The Effect of Music Therapy on Reducing Depression and Stress Relapse among Drug Addicts

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Abstract

Objective: This study aimed to examine the effect of music therapy on reducing depression and stress relapse among drug addicts in Hamedan city. **Method:** In this quasi-experimental design, the number of 60 drug addicts who had presented to the welfare drug rehabilitation center in Hamedan was selected by convenience sampling method. Then, these participants were randomly assigned to two 30-participant groups, control and experimental groups. The experimental group was exposed to music therapy for 8 months, three days a week, and for 5 hours per session. Both groups were evaluated through anxiety scale, depression scale, stress scale, and methadone test before and after music therapy. **Results:** The results showed that music therapy can reduce depression and stress. **Conclusion:** According to the findings, it can be argued that music therapy is a useful method in reducing depression and stress relapse in drug addicts. Thus, it can be used as one of the efficient treatment methods of addiction consequences.

Keywords: music therapy, addiction, depression, stress

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Introduction

Addiction is a biological, psychological, and social disease and a number of factors are involved in the incidence of drug abuse and addiction that lead to the initiation of drug use and then addiction in interaction with each other. The terms drug addiction and addict are to some extent associated with dependence. Substance abuse disorder brings about a set of cognitive, behavioral, and psychological symptoms that are followed by a pattern of the recurrence and incidence of such complications as tolerance, abstinence, mandatory actions (American Psychiatric Association, 2000; cited in Narimani & Rajabi, 2012). With respect to addiction, the highest attention is focused on the activities of behavioral activation system (Azadfallah, 2000). Addiction refers to the physical and mental dependence on the variety of narcotics, stimulants, and hallucinogens and if this dependence is withdrawn, the deprivation syndrome and withdrawal symptoms emerge in patients (Mehryar, 2008). From among the side effects of narcotic drugs, one can refer to behavioral problems, restlessness, impatience, paranoid thoughts, depression, increased aggression, social behavioral change, and social isolation in the consumers (Gorman et al., 2004; cited in Nejati, Shiri & Noori, 2012). Substance abuse habits hinge upon psychological variables, including personality traits, and intelligence level (Heravi & Milani, 2003). Narcotics can boost the relevant antecedent behaviors in addicts through the removal of irritating or unpleasant states, such as pain, anxiety or depression. Research findings suggest that patients with depression or anxiety disorders are less successful than ordinary people in making an effort to quit smoking. Symptoms of depression in people with substance abuse or substance dependence are very common. About a third to half of the opioid abusers or dependents as well as about forty percent of alcohol abusers or dependents have been once diagnosed with the diagnostic criteria for major depressive disorder in their lifetime (Sadock & Benjamin, cited in Reza'ea, 2008). The most important sources of depression include demographic factors, environmental factors, and psychosocial factors (Kim & Nrmt, 2012). Butler et al. (1987) found that the patients with depression were socially nervous, anxious, frustrated, and depressed according to DSM- III-R criteria, and had a low level of self-esteem (cited in Kaviani, 2001). Anxiety is the underlying cause of numerous disorders, such as phobia, obsession, suicide, substance abuse, personality disorders, and different types of deviations (Spielberger, 1983, and Shin & Kim, 2012). If anxiety is severe or takes a long time, it will be harmful and also plays an important role in the onset of psychosomatic diseases, such as hypertension, as well as psychiatric disorders, such as depression and frustration (Campo & Gil, 2005). The most common psychological and emotional problems in addicted people include depression, anxiety, and stress, which often affect the individuals' cognitive and emotional actions. These three constructs are defined on the basis of one's control over the surrounding environment. It is believed that the person

will undergo stress when s/he is unable to cope with a situation; and the persistence of such an inability may lead him/her to distress and depression. Indeed, s/he feels that s/he does not have any control over his/her neighboring environment and has been exposed to threats. Depression and anxiety are two symptoms that are highly prevalent in patients with substance dependence disorder (Arab, 2002).

Music has always brought peace, joy, vitality, sadness, sympathy, and mania in human life (Schmidt Peters, 1992). Music therapy can effectively treat the diseases caused by stress and emotions in humans. In a study conducted on people with severe mental illness, it was revealed that music leads to the enhancement of the quality of life in these patients. For example, writing a piece of music leads to self-expression in addicts and this has a positive influence on them. Research findings have shown that patients will experience a significant improvement when they think about the self and relax. Music may reduce anxiety experiences as a treatment for stress (Heravi & Milani, 2008). Asvansdvytr & Asnydal (2006) indicated that music therapy is a safe and effective method in the treatment of distress and anxiety. Music can serve as an important catalyst in helping patients regain physical and cognitive functions (cited in Mapar & Golshokooh, 2008). In Heravi & Milani's research (2003), it was indicated that music therapy had a significant effect on the prevention of stress symptoms and delinquency. Music therapy is an effective method for the treatment of symptoms and diseases.

