



The effectiveness of stress management training on mental health status of addicts referred to addiction treatment clinic

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Original Article

Abstract

BACKGROUND: Stress management is the ability of individuals to reduce stress and adapt to stressful situations. The objective in the present study was to investigate the effectiveness of stress management training on mental health of addicts quitting substance abuse referred to Raha addiction treatment clinic in Babol, Iran.

METHODS: In this quasi-experimental study, available sampling method with pre-test and post-test design was used along with the control and intervention groups. A sample of 36 members of the community (drug quitting clinic) were selected and randomly assigned into the two test and control groups, then a pre-test was performed on them through the General Health Questionnaire (GHQ) with a reliability of 78%. For the test group, the stress management skill group intervention was trained in 10 sessions per week with each session lasting 90 minutes. At the end of the session, the post-test was executed on both the test and control groups. The t-test and chi-square tests were employed to compare the quantitative variables between the two groups and the qualitative variables using the SPSS software, respectively.

RESULTS: The results of the study showed that group intervention has been effective on the mental health of addicts quitting substance abuse; as a result, participation in the therapy group and cognitive interventions leads to increasing the mental health of patients quitting substance abuse.

CONCLUSION: According to the results of this study, it can be declared that stress management training has been effective on all mental health scales such as symptoms of somatization, anxiety, disorder in social actions, and depression and leads to a decrease in mental symptoms and mental health improvement in addicts quitting substance.

KEYWORDS: Stress Management, Training, Mental Health, Addicts

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Introduction

Stress is general human reactions relative to the incompatible and unpredictable internal and external factors; so stress arises when the balance and compatibility of the individual disappears due to the external and internal factors.¹

Stress is referred to any internal or external

factor imposed on an individual and affects his psyche, causing disorders, disturbances, and loss of balance. Hans Selye, the founder of scientific research on the phenomenon of stress, describes stress as the degree of wear and tear of the body due to the pressures of life.^{2,3} Psychologists have defined stress as the expectation of compliance, coping, and adaptation by the organism.⁴

According to Alborzkouh et al., when facing

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stress, the individuals should be equipped with the necessary confronting skills in order to reduce the effect of stress. If stress is managed and effective confronting skills are provided, the individuals will be able to deal with the needs and challenges of life in a better way.⁵

Addiction is a physical, mental, and psychological illness which due to its progressive nature, threatens the health of the individual, family, and society in all aspects of life.⁶ In fact, this is a major personal and social problem that, in addition to its physical and psychological impacts on the addicted individuals, threatens the health of the society socially, economically, politically, and culturally, and like any other chronic disorder, needs treatment managing over time.⁷ The results of some studies have shown that psychiatric disorders are more common among individuals with substance abuse compared to the healthy ones; these disorders mainly include anxiety and depression.⁸ In a study, Wells *et al.* found that in patients with substance abuse, the prevalence of psychiatric disorders (anxiety and emotional disorders) is longer in life.⁹ A study by Lowe *et al.* also revealed that 35% of patients with substance abuse suffer from mental disorders, among which depression and panic disorder with values of respectively 15.9% and 10.4% had the highest rates and these disorders cause functional impairment and a decline in the quality of life (QOL) in 17 to 61% of them. These mental disorders exacerbate the drug abuse and reduce the QOL in these individuals.¹⁰

A wide range of psychological treatments including cognitive-behavioral therapies, stress management, biofeedback, supportive psychotherapy, anger control, cognitive restructuring, muscle relaxation, lifestyle changes, and meditation have been effective in improving the QOL and promoting mental health as well as control of the substance abuse of these patients.^{11,12}

The population quitting substance abuse is

one of the groups that are facing high stress and need to be paid particular attention for eliminating their symptoms. Investigations have shown that the prevalence of stress among the addicts in the first 3 months of quitting is much deeper than that of the longer periods¹³ and these factors themselves can be a strong motivation to return to addiction and create a defective round. Based on the studies, the improper thoughts and attribution of a person as well as the way information is processed, and the positions and interpretation of situations have a great influence on the creation and continuity of stress.¹⁴

There are varied and ambiguous studies in relation to the subject matter studied. Therefore, the current study was accomplished aiming to examine whether stress management training affects the mental health of addicts who are quitting substance abuse.

