



The Effect of Teaching Stress Management Techniques on Reducing Anxiety and Depression in Drug Dependent People

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ABSTRACT

The main objective of this study was to investigate the effect of training on stress management techniques to reduce anxiety and depression in people with drug dependency. The main tool used in this study was Beck's Anxiety Inventory. The independent variable of the present study was eight-session treatment to deal with stress performed as a group for the experimental group. Besides, the dependent variable included the score obtained by each participant via taking the Beck's Anxiety Inventory.

The statistical populations of this study were all male addicts of Mashhad. The subjects were selected and, then, classified randomly into two experimental and control groups, each of them consisted of 15 subjects. In this study, semi-experimental as well as pretest-posttest design with control group were used. Furthermore, the data were analyzed using SPSS (16) software and T test.

The results of the study showed that stress treatment had been effective in reducing depression of drug users. Therefore, the training program of how to deal with stress plays a main role in reducing drug-addicted users decided to quit. As such, it would help them quit more successfully and for a longer period.

KEYWORDS: Training to deal with stress, (the state of) anxiety, depression, drug-dependent people.

INTRODUCTION

Addiction and drug abuse is among the social harms that not only are prevalent in our country, but also they are common around the world. As such, this issue has always preoccupied the minds of social-cultural officials and policymakers in any given society. This phenomenon is more blatant in our country because Iran is one of the developing countries that is undertaking some economic-social developments. Since Iran is located within the mainstream of illicit drug trafficking, this country has a unique geopolitical position. Various methods and strategies have been experienced over the years of dealing with this problem. However, the important role of ancillary controlling factors in drug withdrawal period is more emphasized (1).

Diverse biological, psychological and social dimensions that are involved in the formation, development and progression of this disease accompany drug addiction as a psychiatric disorder (2). It should be noted that these dimensions have one general feature in common which states that a person loses control over drug use and continues drug use despite to its harmful consequences (3). Currently, depression is the fourth most common disease in the world. Furthermore, according to figures from the World Health Organization, 340 million people suffer from depression world widely. It is estimated that this disease would occupy the second most common disease in the world by 2020 (4).

Khantsian found that chronic anger, depression and anxiety had been among the most important appealing factors for youth in terms of heroin usage. In addition, a research conducted by Pahlavian and colleagues and found that anxiety, tendency to depression, loneliness, poverty in emotional relationships and feeling of inadequacy are significantly higher in addicts compared to healthy individuals (6). Regarding the significant impacts of anxiety, depression and negative consequences, the sources of anxiety, depression and their effects should be identified (7).

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Anxiety, as a part of the life of every human being, is present in the normal range. This limit can be considered as an adaptive response. Lack of anxiety may face human beings with considerable difficulties and risks. On the other hand, anxiety is considered as an inevitable part of the life of every human being which constitutes some component of personality structure. Primarily, anxiety brings the opportunity for individuals to expand their adaptive mechanisms to deal with these stressful and anxiety-provoking factors. In contrast, there is a kind of pathological anxiety that is not only unproductive and unhelpful, it may also be dangerous to individuals. It should be considered as a source of widely failure, conflict and frustration that deprives individuals from majority of their resources and creates wide variety of anxiety disorders, including cognitive and physical impairments to unjustified fears and phobias, among individuals (8). Anxiety disorders are among the most common psychiatric disorders. For example, about 23 million people in the United States of America are afflicted with such a disease (9). People with anxiety disorders are helpless due to chronic and intense feelings of anxiety. These feelings are so strong that people with such disorders are unable to carry out their daily activities. Their feeling of anxiety is unpleasant and makes them unable to enjoy normal situations (10).

There are different views on anxiety. Stress management technique is one the approaches taken in this domain. Stress inoculation training is one of several cognitive-behavioral treatments that has emerged in recent years. This is not a single technique, but rather a general term. This composes of a medical model composed of semi-structured training and clinically sensitive programs.

Lazarus and Folkman have defined coping as constant change of cognitive and behavioral efforts to control specific internal and external needs that are stressful stresses and beyond the individual sources. Confrontation occurs under conditions of psychological stress. This includes general measures to solve the problem through searching for information about it and forgetting the problem to reduce the stress (11).

In general, coping mechanisms refer to behaviors that lead to adaptive response against the reactions of body organs (12). In the present research, teaching stress management techniques includes teaching the definition of stress, strategies for coping with stress, teaching relaxation technique, problem solving and cognitive methods in the interpretation of stress. The important thing is that all of these techniques are learnable. These techniques help individuals to control such problems as depression, anxiety, loneliness, rejection, shyness, anger, interpersonal conflict, failure and loss (13).

