

Research Paper

The Effectiveness of Expressive Arts Group Therapy in Resilience and Emotion Regulation Among Addicts Undergoing Rehabilitation



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ABSTRACT

Background: Addiction is one of the most important social issues influencing all aspects of people's lives, including personal, social, physical, and mental. Given the increasing rate of addiction and its associated irreparable damages to the community, the methods of preventing and treating addiction should be meticulously investigated. This study aimed to examine the effectiveness of expressive arts group therapy in resilience and emotion regulation among addicts undergoing rehabilitation.

Methods: This quasi-experimental study was followed a pretest-posttest design with a control group. A sample of 30 addicts (15 people assigned to the experimental group and 15 to the control group) undergoing rehabilitation from March to June 2017 at Mohabbat Addiction Treatment Center in Zahedan City, Iran, were selected using the convenience sampling method. Ten 45-minute sessions of expressive arts group therapy were carried out in the experimental group. After completing the sessions, a posttest was conducted. To collect data, Connor and Davidson's resilience scale and emotional self-regulation questionnaire were used.

Results: Results of analyses of covariance indicated that expressive arts group therapy was effective on resilience and emotion regulation among the addicts undergoing rehabilitation.

Conclusion: Accordingly, using expressive arts group therapy is recommended to promote resilience and emotion regulation among addicts undergoing rehabilitation.

Keywords: Resilience, Emotion Regulation, Addiction, Addicts

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1. Introduction

Addiction is a significant social issue and a therapeutic challenge. Because addiction is accompanied by several diseases and difficulties, including AIDS, it damages people's thinking power, career, and creativity, disrupts their employment and family life, impacts their quality of life, and leads to various psychological disorders such as depression and anxiety [1]. Addiction is a chronic poisoning caused by using natural or industrial substances and leads to dependence. The World Health Organization applied the term dependence for addiction and mentioned that it results from long-term consumption of a substance or a combination of substances. In the classification of psychological disorders, it was noted that addiction could lead to changes in the ways of thinking, feeling, and behaving [2]. In Iran, 3 million people, 6.2% of the population, are drug dependent, and an 8% increase in the number of addicts every year [3]. Due to various mental issues, addicts usually suffer from difficulties in emotion regulation. On the other hand, owing to a lack of proper awareness of their emotions and feelings, addicts lose their ability to behave properly and reasonably and have trouble using their emotions correctly [4].

Difficulties in emotion regulation are both before and after substance abuse since people's difficulties in emotion regulation make them vulnerable to substance abuse, and abusing a substance can create several difficulties in emotion regulation [5]. According to a study by Khanmohammadi Otaghsara, Homaioni, and Eshaghi, emotional intelligence and abilities to regulate emotions can improve mental health and reduce mental disorders [6]. An emotion is a complex and multi-dimensional component that prepares a person for actions and reactions and contains six dimensions: including cognitive appraisal, subjective experience, relationship, internal bodily response, facial expression, and response to emotions [7].

Emotion-seeking is a biological need for having diverse, novel, complex, and dangerous experiences; it has been claimed to have four dimensions, including thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility [8]. Addicts have difficulties in cognitive emotion regulation and interpersonal behaviors [9]. According to Wells, when faced with various issues, these people apply emotion-focused strategies and are less likely to use problem-focused strategies. That is why some addicts abuse substances to decrease and regulate their emotions [10]. By examining more than 500 substance abusers, Schultz and Schultz

figured out that abusers were more likely to seek emotions compared to normal people. In other words, they had difficulties in emotion regulation [11].