Materials and Methods

The present study was a quasi-experimental and applied study based on the objective and was performed with a pre-test and post-test design and a control group. The test group were subject to the group counseling through stress management group training method during 10 sessions. The training sessions were performed regularly once a week with each session lasting two hours. The control group did not participate in the training sessions.

The statistical population of the study included 114 drug addicts with the age range between 20 and 35 years old who had referred to the Raha addiction quitting clinic in Babol, Iran, in 2015. In this study, the available sampling method was used. To perform the study, the researchers first referred to the clinic and began to conduct the investigations after receiving the required license and permission. The subjects in the statistical population were selected according to the age conditions mentioned and the mental health questionnaire was performed for them. In

addition, the subjects were selected from all the participants whose mental health questionnaire score was more than 35. Then, 36 individuals were randomly selected and assigned to the test and control groups each consisting of 18. The number of 36 people was selected so that in case of drop of the subjects, at least 15 people remain in each group.

The study inclusion criteria were addicts quitting drug abuse, gaining the required score of the mental health and self-esteem questionnaire, lack of suffering from severe physical illnesses or severe mental disorders, lack of consuming psychotherapy drugs in the past two months, and willingness to attend the treatment sessions.

To measure the effect of group stress management training on mental health, the pretest and posttest were used for both groups. The time interval between the pre-test and post-test was about 3 months.

Similarly, the study exclusion criteria included the subject unwillingness or indisposition, lack of conditions for the continuation of the study for any reason, absence of more than 2 sessions.

A written consent form was received from the participants to attend the sessions. To

reduce drops or absence, part of the sessions was focused on the importance of psychological interventions in improving mental health.

This questionnaire was proposed by Yaghubi¹⁵ to distinguish between the individuals with mental disorders and the ones referring to general medical centers. This questionnaire includes 28 items. The subject's answer to each item is determined in a four-point Likert range of much less than the usual, less than the usual, as usual, and more than the usual, with the low and high levels in all options indicating health and lack of health in the individual, respectively.

The scoring method of the questionnaire options was based on the simple Likert model with the options given a score of 3, 2, 1, and 0, respectively.

Yaghubi reported a 76% correlation coefficient between the general health questionnaire (GHQ) and the psychological checklist in Australia.¹⁵ In a study in Chile, Arya and Dierolf reported a sensitivity of 76% for the 12-item general health questionnaire.¹⁶

The stress management training package was taught to the test group through 10 weeks (10 sessions of 90 minutes) (Table 1).

Table 1. Stress management training sessions held on the mental health of the addicts

Session	Session
First	Familiarization of the group members with each other, making contracts, analyzing the concept of stressors and stress responses, and muscle relaxation for 16 muscle groups
Second	Evaluation of the previous session, informing and training of muscle relaxation for 8 muscle groups
Third	Evaluation of the previous session, relationship among the thoughts, emotions, mental imagination, and muscle relaxation intervention for 4 muscle groups
Fourth	Evaluation of the previous session, negative thoughts, cognitive deviations, breathing, visualization, and gradual passive muscle relaxation intervention
Fifth	Evaluation of the previous session, and replacing the rational thoughts with self-training for heat and heaviness
Sixth	Evaluation of the previous session, effective coping strategy, and self-training for heart rate, breathing, stomach, and forehead
Seventh	Evaluation of the previous session, training effective confronting responses and self-training with imagination and self-induction
Eighth	Evaluation of the previous session and managing anger and meditation
Ninth	Evaluation of the previous session, training of expression and breath counting meditation
Tenth	Social support and personal stress management and post-test

Table 2. Frequency and percentage of participants by age

Age (year)	Number		%	
	Test	Control	Test	Control
20-25	7	2	38.9	11.1
26-30	6	9	33.3	50.0
31-35	5	7	27.8	38.9
Total	18	18	0.100	0.100

Results

The data obtained were analyzed using descriptive statistics including mean and standard deviation (SD) and inferential statistics methods. The test hypotheses were examined with the help of the SPSS software (version 22, IBM Corporation, Armonk, NY, USA).