Sukhodolsky *et al.* (1998) conducted a research and found that teaching stress management techniques improves interpersonal relationships, aggression and behavior problems of trainees (14).

Meijer Susan indicated that stress management techniques affect individuals' self-esteem, social anxiety and social adjustment (15).

Andrea has studied the stress coping styles among students addicted to alcohol use and found that alcohol use have significantly affected the social adjustment and stress levels in alcohol-dependent individuals (16).

Mizuno and colleagues (quoted by Nezami) found that there was a significant link between mental health and how to deal with the problem. Furthermore, it was found that teaching and learning to control and deal with stress have decreased depression and general illness among individuals (17).

Thus, it appears that anxiety and depression, both or either alone, can be considered as risk factors of addiction. Alternatively, they can be annoying factors during the addiction as the addiction's result for the addict. Regarding the treatment of addicts, particularly treatment of mental symptoms, drug-free treatment as well as drug therapy is very important. One of these therapies is stress management techniques that rely on the abilities and disabilities of addicts as well as their social-psychological situations. According to experimental observations, the following question arises: Whether teaching stress management techniques can be effective in reducing depression symptoms in addicted individuals or not?

METHODOLOGY

Subjects

In this study, 30 drug users recruited who were all male and aged between 15-57 years old. The Subjects' mean age was 31.12 and its standard deviation was equal to 5.77. The distributions of the above-mentioned statistics are separately listed in Table 4-2-1.

Regarding the educational status of subjects, diploma (12 years) had the highest frequency (33/53%) and, then, under diploma (5-11 years) (23/3%), and B.A. (18-19 years) (15 %) were included. Most participants were married and the rest were single.

Tools

Beck Anxiety Inventory:

This questionnaire is a 21-item scale that has four options, each of which is scored from 0 to 3. This test has two mental and physical anxiety subscales and the total score is from 0 to 63. The coefficient of internal consistency (alpha coefficient) is 92%. Furthermore, its one-week test-retest reliability is 75%. Finally, the correlation between its constituents is between 30% to 76%. Five types of content, concurrent, construct, diagnostic, and factor validity have been evaluated and the results indicated that this tool was effective in measuring the severity of anxiety (18). The reliability coefficient of this test was estimated 80% using two-week test-retest reliability method. Also, Kaviani and Mousavi (1999) investigated the psychometric characteristics of the test in terms of Iranian population and found that the validity and reliability coefficients- one month test-retest- were about 72% and 83% respectively. As such, the reported Cronbach's alpha was 92%.

Beck Depression Inventory-II (BDI-II):

Beck Depression Inventory was firstly introduced by Beck, Mendelson, Mock and Erbaugh in 1961. Thus, it was firstly introduced by Beck and colleagues in 1961 and, then, was revised in 1971 and, finally, was published in 1978 (19). Although the late format has clearer questions and statements, there has been a high correlation (about 0.94) between these two formats. In 1996, Beck, Steer and Brown revised the questionnaire in order to cover a wider range of symptoms as well as exert more integration with depressive criteria in the Diagnostic and Statistical Manual Assessment (DSM). Four items of this form, including perturbation, loss of energy, poor concentration and feeling of worthlessness, were revised in order to reflect the more severe symptoms of depression. In addition, two other items were revised in order to reflect sleep and appetite changes. Thus, the more severe depression can be identified in the second form. This questionnaire is also a 21-item questionnaire that evaluates depressive symptoms as well as comprehensive symptoms of depression, which are mostly cognitive. Beck II Questionnaire is based on self-evaluation and patients should choose between the rankings of zero to three. It consists of 2 emotional, 11 cognitive, 2 behavioral, 5 physical and 1 interpersonal relationships items. Thus, this inventory classifies the depression range from mild to severe, which is between 0 to 63. As suggested by Beck, 0-9 score indicates no depression, 10-18 indicates mild depression, 19-29 indicates moderate to severe depression, and 30-60 indicates severe depression (20). Regarding the widespread use of this inventory to assess clinical disorders, many studies have been conducted to assess its reliability and validity.

One of the most important researches done in this case was a meta-analysis performed by Beck and Steer (1996) whose results indicated that this inventory has a reliability between 0.48 to 0.86 (based on test-retest reliability method) (19). In 1996, Beck once again assessed the validity of the test and reached 0.93. Also, the reliability of this inventory was reported 0.86 by Beck (20).

Similarly, some Iranian researches have been conducted in this field. For example, Dobson and Mohammad Khani announced that the reliability of this inventory was 0.93 and 0.93 (based on Cronbach's alpha) for students and outpatients respectively. One week test-retest reliability of the survey was 0.93 which was significant at 0.001 level. The correlation between this test and Hamilton Depression Test (0.71) indicated a high level of construct validity for this questionnaire (21).

