Original Article

The efficacy of the emotion regulation intervention on coping styles in patients with alexithymia

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Introduction: Alexithymia is known as a kind of insufficiency in emotion regulation is a dangerous factor for many mental disorders. This study is conducted to evaluate the effectiveness of emotion regulation intervention on coping styles in patients with the symptoms of alexithymia.

Methods: A total of 24 students with alexithymia symptoms were selected based on their scores in Toronto Alexithymia Scale. These students were recruited from Kharazmi University by convenience sampling method and they were assigned to intervention (n= 12) or control group (n= 12) randomly. Students in the intervention group participated in an 8-session emotion regulation program, while there was no intervention into the control group. All participants completed Tehran Coping Style Scale in pre-test and post-test and collected data were analyzed using ANCOVA.

Results: The analysis results have shown that the emotion regulation intervention could have increased the problem-focused coping style in the participants of the intervention group. ($p<0.05$).

Conclusion: According to the results of this study, the emotion regulation intervention can be an effective method to improve the problems that are associated with alexithymia in the patients who have alexithymia, and it can be considered as a preventive intervention to prevent the bigger problems of the people who have alexithymia.

Declaration of Interest: None.

Key words: Emotion regulation intervention, Alexithymia, Coping styles

Introduction

Alexithymia defines as the inability to express emotions due to the lack of emotional awareness. People with alexithymia often do not have the ability to identify, understand or describe their emotions (1). Alexithymia includes some features such as difficulty in identifying feelings, difficulty in describing feelings and externally oriented thinking, and it is along with the increase of physiological arousal, paying more attention to physical symptoms and complaining from these symptoms and pathological compulsive behaviors (2). These people have difficulty in recognizing emotions and describing their feelings, and they have a poor visualization that shows the limited ability of their imagination; they also have the cognitive verbal, profit-oriented and external styles (3). These characteristics will result in deficits in cognitive processing and emotion regulation and adjustment. Various research reports have indicated that alexithymia can be seen in patients with a variety of psychiatric and clinical traumas and even in non-clinical populations. (4). Emotion regulation is defined as the beginning process, modification or

variation of incidence, severity or the continuity of inner feelings and the emotions that are associated with the socio-psychological and physical processes to accomplish the individual goals. According to Model of Gross (2001), emotion regulation includes all of the conscious and unconscious strategies that are used to increase maintain or decrease the emotional, behavioral, cognitive components of an emotional response (5). In fact, emotion regulation is the intrinsic aspect of emotional responses' tendencies. People in dealing with stressful conditions use different methods and strategies to control or manage and regulate their emotion (6,7,8). Emotion regulation is defined as the attempts of individuals to protect, manage and enhance the experience and expression of emotions (9). German et al., have considered emotion regulation as the strategies that are used to reduce, increase, repress the emotion, and they believe that emotion regulation is one of the intrinsic and innate characteristics of human being (10,11). This structure is a complex concept that contains a wide range of biological, social, behavioral processes and also conscious and unconscious cognitive processes (12,13,14). Adaptation and psychological adjustment largely depend on the emotion regulation. The experience of negative emotions is inevitable in human life; therefore, undoubtedly in everyday life, there is a significant potential to have problems in emotion regulation and emotion regulation is one of the most important assignments for everyone's physical and psychological health (15,16). Emotion regulation training includes reducing and controlling the negative emotions and the way of positively using emotions (17). Adaptive emotion regulation is associated with self-esteem and positive social interaction; also, increasing the frequency of positive emotional experience would lead people to effectively cope with the stress (18). The group emotion regulation intervention has a positive effect on reducing the emotional regulation deficit; even, it enhances the appropriate reactions in response to social situations. In addition, a number of studies (19, 20, 21) have doubts about the stability of alexithymia and have introduced it as a state (and not an adjective) of personal distress consequence. In fact, alexithymia is a state-dependent phenomenon not a stable personality trait (22). According to this approach, alexithymia is merely a coping strategy to protect oneself against emotional distress that is related to the severe traumatic situations (23). Coping strategies are defined as a set of cognitive and behavioral responses that aim to minimize the pressure of stressful situations. (24). Tamers, Janicki & Helgeson (25) in a research by reviewing the coping research literature have presented the following classification of coping behaviors:

Problem-oriented behaviors: problem-focused coping involves the behaviors that are used to change the stressors. This strategy involves two components. A) Preparing or preparation (search for information, planning), B) practice (problem solving, active coping). Emotion-oriented behavior: emotion-focused coping behaviors are designed to change the individual's response in dealing with a stressor that includes the following factors: seeking social support (emotional), avoidance, denial, positive reappraisal, retirement, outpouring anxiety, mental rumination, wishful thinking, self-blame, positive self-talk and exercise.

Lazarus & Folkman (26) have described two main types of coping styles; Problem-focused coping and emotion-focused coping. Problem-focused coping is an attempt to change or manage the stressful situations or direct activities in the environment in order to change or modify the situation that has been considered threatening. There is a correlation between alexithymia and coping styles. So, alexithymia and its components have a significant negative relationship with positive

problem-focused and emotion-focused coping styles; they also have a significant positive relationship with negative emotion-focused coping style.

Mosson, Peter & Montel (27) have studied the effect of physical activity on alexithymia and their coping styles in the patients with multiple sclerosis (MS) who are aged over 40 years old. They have believed that physical activity has a protective effect on alexithymia and especially emotion identification and can affect the person's coping strategies. The results have shown that the participants who had a high physical activity have used the coping strategy of getting information more than others. Also, Besharat (23) on a study has investigated the relationship between alexithymia, coping styles and stress. The findings have shown that there is a negative correlation between alexithymia and positive problem-oriented and emotion-focused coping styles; also, there is a positive correlation between alexithymia and negative emotion-focused coping styles. Also, there is a correlation between alexithymia, coping style and stress. Afshari and Honarmand (28) also have conducted a study on students and they have investigated the prevalence and intensity of alexithymia and have compared it in male and female students. The results have shown 19.5% of overall prevalence in which the sample of female students had 18.8% and the sample of male students had 20.2% of prevalence; therefore, in terms of the prevalence of this structure, there has been no significant difference between male and female students. Finally, in the study they have pointed out that the prevalence of alexithymia among the students in this study was higher than other foreign studies. Since, despite the extensive researches that have been conducted on the aspects and correlates of alexithymia, there is a large gap in the researches on the treatment of alexithymia. Therefore, the present study has been conducted to examine the issue of whether emotion regulation intervention is effective on the coping styles of the people with the symptoms of alexithymia or not.

Methods

The study sample has been consisted of 40 male and female Bachelor of Arts (B.A.) students of Kharazmi University who had the symptoms of alexithymia in the year 2014, and they have been selected by covariance sampling method. These students after completing the Toronto questionnaire of alexithymia have been scored higher than 60, and also comorbid disorders and drug use were assessed by a psychologist in an interview with per patient, Then, Patients with alexithymia's symptoms were listed and, after obtaining consent, they were randomly assigned to control and experimental groups that each one has included 20 people. Due to the reduction of sample, the number of participants in each group has been reduced to 12 people. The participants before starting the pre-test and post-test of intervention have completed the post-test questionnaires (3 months after the pre-test). The data have been statistically analyzed by the SPSS 20 software. Inclusion criteria included top score of 60 in the questionnaire alexithymia, age between 18 and 30 years and exclusion criteria were not using psychiatric drugs and non-developing other acute or chronic disorders. After selecting the subjects, first, the research purpose, duration and the benefits of participating in the study were explained to them. They were told that they will participate in a study and all the information taken would remain confidential. Subsequently, a written consent was obtained from them, and they were assessed by the researcher using an inventory.

Toronto Alexithymia Scale-20 (TAS): was created in 1986 by Taylor and in 1994 by

Bagby, Parker and Taylor were revised (30). it's a test that has 20 questions and three subscales of difficulty in identifying emotions that includes 7 items, difficulty in describing emotions that includes 5 items and extrinsic orientation in thinking that includes 8 items in the 5 Likert scale. Besharat In Iranian society has obtained the Cronbach's alpha coefficients for the total alexithymia 0.85(31).