The data presented in table 2 show the age range of the subjects ranging from 20 years to 35 years. Most of the subjects in this study were 20-25 years old in the test group and 26-30 years old in the control group as 38.9% and 50% of the subjects, respectively. The degree of education of the subjects ranged from the diploma to the bachelor's degree.

Table 3 indicated the distribution of the pre-test scores of the participants in the mental health variable and its components including somatization, anxiety, interpersonal relationships, and depression. Descriptive indicators such as mean, SD, inclination, and stretch were indicative of a desirable normal distribution of the group scores. The distribution of the scores in figures 1, 2, and 3 is demonstrated as a bar graph. Therefore, parametric statistical methods could be used for data analysis.

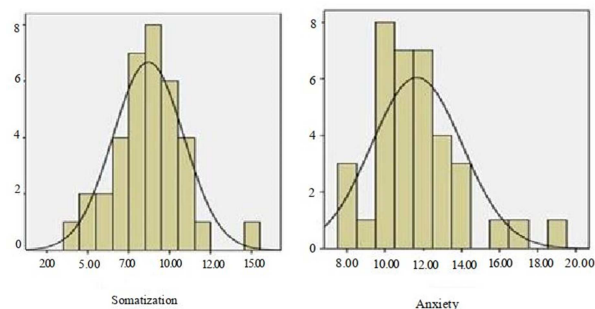


Figure 1. Bar graph of scores of anxiety and pre-test somatization

Table 4 represents the distribution of the posttest scores in the mental health variable and its components including somatization, anxiety, interpersonal relationships, and depression.

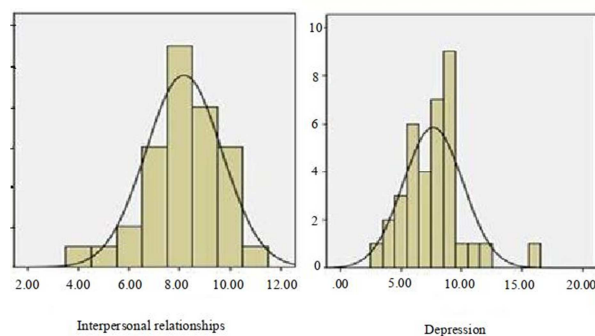


Figure 2. Bar graph of scores of interpersonal relationships and pre-test depression

Table 3. Summary of statistical indicators related to pre-test scores of subjects

Components	Number	Minimum score	Maximum score	Mean \pm SD	Variance
Make-up	36	4	15	8.69 \pm 2.14	4.62
Anxiety	36	8	19	11.66 \pm 2.37	5.65
Interpersonal relationships	36	4	11	8.16 \pm 1.50	2.25
Depression	36	3	16	7.66 \pm 2.44	6.00
Total score	36	23	60	36.19 \pm 6.34	40.20

SD: Standard deviation

Table 4. Summary of statistical indicators related to posttest scores of subjects

Components	Number	Minimum score	Maximum score	Mean	SD	Variance
Make-up	36	1	13	6.16	3.46	12.03
Anxiety	36	3	18	8.44	4.23	17.91
Interpersonal relationships	36	3	11	6.38	2.16	4.70
Depression	36	0	17	4.72	3.79	14.43
Total score	36	9	59	25.70	12.45	155.00

SD: Standard deviation

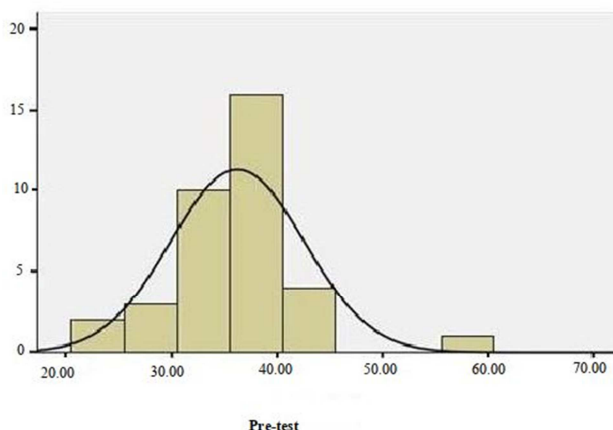


Figure 3. Total pre-test mental health scores

The scores of the descriptive statistics such as mean, SD, inclination, and elongation showed a desirable normal distribution. The distribution of the scores in figures 4, 5, and 6 is demonstrated as a bar graph.