Procedure

Thirty addicted men, who were monitoring by addiction clinics in Mashhad and using methadone, participated in this study. These subjects were randomly classified into two experimental (n=15) and control (n=15) groups. Before any experimental manipulation, both groups were pre-tested in terms of dependent variables. After that, one of the groups was affected by a new independent or different variable. Finally, and at the end of the experiment period, both groups were post-tested in terms of dependent variables.

In order to attract participants to participate in this study, addicted who were commuting to addiction clinics in Mashhad were invited to participate in this research project. If they were satisfied, they were clinically interviewed. Having secured the inclusion and exclusion criteria, the questionnaires were individually presented to patients in the relaxed atmosphere of the visited places. After a brief explanation on how to complete the test, they were asked to ask questions, if there was any ambiguity about the items of the questionnaire, in order to resolve their doubts and uncertainties. They were not pressed for time to fill the questionnaires. However, it was explained to participants that the first response to each item would probably be the best and the most appropriate option.

To conduct the research, all participants were pre-tested by Beck Depression Inventory in order to measure the level of depression. Both groups were collectively homogenized in terms for related variables as age, occupation, education level and marital status.

The structure of treatment sessions

Eight sessions of group coping treatment were conducted. The sessions were held twice a week over a four-week training program, as follows:

Session I: Participants were explained about the research project + The Beck Anxiety Inventory was conducted as a pre-test (75 minutes)

Session II: The concepts of stress and stress theories were explained emphasizing on the biological basis of stress understanding + Active listening techniques were practiced + The rationale and actual performance of relaxation techniques were explained (75 minutes)

Session III: Model of stress management, coping strategies and efficient coping methods were worked out + Speaking skills were also practiced + Attempts were focused on enhancing self-efficacy through the use of appropriate self-skills (65 minutes).

Session IV: Interpersonal communication skills (active listening - speaking skills) were performed + Relaxation techniques (60 minutes)

Session V: The problem solving skills and steps on it were checked and presented + Quick relaxation exercise was practiced (75 minutes)

Session VI: How to use problem solving skills and interpersonal relationships in life were explained by the leader + How to use humor to come out of the discomfort was described (70 minutes).

Session VII: The procedure to put the topic in the perspective was explained + Some techniques were in this connection + Progressive muscle relaxation was conducted (85 minutes).

Session VIII: The contents of the previously meetings were coordinated and integrated by the therapist + The future challenges of members were determined via using future projecting technique achieved via interaction and collaboration with group members + The group members proposed their feedbacks on the presented materials as well as the group performance + The application of two acquired skills in the form of a creative art workshop by the agreement and decision of group members was discussed + Quick relaxation exercise was exercised.

Data analysis and research hypotheses testing

Having used appropriate statistical tools (between groups T-test), the data extracted from the survey questionnaire are being analyzed.

RESULTS

Demographic characteristics

Demographic characteristics of subjects are presented in Table 4-2- 1.

Table 4-2-1. The percentage of marital status, mean, standard deviation, number of children, education and age of subjects

Sex									
Male									
		Marital Status		Number of children		Education level		Age	
Married	Single	Mean	Standard deviation	*Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Values in percent									
Control Group		45.71	17.14	1.44	1.39	12.64	3.04	32.32	6.46
Experimental Group		44.29	22.86	1.42	1.27	11.15	2.66	29.92	5.08

- Education is calculated based on the number of years of education.
- Teaching stress coping skills reduce anxiety levels among drug users.
Independent T-test was used to evaluate the research hypothesis.

Descriptive characteristics of experimental and control groups in anxiety test

Groups	N	Mean	Standard deviation
Experimental Group	15	-6.26	7.59
Control Group	15	0.20	3.07

Table of Independent t-test: Comparison of the means of experimental and control groups in anxiety

Factor	Test for equality of variances	T statistics	Degree of freedom	Sig.	The mean difference	95% confidence interval for the difference				
F	Sig.	Upper limit	Lower limit							
Anxiety Test	Assuming equal variances	13.44	0.001	3.05	28	0.005	-6.46	-10.79	-2.13	
	Assuming unequal variances	13.44	0.001	3.05	18.47	0.007	-6.46	-10.90	-2.03	

As Table 4.2 shows, the differences in the mean values of pre-test and post-test of the two groups are significant. Accordingly, the mean of changes in anxiety levels in the experimental group was significantly greater than the mean of changes in anxiety levels in the control group. Furthermore, the anxiety levels in the experimental group who received stress management techniques were significantly lower than these levels in control group who did not receive such a training program ($p < 0.005$).