Tehran Coping Styles Scale (TCSS): This is a Farsi version of the COPE (Carver, Scheier, & Weintrub, 1989), a theoretically based measure assessing 15 coping strategies that are applicable across numerous stressful settings. Adequate psychometric properties of English by Carver et al., 1989; Eubank & Collins (33) and Farsi by Besharat (32) versions of the scale have been reported. The test-retest reliability coefficients for the various scales have been confirmed from 0.42 to 0.67 (33).

After performing the sampling procedures and the random assignment of subjects to the intervention and control groups, coping style questionnaire has been administered in both groups. Then, the members of the intervention group have received the emotion regulation intervention training that is based on the integrated treatment for 90-minute 8 sessions. Meanwhile, the control group has been on the waiting list and has received no intervention. After implementing the intervention, the subjects of the both groups have taken the post-test. The emotion regulation intervention that is used in this study has been prepared based on the guidelines of Allen, McHugh and Barlow (34) in the Boston University. This treament protocol was standardized in Iranian commuinity by Esmaeili et al. (2010 . Each session has been lasted for 90 minutes.

Results

The age range of participants was 18 to 30 years old with an average of 21 years old. The members of the sample were the male and female B.A students that were single. The following table shows the mean and standard deviation of the pre-test and post-test scores of coping styles in the intervention and control groups.

Table 1. Mean and standard deviation of coping styles based on the group membership

Coping styles			**Pre-test**		**Post-test**	
	Membership	**Number**	Mean	Standard deviation	Mean	Standard deviation
Positive emotion-focused coping style	Intervention	12	32.58	5.807	36.92	6.585
	Control	12	29.17	7.998	30.83	7.720
Negative emotion-focused coping style	Intervention	12	21.17	8.843	20.33	6.867
	Control	12	21.92	4.926	21.58	5.807
Problem-focused coping style	Intervention	12	34.92	6.762	43.33	5.959
	Control	12	37.83	8.288	38.33	5.483

The data of the table 1 have shown that in the experimental group, the mean scores of the positive emotion-focused, negative emotion-focused and problem-focused coping style in the pre-test are respectively 32.58, 21.75 and 34.92, that in the post-test they have been changed to 36.92, 20.33 and 41.33. The positive emotion-focused coping style has been slightly increased, the negative emotion-focused coping style has been slightly decreased and the problem-focused coping style has been increased. In order to use the

parametric tests including the covariance analysis test, the assumptions of the normal distribution of the scores and equality of the dependent variables' variances and the equality of the dependent variables' covariance should be observed. For this purpose, the Shapiro-Wilk test has been used to determine the normality assumption, the Levin test has been used to evaluate the assumption of the equality of variances, and the box test has been used to evaluate the equality of covariance.

According to the Shapiro-Wilk test results, and since the level of significance of this test for the components of coping styles is greater than 0.05, so the research variables in the pre-test and post-test follow a normal distribution. Therefore, the covariance analysis can be used to study the research hypotheses.

Table 2. the results of the Levin test to study the assumption of the equality of the research data variance

Variable	Levin statistic	The first degree of freedom	The second degree of freedom	Significance level
Problem-focused coping style	0.523	1	22	0.477
Positive emotion-focused coping style	0.123	1	22	0.728
Negative emotion-focused coping style	0.585	1	22	0.452

According to the Table 2, the obtained value of F for the Levine test is not significant and it can be concluded that the assumption of the equality of variances has not been observed and using the covariance analysis method is permitted.

Table 3. the results of the box test to evaluate the equality of the research variables covariance

M value	F	The first degree of freedom	The second degree of freedom	Significance level
3.654	1.098	3	87120	0.384

According to the results of table 3, the research variables' covariance or the correlation of the dependent variable in the post-test and follow up stages in both groups is the same and it is equal to the relationship of these variables in the society. Therefore, the assumption of the equality of covariance is approved.

The research hypothesis says that the emotion regulation intervention is effective on the coping styles of the people with the symptoms of alexithymia.