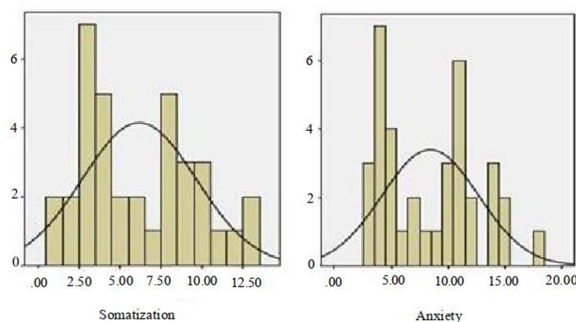


Figure 4. Scores of anxiety and post-test somatization

Therefore, parametric statistical methods could be used for data analysis. For the variance homogeneity between the test and control groups, the Levin test results showed that in the mental health questionnaire, the

significance level of the homogeneity score of the variances in the degree of freedom of 1 between the two groups and 34 within the group was more than 0.05 and hence, all variables had variance homogeneity in the two test and control groups.

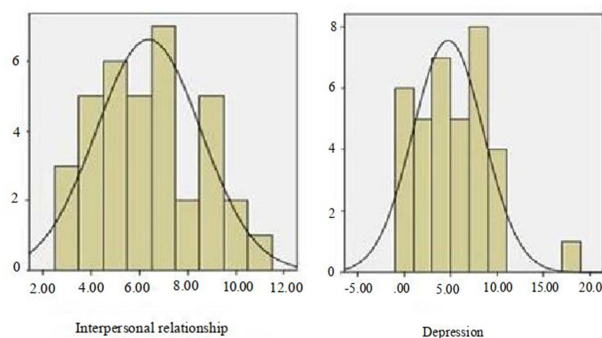


Figure 5. Scores of interpersonal relationships and post-test depression

Main hypothesis

The stress management skills group training sessions improve mental health among the drug abusers.

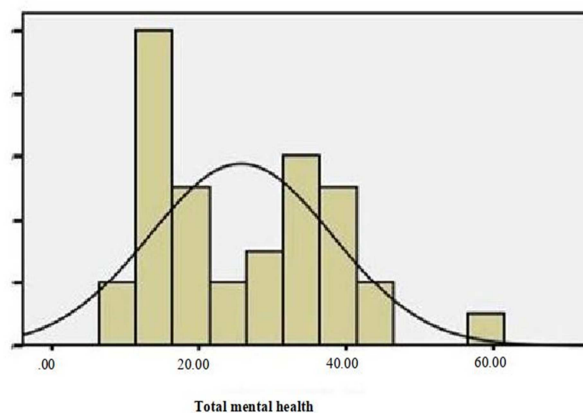


Figure 6. Total post-test mental health scores

Table 5. Covariance analysis of life expectancy in the test and control groups

Scale	SS	DF	MS	F	P
Impact of pre-test variable	424	1	424.0	20.2	0.001
Impact of independent variable	3663	1	3663.0	174.9	0.001
Error	691	33	20.9		
Total	29246	36			

SS: Some of squares; DF: Degree of freedom; MS: Mean squares

In table 5, the effect of the pre-test scores on post-test scores was adjusted using covariance analysis. Therefore, after implementation of the stress management skills group training sessions for the two groups, there was a significant difference in the mental health factor between the two groups and the main hypothesis was confirmed.

Secondary hypotheses

Hypothesis 1: Training of stress management is effective in reducing the somatization symptoms among the drug abusers.

According to table 6, after implementation of the stress management skills group training sessions for the two groups, there was a significant difference in the somatization factor between the two groups and the hypothesis was confirmed.

Hypothesis 2: Training of stress management is effective in reducing the anxiety symptoms among the drug abusers.

Table 7 indicates the covariance statistical index analysis with the significant difference between the symptoms of anxiety in the test and control groups. In this table, the effect of pre-test scores on post-test has been adjusted using the covariance analysis. After performing the group training, the stress management skills were significantly different between the two groups in the test and control groups in the anxiety symptoms factor, so the

hypothesis was confirmed.