Emotion regulation refers to a process during which people consciously or unconsciously modify their emotions in response to environmental expectations. People without the required emotion regulation skills cannot tolerate negative feelings and emotions when facing them [12]. Moradi and Kalantartosheh indicated that resilience is a way to develop positive emotions and reduce negative emotions [13]. Resilience refers to active and effective participation in the surrounding environment and is not merely a passive resistance to traumas and threatening situations. Resilience is a person's ability to create a psychosocial equilibrium to risk factors [14]. Despite the risk factors, resilience makes it possible for people to employ their maximum available capacities, achieve individual growth and success, and consider challenges as paths to further empowerment [15]. Resilience acts through cognitive, emotional, motivational, and selective processes. These processes consider challenges as opportunities for developing awareness (the cognitive aspect), minimizing stress (the emotional aspect), maximizing actions and motivations (the motivational aspect), and reorganizing life (the selective aspect) [16].

Enhancing resilience decreases anxiety, psychological distress, depression, and suicidal ideations [17]. Regarding what was previously mentioned, it can be concluded that the probability of recurrence of substance abuse increases due to difficulties in resilience and emotion regulation among addicts. Therefore, the need for therapeutic interventions to reduce these difficulties and prevent the recurrence of substance abuse is felt. Art therapy is among the psychotherapy methods used to help addicts become aware of their thoughts and emotions and overcome their internal and external challenges [18]. This therapy provides the grounds for socialization because the bases of arts group therapy are to include participants in the structural process of art and share artistic activities with the people to and help the participants overcome their fears [19]. Boone addressed that the main objectives and elements of art therapy are refining mental and emotional aspects, facing emotional conflicts, facilitating the expression of traumatic events details, focusing on one's emotions, conveying emotions in a flexible and non-judgmental way, expressing and recalling emotions freely, and integrating traumatic experience to improve emotional disturbances [20]. During arts group therapy, people with mental disorders can maintain their relationships with others. By reflecting on their inner lives through applying artworks, they can communicate with

their emotions and develop deep senses of empathy and cooperation [21]. Over the past few decades, a new form of art therapy, originating from art academies known as expressive arts therapy, has evolved such that many artists have been taught as therapists who have developed this new perspective. In all forms of art therapy, the focus is on self-expression; however, in expressive arts therapy, many artistic expression processes are carried out considering having a potential power [22].

A study by Roghanchi et al. demonstrated that art therapy increased resilience [23]. Alavinejad et al. revealed that art therapy reduced anger and improved emotion regulation through modifying emotions [24]. Art, as a significant aspect of culture, plays a key role in psychological functions [25], and the application of art therapy can play an important role in treating mental disorders such as addiction. Since expressive arts therapy has not yet been used in treating addiction in Iran, the need for conducting a study to address this issue was felt. Therefore, the current study sought to answer the following research question:

- Does expressive arts group therapy affect resilience and emotion regulation among addicts undergoing rehabilitation?

2. Methods

This quasi-experimental study was followed a pre-test-posttest design. The present study had a statistical population of 70 addicts undergoing rehabilitation at an addiction treatment center in 2017. A sample of 30 addicts was selected and assigned to an experimental group (15 people) and a control group (15 people) using convenience sampling method. Ten 45-minute sessions of expressive arts group therapy were carried out in the experimental group. After completing these sessions, a posttest was conducted. Enhancing resilience and emotion regulation among the addicts was the main objective of arts group therapy sessions, and researchers attempted to hold these sessions in the forms of question-and-answer and group discussion. At the end of each session, a homework assignment was provided to be done for the next session. Moreover, at the

Table 1. Summary of the structure and contents of the expressive arts group therapy sessions

