a significant difference between pre-test, post-test, and follow-up regarding the variable of general self-efficacy (p<0.01). Also, in general self-efficacy, the interaction of the test with the group (control and experimental groups) based on statistical analysis with observing the assumption of sphericity (F = 312.358, df = 2, and p < 0.01), Greenhouse-Geisser (F=312.358, df=1.814, and p<0.01), and Huynd-Feldt (F=312.358, df=2, and p<0.01) is significant. This means that there is a significant difference between the pre-test, post-test, and follow-up in the cognitive-behavioral therapy and the control groups. The Eta coefficient for the interaction of time × group membership (control and experimental groups) is 0.84. This result indicates that 84% of the difference between the cognitive-behavioral therapy and the control groups in the general self-efficacy variable was related to the application of the independent variable (cognitive-behavioral therapy).

Table 7 shows the results of the Bonferroni post hoc test for the pairwise comparison of the experimental (cognitive-behavioral therapy) and the control groups in the general self-efficacy variable.

Table 7- Bonferroni test results for pairwise comparison of research groups in general self-efficacy variable

cognitive-behavioral therapy	Compared group	Difference of means	Standard error	sig
Pre-test	Post-test	*2.378	0.226	0.000
Pre-test	Follow-up	*1.269	0.207	0.000
Pre-test	Follow-up	*1.108-	0.169	0.000

*p<0.05   ** p< 0.01

Table 7 demonstrates that there is a significant difference (p<0.05) in the general self-efficacy variable's pre-test and post-test, and follow-up scores in the cognitive-behavioral treatment group. Thus, the sub-hypothesis that cognitive-behavioral group treatment is beneficial in raising the general self-efficacy of patients with alexithymia (in two phases, post-test and follow-up) is verified based on the data shown in Tables 8 and 9.

Discussion and Conclusion

The purpose of this study is to determine if cognitive-behavioral group treatment may help people with alexithymia feel more confident in themselves overall. The findings demonstrated that patients with alexithymia can benefit from cognitive-behavioral group treatment in terms of their overall self-efficacy. The present findings are consistent with the findings of previous research conducted by Shoushtari, Eslami et al. (2020), Mostafai et al. (2018), Moradi Manesh et al.

(2018), Sindi et al. (2018), Wick et al. (2018), Rival, Hopkinson, Smith, and Len (2018), which also reported a noteworthy impact of cognitive-behavioral group therapy on enhancing the overall self-efficacy of patients across various patient groups.

Based on the study's findings, patients with cognitive-behavioral group treatment can have less severe issues because of an increase in their overall self-efficacy. Theoretically, self-efficacy serves as a helpful framework for understanding emotional irregularities and is essential to the self-management of emotional states (Morris, 2002). Consequently, feelings of emptiness, futility, melancholy, and susceptibility to stressful occurrences are brought on by the conviction that one cannot influence the circumstances and events that greatly influence one's life. A person in this situation experiences depression. People with poor self-efficacy feel powerless and unable to influence their life circumstances, according to Bandura (2002). They believe that any effort they make is futile. Thus, it can be stated that people's judgments of their efficiency are the primary cause of the feeling of inadequacy of depressed people that they experience when they are unable to affect events and are dissatisfied with the events around them.

Furthermore, as cognitive-behavioral therapy raises patients' general self-efficacy in both the post-test and follow-up phases, the results also demonstrated the impact of cognitive-behavioral group therapy on the general self-efficacy of patients with alexithymia in the two stages of post-test and follow-up. These findings are consistent with research by Shoushtari, Eslami et al. (2020), Mostafai et al. (2018), Moradi Manesh et al. (2018), Momi et al. (2018), Sindi et al. (2018), Wick et al. (2018), Rival, Hopkinson, Smith, and Len (2018), which showed a noteworthy increase in general self-efficacy of patients with alexithymia and other disorders following their participation in the study. According to the mentioned studies, one of the effective treatments for improving emotional regulation is cognitive-behavioral group therapy. The fundamental assumption of cognitive-behavioral approaches is that the meaning that a person assigns to events determines how he feels and behaves (Mutabi, 2018). It can be stated that cognitive-behavioral group therapy in alexithymia patients empowers the person in mental dimensions and increases recovery and mental health. Also, since it was implemented as the group therapy, the individual and social schemas of the members were recognized more and these people recognized the correctness of the problems in their socialization and personal life.