Hypothesis 3: Training of stress management is effective in reducing the symptoms of impaired social functioning among the substance abusers.

In table 8, the effect of pre-test scores on post-test was adjusted using the covariance analysis. After implementation of the group training, there was a significant difference regarding the stress management skills between the two groups in terms of the impaired social functioning. Therefore, the hypothesis was confirmed.

Hypothesis 4: Stress management training is effective in reducing symptoms of depression among the quitting drug abusers.

In table 9, the effect of the pre-test scores on the post-test was adjusted using the covariance analysis. Given this table, there was a significant difference between the two groups after the implementation of the stress management skills group training between the two groups in depression symptoms. So the hypothesis was confirmed.

Discussion

The findings of this study showed that the stress management training program increased mental health among the test group compared to the control group.

Table 6. Analysis of covariance scores of the somatization scale of the test and control groups

Scale	SS	DF	MS	F	P
Impact of pre-test variable	6.02	1	6.02	1.93	0.174
Impact of independent variable	265.9	1	265.90	85.30	0.001
Error	102.8	33	3.11		
Total	1790.0	36			

SS: Some of squares; DF: Degree of freedom; MS: Mean squares

Table 7. Covariance analysis of life expectancy scores in the test and control groups

Scale	SS	DF	MS	F	P
Impact of pre-test variable	23.1	1	23.1	5.12	0.050
Impact of independent variable	463.8	1	463.8	102.90	0.001
Error	148.6	33	4.5		
Total	3194.0	36			

SS: Some of squares; DF: Degree of freedom; MS: Mean squares

Table 8. Covariance analysis of scores of the impaired social functioning scale in the test and control groups

Scale	SS	DF	MS	F	P
Impact of pre-test variable	9.56	1	9.56	5.7	0.050
Impact of independent variable	85.4	1	85.42	51.2	0.001
Error	54.9	33	1.66		
Total	1634	36			

SS: Some of squares; DF: Degree of freedom; MS: Mean squares

This finding is in line with the results of the studies conducted by Robbins,¹⁷ Moeller,¹⁸ Lutgendorf et al.,¹⁹ Williams and Schneiderman,¹² Davison et al.,²⁰ Lowe et al.,¹⁰ Lash et al.,²¹ and Ghasemi Zad et al.²² Based on the investigations, stressful events affect humans emotionally, cognitively, and physiologically.

Therefore, in order to adapt to the environment, humans need to be knowledgeable and equipped with skills to cope with stress, as the stress levels beyond the tolerance level endangers the health of individuals.²³ Stress management techniques help reduce the stress in individuals by reducing the level of stress, and it makes them accept an attitude towards life that includes greater ability to adapt to events they cannot change. In addition, stress management aims

to enhance the sense of control, self-efficacy, self-esteem, effective coping, and social support. This will reduce the changes in negative mood and social isolation and improve mental health.²⁴

The results of this study revealed that by challenging negative thoughts and attitudes associated with the drug abuse and modifying them, training time management, and encouraging patients to increase their enjoyment of activities and planning activities enhancing success in the everyday life, symptoms of stress along with the drug intake greatly improve. Moreover, training proper communication skills (daring and self-expression styles) and useful skills (art of listening to, asking, saying no, etc.) to these patients, along with behavioral exercises (playing role during the session) lead to an increase in the level of the desirable social relationships, resulting in receiving the increased social support and this is one of the factors improving the depressed mood and QOL in these patients.

Conclusion

By and large, it can be declared that studies indicate a low level of mental health among the drug abusers, since in most cases, addiction affects mental health of individuals.

Table 9. Covariance analysis of life expectancy in the test and control groups

Scale	SS	DF	MS	F	P
Impact of pre-test variable	78.52	1	78.52	17.40	0.001
Impact of independent variable	217.60	1	217.60	48.22	0.001
Error	148.90	33	4.51		
Total	1308.00	36			

SS: Some of squares; DF: Degree of freedom; MS: Mean squares

Mental health of the families of the drug abusers is affected as well and it exacerbates the underlying problems of the family and, in addition to harmful impacts on the life of the individual, also affects the family and relatives of the drug users.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

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