Sessions	Activities	Objectives
1 st	Becoming familiar with members of the group and procedures and methods of conducting the therapy through doing simple assignments	Establishing relationships and building trust, becoming familiar with art therapy and methods of conducting the following sessions
2 nd	Drawing lines and detecting faces and their moods among the lines	Finding a meaning for and discovering subject's feelings
3 rd	Depicting an unfortunate event or memory and or a current stressful obsession with a subject	Externalizing negative emotions and learning how to cope with them
4 th	Dividing age periods experienced by a subject, rating them, and finding the best age period through writing notes on a small piece of colored paper	Discovering happiness and satisfaction experienced by a subject and teaching methods of refining them using a client-centered method
5 th	Coloring organs of a human statue	Mental restoration of a subject's disturbed body image
6 th	Depicting the best social and individual features of a subject on and inside an envelope	Discovering capabilities, enhancing self-efficacy, and improving self-awareness
7 th	Drawing a group painting based on a topic selected by the group members	Facing the subjects with the concept of group dynamics and aiding them to become familiar with their individual and social roles and rights and individual and collective happiness
8 th	Drawing a person, teamwork, in a subject's ideal world	Creating hope and a sense of purpose, finding a meaning in the future, and changing social attitudes
9 th	Repeating and reminding the materials presented in the previous sessions, summing them up, giving a meaning to the applied techniques, and comparing a subject's behaviors and emotions before and after the intervention sessions	Integrating cognitions, abilities, and knowledge acquired in the previous sessions and making use of the experiences obtained from the sessions
10 th	Preparing the subjects to finish the therapy and holding an exhibition of their visual and graphic artworks created during these sessions and integrating thoughts and ideas	Targeting for the continuation of using the achievements of these sessions to cope with life issues and making use of other subjects' experiences acquired during doing the assignments

Table 2. Frequencies and percentages of age of the female addicts in the experimental and control groups

Age Range (y)	Groups	No. (%)
21-25	Experimental	6(30.0)
	Control	8(53.3)
26-30	Experimental	5(33.3)
	Control	6(40.0)
31-34	Experimental	4(26.6)
	Control	1(6.7)
Total	Experimental	15(100)
	Control	15(100)



beginning of each session, the homework assignment and discussions of the previous session were reviewed. The contents of these sessions and a summary of each session are presented in [Table 1 \[26-28\]](#).

The following instruments were used to collect data.

The Connor and Davidson’s resilience scale includes 25 items designed by Connor and Davidson by reviewing research conducted on resilience from 1979 to 1991. The items are scored based on a 5-point Likert-type scale ranging from 0 (totally false) to 4 (totally true). The maximum score is 100, and the minimum is 0. The psychometric properties of this scale were examined in patients with generalized anxiety disorder and two groups of patients with post-traumatic stress disorder [14]. The designers of this scale believed that it is well suited for distinguishing resilient people from non-resilient people in clinical and nonclinical samples, and it can be applied in research and clinical settings. In Iran, before determining its validity, factor analysis was used to standardize the scale, indicating that its sam-

pling accuracy was 0.87 and its accuracy of Bartlett’s Chi-square approximation for testing was 28.5556. In addition, using the Cronbach alpha coefficient, the reliability coefficient of this scale was 0.89 [29].

The emotional self-regulation inventory is a 25-item scale that measures self-regulation in five areas of positive performance, controllability, revelations of feelings and needs, determination, and well-being-seeking, on a 5-point Likert-type scale ranging from 1 (too low) to 5 (too high). A minimum score of a subject on the scale is 25, and the maximum score is 125. Higher scores show higher levels of emotion regulation. Cronbach’s alpha coefficients of this scale ranged from 0.68 to 0.84, and its internal consistency was confirmed. To validate the Persian form of this scale on a sample of students (n=827), a Cronbach’s alpha coefficient was used with the value of 0.93 for the whole scale, indicating the high internal consistency of the scale [30]. The validity of this scale was also confirmed by examining correlation coefficients of scores on self-regula-

Table 3. Mean±SD of resilience and emotion regulation in the pretest and post-test

Groups	Stages	Mean±SD	
		Resilience	Emotion Regulation
Experimental	Pre-test	43.93±5.09	43.46±4.98
	Post-test	111.66±5.47	107.06±6.08
Control	Pre-test	43.13±4.91	45.73±5.40
	Post-test	33.60±3.26	33.86±3.24



Table 4. Summary of the results of MANCOVA in resilience and emotion regulation

Effect	Tests	Values	Hypothesis df	Error df	F	Sig.	Effect Size
Group	Pillai's trace	0.990	1.273	2.00	25.000	0.001	0.99
	Wilk's lambda test	0.010	1.273	2.00	25.000	0.001	0.99
	Hotelling-Lawley trace	101.805	1.273	2.00	25.000	0.001	0.99
	Roy's maximum root	101.805	1.273	2.00	25.000	0.001	0.99



tion obtained by 140 students with the mental health inventory and the self-esteem scale [31].