With a realistic and positive assessment of their circumstances, the clients in this treatment improved their communication with society and their ability to think, feel, and react to emotional states. They also became more tolerant and flexible when facing social and personal challenges (Wilson and Branch, 2014). Ultimately, it may be said that by recognizing cognitive mistakes, confronting them, and using behavioral testing, cognitive-behavioral therapy groups modify the content of patients' negative ideas about themselves and society. Negative feelings regarding the circumstances brought on by the illness are eliminated with this kind of care. By identifying and resolving these individuals' negative and illogical thoughts—such as having high expectations for themselves and blaming themselves for their limitations as a result of the disease—it also lessens their emotional issues and anxiety. Therefore, it may be concluded that patients with alexithymia benefit from cognitive-behavioral group treatment in terms of their overall self-efficacy.

Additionally, people with alexithymia who have low general self-efficacy may believe that problems are basically unsolvable since self-efficacy beliefs affect people's thought patterns and emotional reactions. Thus, this belief is the source of stress and depression. The results revealed that analyzing the task about automatic thoughts, examining examples of cognitive errors and distortions, and expressing the application of problem-solving in introducing and recording positive and appropriate thoughts in the cognitive-behavioral group therapy sessions increased the self-efficacy of people with alexithymia and reduced the severity of the problem for them.

References

- Rajabi, Gh (2006). Reliability and validity of the general self-efficacy scale (GSE-10) in psychology students of the Faculty of Educational Sciences and Psychology, Shahid Chamran University of Ahvaz and Azad University of Maroodasht. The Journal of New Educational Ideas. Volume 2. Issues 1 and 2. pp. 111-122.

- Shultz, P. et al. (2006). Theories of personality (8th edition). Translated by Yahya Seyed Mohammadi (published in the original language in 2005), Tehran: Virayesh Publications

Franken, R. (2017). Motivation and Emotion. Translated by Hassan Shams. Tehran: Nei Publications (date of publication in the original language, 2009).

Kring, A.; Sloan, D. (2019). Emotion regulation and psychopathology. Translated by Jafar Hasani and Mehdi Akbari. Tehran: Arajmand Publications.

Leahy, R. (2019). Cognitive therapy techniques (a practical guide for clinicians). Translated by Hassan Hamidpour. Tehran: Honorable. (The publication date in the original language, 2017).

Mutabi, F; Feghi, L. (2018). The way and customs of therapy in cognitive-behavioral theory. Tehran: Shahrivar Publications

Wilson, R.; Branch, R. (2014). Cognitive-behavioral therapy in simple language. Translated by Zahra Khosravi and Somaye Rezaei. Tehran: Arajmand Publications.

Yalum, E; Leshch, M. (2017). Group psychotherapy: theoretical and practical issues. Translated by Mahshid Yasaei.

Tehran: Danje Publications (The publication date in the original language, 2005)

-Bandura A. "health Promotion by socio-cognitive means health education behavior". Journal of Health Education & Behavior. 2004; 31(2): 143-164.

Brackett, M. A., & Salovey, P. (2014). Measuring emotional intelligence with the Mayer-Salovey-Caruso. Emotional Intelligence Test (MSCEIT).

-Bandura A. Cultivate self-efficacy for personal and organizational effectiveness. In: Locke EA. Handbook of principles of organization behavior. Oxford UK: Blackwell; 2000. 120-36.

-Bandura, A. (1982). Self–efficacy mechanism in human agency. American Psychologist, 37, 122 – 147.

-Beck, A. T, & Weishaar, M. E.(2000). Cognitive therapy. In R. J. Corsini & D. Wedding (Eds.), Current Psychotherapies (6th ed. Pp. 241-272). Itasca, IL: Peacock.

Berking, M., & Wupperman, P. (2017). Emotion regulation and mental health: recent findings, current challenges, and future directions. Current opinion in psychiatry, 25(2), 128-134.

-Schwarzer R. Perceived self-efficacy of teachers: longitudinal findings with a new instrument. Zeitschrift fur Pedagogische psychologie. 2000; 14(1): 12- 25.

Feldman, R., Dollberg, D., & Nadam, R. (2017). The expression and regulation of anger in toddlers: Relations to maternal behavior and mental representations. Infant Behavior and Development, 34(2), 310-320.