Teaching stress coping skills reduce depression levels among drug users. Independent T-test was used to evaluate the research hypothesis.

Descriptive characteristics of experimental and control groups in depression test

Groups	N	Mean	Standard deviation
Experimental Group	15	-3.93	10.74
Control Group	15	3.13	6.30

Table of Independent t-test: Comparison of the means of experimental and control groups in depression

Factor	Test for equality of variances	T statistics	Degree of freedom	Sig.		95% confidence interval for the difference						
				F	Sig.	Upper limit	Lower limit					
Anxiety Test				Assuming equal variances	1.89	0.17	-2.19	28	0.03	-7.06	-0.48	-13.6
				Assuming unequal variances	1.89	0.17	-2.19	22.61	0.03	-7.06	-0.40	-13.7

As the above table shows, the differences in the mean values of pre-test and post-test of the two groups are significant. Accordingly, the mean of changes in depression levels in the experimental group was significantly greater than the mean of changes in depression levels in the control group. Furthermore, the depression levels in the experimental group who received stress management techniques were significantly lower than these levels in control group who did not receive such a training program ($p < 0.03$).

DISCUSSION AND CONCLUSION

The main objective of this study was to investigate the effect of teaching stress management techniques on reducing anxiety and depression in people with drug dependency. The results indicated that teaching stress management techniques had been effective in reducing anxiety and depression in people with drug dependency. These findings which indicate that teaching stress management techniques have had impact on reducing anxiety in people with drug dependency are consistent with the research conducted by Sukhodolsky et al. (1998). They have found that addicts who are suffering from high levels of anxiety make more use of avoidance-based coping skills. As the amount of using these avoidance-based skills increase, the anxiety levels among drug users increase too. Conversely, they found that active coping and positive reinterpretation can reduce anxiety levels (14). Similarly, the present study has emphasized that teaching stress management techniques should be accompanied with adoption of problem solving techniques as well avoiding the use of avoidance coping techniques.

Similarly, Mishara (2006) believes that the use of active coping strategies reduces the harmful effects of stress (22). In addition, the present results are fully consistent with the results of a research conducted by Shapiro et al. (1998). Shapiro and colleagues also found that eight sessions to reduce stress can reduce anxiety and depression in drug users (23). The present findings also back the viewpoints of Mayknbam on stress inoculation training approach. Furthermore, these findings support Mayknbam's theory and the theories of stress and coping. Based on the theories of stress, the effects of disease are not determined by stress alone. Conversely, other intervening factors, such as how to deal with stress and stress management, also determine its effects. The results of this research indicated that despite the presence of addicts' stress, teaching stress management techniques have been effective in reducing anxiety and depression in people with drug dependency.

Teaching stress management techniques, such as relaxation training, cognitive restructuring and problem solving techniques, can reduce, even for a short time, tiredness and intense battle of addicts against the harmful effects of stress. This makes them enough opportunities for addicts to calmly and rationally to deal with stress and reduce the anxiety level and choose more adaptive ways.

Based on research findings, which came in the previous section, the results suggest that stress management training programs have been effective on reducing depression among drug users.

In explaining these findings, we can refer to the background section of this study which has noted that there are similar effective factors for the advent of depression and anxiety. Furthermore, it is argued that addicts who have been trained to deal with the disturbing factors and then have experienced less anxiety have been able to establish

better emotional relationships and create deeper artistic works. On the other hand, lessening in held in common causes of depression and anxiety can directly reduce the levels of depression.

Furthermore, the results of this research are consistent with the findings of the following researches (King and Krishnan; Mandani, 1997; Baron et al. 1994; Mizuno et al. 1999; Lucas Dunn, 2004; Zaharakar, Shafiabadi and Delavar, 2006; Kaviani et al. 2007; Saunders, 1996; Yosufi, 2004; Dana, 2008; Seqatoleslam et al. 2003; Arab, 2002; Vakili et al. 2009; Howton, Kirk, Salkovskis, and Clark, 2002; Martinovich, Simonovich and Jekich, 2006; Tegner et al. 2009; Kahn, 1989; Segrin, 1995). This refers to the impact of these programs on reducing anxiety and depression.

Although further studies with larger sample sizes and more accurate methodology (the existence of a control group) can make us more sure about our hypotheses, this study and other researchers conducted in other countries, on whom some examples have been presented, we can conclude that drug users need to consider additional measures for their mental health because they endures more psychosocial and social stress. Therefore, the addition of group therapy in terms of stress management techniques in their therapeutic protocol can improve the quality of addiction treatment and addiction recovery efficiency.

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