Data analysis was conducted using descriptive and inferential statistics, including analyses of covariance via SPSS 16. Software, version

3. Results

To analyze the data, we first examined the information based on demographic characteristics. Then the variables' description indicators were examined. Finally, the variables were analyzed through multivariate covariance.

The results in Table 2 show that most respondents (53.3%) in the control group were in the age group 21-25, while 33.3% in the experimental group were in the age group 26-30.

The results in Table 3 show that the scores on resilience and emotion regulation obtained by the experimental group in the posttest are greater than those obtained by the control group.

The multivariate analysis of covariance (MANOVA) was used to examine the following research question: Does expressive arts group therapy significantly affect resilience and emotion regulation among the addicts undergoing rehabilitation? This analysis has several presumptions, including normality of data, homogeneity of variances, and homogeneity of regression slopes, which were examined as follows.

The Kolmogorov-Smirnov test was used to determine the normality of the data related to resilience in pretest (Kolmogorov-Smirnov $z=0.524$, $P \geq 0.94$ (and post-test) Kolmogorov-Smirnov $z=1.60$, $P \geq 0.12$ (as well as related to emotion regulation in pre-test (Kolmogorov-Smirnov $z=0.438$, $P \geq 1.59$) and post-test (Kolmogorov-Smirnov $z=1.597$, $P \geq 0.12$). The results of this test indicated that the significance values re-

lated to the normality tests are all greater than 0.05. Therefore, the data of resilience and emotion regulation are normally distributed.

To investigate the homogeneity of variances in both groups, Levene's test was used to assess equality of variances for resilience (pretest: $F_{1, 28}=0.177$, $P=0.677 > 0.05$, post-test: $F_{1, 28}=8.08$, $P=0.800 > 0.05$), and emotion regulation (pretest: $F_{1, 28}=0.034$, $P=0.85 > 0.05$, post-test: $F_{1, 28}=40998$, $P=0.34 > 0.05$). The results demonstrate that none of the variables under study was statistically significant. Therefore, the assumption of homogeneity of variances is confirmed.

Furthermore, another presumption for carrying out the analysis of covariance is the homogeneity of regression slopes. In terms of resilience, the results of pre-test-post-test interaction were $F=0.165$ and $P=0.688$. In terms of emotion regulation, the results of pre-test-post-test interaction were $F=0.042$ and $P=0.839$. The results of examining the homogeneity of regression slopes confirm the assumption of the homogeneity of regression slopes.

Considering the confirmation of the presumptions, MANCOVA was allowed to be used. As seen in Table 4, the results of the quadruple tests of MANCOVA related to examining the differences in the variables under study are all statistically significant at a 99% confidence level. Therefore, these results show that expressive arts group therapy affects the dependent variables. Moreover, the results indicate at least a significant difference between the experimental and control groups in one of the considered variables, i.e., resilience and emotion regulation, in the post-test. In other words, training expressive arts group therapy affects the mean score of the experimental group on at least one of the variables compared to that of the control group ($P > 0.001$). The size of this effect is 99%, and 99% of the differences in the scores of the dependent variables are related to the group membership (the experimental group and the control group).