Table 4. the Manova analysis results to evaluate the effectiveness of emotional regulation on coping styles

The source of changes	The dependent variable	Sum of squares	Degree of freedom	Mean Square	F	significance	The level of effect	statistical power
Group Memberships	Problem-focused coping style	87.75	1	85.924	4.26	0.048	0.200	0.491
	Positive emotion-focused coping style	29.871	1	28.774	1.31	0.273	0.066	0.188
	Negative emotion-focused coping style	56.736	1	56.736	2.80	0.107	0.138	0.361

According to the Table ٤, along with the elimination of the effects of synchronized variables such as age, there is a significant difference between the modified mean scores of the problem-focused coping style of the participants based on their group membership (intervention and control) ($p \leq 0.05$). The level of effect is 0.20 that shows that 20% of the variance of the problem-focused coping style is in the post-test of the effectiveness of the group intervention. The statistical power has been obtained 49.1 that is average.

Conclusion

The analysis results have shown that the emotion regulation intervention could have increased the problem-focused coping style in the participants of the intervention group. This result is consistent with the results of the studies of Besharat (35), Besharat (23), Ghasemzadeh, Peyvastkar, Hosseini, Mutabi and Bani Hashemi (36), Ghazanfari and Ghadampour (37), Parker, Taylor and Bagby (38) and Deary, Scott and Wilson (39). Since, coping strategies are defined as a set of cognitive and behavioral responses that are designed to minimize the pressure of stressful situations, people in confronting stressful conditions use different methods and strategies to control or manage and regulate their emotions. Emotion regulation is an attempt by the people to protect, manage and enhance the experience and expression of emotion. Hence, the coping style that people use in stressful situations depends on their ability in emotion regulation. Therefore, it is logical that the emotion regulation intervention by teaching some skills to identify and control emotions, will lead to more effectively use the coping styles (problem-focused). This finding can be also studied on the other hand. Alexithymia is the equivalent of difficulty in cognitive emotion regulation or inability to have a cognitive process of emotional information and emotion regulation. When the emotional information cannot be perceived and evaluated in the cognitive process, the person will experience emotional and cognitive confusion and helplessness. This inability disturbs the structure of emotions and perceptions of the person and increases the possibility of using ineffective coping styles (such as negative emotion-focused coping style) in the stressful situations. The researches have shown that the alexithymia symptoms in the people whose dominant copying style is problem-focused are less than the people whose dominant copying

style is emotion-focused. The people who have alexithymia mostly use the emotion-focused coping style. Thus, it can be said that the emotion regulation intervention by teaching the identification process and the skills of controlling the emotional states will reduce the severity of alexithymia, and indirectly it changes the dysfunctional individual coping styles to the efficient coping styles (such as problem-focused coping style). But, the results of the analysis have shown that the emotion regulation intervention has no effect on the positive emotion-focused and negative emotion-focused coping styles in patients with the symptoms of alexithymia. So, the research hypothesis has been not confirmed for the emotion-focused coping styles. This result was not consistent with Besharat (35), Besharat (23), Ghasemzadeh, Peyvastkar, Hosseini, Mutabi and Bani Hashemi (36), Ghazanfari and Ghadampour (37), Parker, Taylor and Bagby (38) and Deary, Scott and Wilson (39). In analyzing these findings, we can say that the main emphasis of the conducted intervention on this the research (emotion regulation intervention based on Barlow) is on teaching emotion identification, accepting them and actively changing people's understanding of their emotions, and also behavioral strategies such as problem-solving in dealing with everyday stressors of life. In the intervention program protocol, there have been no sign of the instructions, which people usually use to reduce the emotional strategies, and mostly there has been emphasis on strengthening strategies to manage the emotions and the issues (40). So, receiving emotion regulation intervention training in the subjects has been resulted in the increased use of problem-focused coping strategies to deal with stressful situations; it has made no significant changes in the emotion-focused coping styles.

There are a number of limitations with this study: First the alexithymia individuals usually do not know the patient and his condition is considered normal and second showed high resistance on issues related to the emotions.

Future studies should examine the effects of emotion regulation intervention in a variety of settings and even consider comparing the effects of other therapy. In order to assess the continuing effectiveness of this intervention, followed by a 4-month, 6-month and 1-year-old be performed.

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