Table 5. The MANCOVA on the effects of expressive arts group therapy on resilience and emotion regulation among the addicts undergoing rehabilitation

Variables	Sum of Squares	df	Mean of Squares	F	Sig.	Effect Size
Resilience	43271.490	1	43271.490	2.255	0.0001	0.98
Emotion regulation	38854.174	1	38854.174	1.687	0.001	0.95



To evaluate the hypothesis more precisely, the results of the MANCOVA for each of the variables, i.e., resilience and emotion regulation, are presented in Table 5. As seen in Table 5, after eliminating the effect of the pre-test on the dependent variables and considering the values of F obtained for resilience ($F=2.255$, $P<0.05$, $\eta^2=0.98$) and emotion regulation ($F=1.687$, $P<0.05$, $\eta^2=0.95$), there are statistically significant differences between the moderated participants' mean scores in the pre-test and post-test. Therefore, the hypothesis of this study is confirmed, and it can be concluded that these significant changes in the scores of resilience and emotion regulation obtained by the experimental group in the post-test, compared to the control group, are due to the intervention.

4. Discussion

The objective of the current study was to examine the effectiveness of expressive arts group therapy in resilience and emotion regulation among addicts undergoing rehabilitation. The results of this study indicated that expressive arts group therapy was effective in improving resilience and emotion regulation among the addicts undergoing rehabilitation. This finding is partly in line with the results of previous studies [23, 24, 32-34].

Resilience is a dynamic process that balances risk factors and internal as well as external conservative factors and helps people eliminate adverse outcomes of life [14]. A study by Roghanchi et al. showed that art therapy increased resilience and predicted mental health through enhancing self-esteem [23]. In another study, Coholic demonstrated that mindfulness-based art therapy increased resilience among people [33]. Shim et al. revealed that art therapy enhanced resilience among people [34]. Expressive arts therapy increases resilience [32]. To explain these results, it can be stated that art therapy provides the grounds for socialization since the bases of arts group therapy are to include participants in the structural process of art and share artistic activities with these people to help the participants overcome their fears, enhance their self-esteem, increase hope for creating positive changes

and being goal-oriented [20]. Accordingly, having a sense of value, considering oneself as a part of a group, setting goals, and being hopeful is among the important factors required for promoting a person's tolerance and improving his/her resilience.

Due to various mental issues, addicts usually suffer from difficulties in emotion regulation. On the other hand, owing to the lack of proper awareness of their emotions and feelings, addicts lose their ability to behave properly and reasonably and have trouble using their emotions correctly [4]. Baumeister et al. argued that difficulties in emotion regulation are before and after substance abuse since people's difficulties in emotion regulation make them vulnerable to substance abuse, and abusing a substance can create some difficulties in emotion regulation. In other words, when facing various issues, these people apply emotion-focused strategies and are less likely to use problem-focused strategies [10]. That is why some addicts abuse substances to decrease and regulate their emotions. Alavinejad et al. revealed that by modifying the process of regulating emotions, art therapy could reduce aggression [24].

By releasing negative emotions, people can balance their emotions. In other words, illustrating and doing artistic activities transform destructive and aggressive senses into constructive and strong ones. By providing a ground for intervening in learning, art therapy leads to learning problem-solving skills and increases a sense of belonging. Hence, when a person faces problems, he/she uses modified emotions and controls his/her negative emotions. During arts group therapy, people with mental disorders can maintain their relationships with others. Furthermore, by reflecting on their inner lives through applying artworks, they can communicate with their emotions and develop deep senses of empathy and cooperation [21].

5. Conclusion

Given the effectiveness of expressive arts group therapy in promoting resilience and emotion regulation among addicts undergoing rehabilitation, this therapy can be used for other patients who deal with addiction. By influencing their resilience, this therapy increases their resistance to the recurrence of substance abuse. Moreover, improving their emotion regulation aids them in controlling and modifying their emotions. Since this study was only carried out on the addicts undergoing rehabilitation at Mohabbat Addiction Treatment Center, caution should be taken when generalizing these results to other centers and addicts.

Ethical Considerations

Compliance with ethical guidelines

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Authors' contributions

Both authors equally contributed to preparing this article.

Conflict of interest

The authors declared no competing interests.

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