Since there are a large number of neurological and psychiatric disorders before addiction abstinence, especially in those who have already experienced addiction abstinence and the resultant problems and disorders, even thinking of abstinence for the second time leads to an increased level of anxiety in them. Indeed, they may think what happens if their attempts will come abortive once more and stop the treatment in the midway. This makes them more frustrated and disparate more than ever. Therefore, it is necessary to eliminate these fears, baseless thoughts, and psychological disorders (depression and stress) in addicts and arrange a practical program so that these affective and emotional needs can be met in them. Given that music brings about further changes in individuals' physical, emotional, social, and psychological states, it can lead to the reinforcement of cognitive skills, attention, and memory; and can meet this need in the treatment of the drug-dependent people. It can also meet the people's need for the use of the effective medicines in treatment. Therefore, this method can be used in the treatment strategy as one of the efficient methods in comparison with other forms of addiction treatment. In this study, it has been attempted to respond to the fundamental question what impact music therapy may have in the reduction of depression and stress relapse in addicts.

Method

Population, sample, and sampling method

The present study falls within the category of applied research in terms of research objective and within the category of quasi-experimental pre-test and post-test with control group research design in terms of data collection. The statistical population of the study consisted of all the narcotics addicts who had presented to the welfare drug rehabilitation center in Hamedan from April 21, 2011 to December 21, 2011. For sampling purposes, the individuals qualified with the inclusion criteria were registered and the number of 60 drug addicts was randomly selected from among them and were randomly assigned to two 30-participant groups, control and experimental groups. The experimental group was exposed to music therapy for 8 months, three days a week, and for 5 hours per session.

Instrument

1. Test of methadone use: By means of this test, the amount of morphine in the individuals' blood before and after the test was evaluated. In methadone use test, a certain amount of morphine in the blood before and after the test has been examined in both the experimental and control groups.

2. Depression, Anxiety, and Stress Scales (DASS-21): This is a self-report questionnaire for the assessment of negative emotional states of depression, anxiety, and stress. Each of the subscales (depression, anxiety, and stress) contains 7 questions and the total score of each subscale is obtained through the sum of the scores of the relevant items. Each question is scored from zero to 3. The questions numbered 3, 5, 10, 13, 16, 17, and 21 assess depression; questions numbered 2, 4, 7, 9, 15, and 20 evaluate anxiety; and the questions numbered 1, 6, 8, 11, 12, 14, and 18 measure stress. Anthony et al. (2002) analyzed the questionnaire and the results of the correlation between the subscales indicated that the correlation coefficients between depression and stress; anxiety and stress' and anxiety and depression are equal to 0.48, 0.53, and 0.28, respectively. The reliability and validity of this test were assessed by Samani & Jokar in Iran (2007) and they reported the test-retest reliability coefficients of0.80, 0.76, and 0.77 for depression, anxiety, and stress, respectively. They also reported the Cronbach's alpha coefficients of 0.81, 0.74, and 0.78 for depression, anxiety, and stress, respectively.

Procedure

At first, 60 subjects were randomly selected from among the individuals qualified with the inclusion criteria who had referred to the welfare drug rehabilitation center in Hamedan and were randomly assigned to two 30-

participant groups, control and experimental groups. After the selection of participants, for the observance of ethical considerations, they were assured that the research results will be published in general and their specific information will remain confidential. The level of methadone in blood was investigated by means of blood tests among the addicts before and after the intervention. . The experimental group was exposed to music therapy for 8 months, three days a week, and for 5 hours per session. The control group received no treatment.

In the therapy sessions, the following items were included. 1. Before each session, relaxation was performed by a psychologist. Musical performance was managed by a musical host in a quiet and dim space to stimulate the nerves and muscles for the mental and physical preparation of the persons; 2. After the relaxation exercises, a piece of music and note were played in accordance with the session theme for 10 minutes, which sometimes took 15 minutes; 3. During implementation, the researcher took note of his observations from the participants' reactions 4. Following the end of the session, during a reassuring fellowship, the participants were asked to write down the feelings they had experienced during the session and musical performance. This task aimed at helping patients reach the faster recovery and improvement in terms of the mental disorders and their general conditions.

Results

The descriptive statistics of the variables in this study are presented in the table below for each group and test stage.

Table 1. Descriptive statistics of the variables for each group and test stage

Variable	*Group*	*Test stage*	*N*	*Mean*	*SD*
Addiction	Experimental	Pretest	30	61.60	18.10
		Posttest	30	60.90	18.20
	Control	Pretest	30	56.50	21.50
		Posttest	30	44.70	18.05
Depression	Experimental	Pretest	30	31.50	2.51
		Posttest	30	31.50	2.45
	Control	Pretest	30	32.10	2.89
		Posttest	30	29.50	2.61
Stress	Experimental	Pretest	30	32.80	2.31
		Posttest	30	32.90	1.88
	Control	Pretest	30	33.10	2.79
		Posttest	30	30.40	2.43

Multivariate covariance analysis should be used to evaluate the impact of the therapeutic intervention. Since the conduct of covariance analysis requires the satisfaction of some assumption, the assumption of the homogeneity of variances was examined at first. In this regard, Levene's test results are presented in the table below.

Table 2: Results of Levene's test on the equality of variances

Variable	*F*	*Df*	*Sig.*
Addiction	0.38	58	0.54
Depression	0.09	58	0.75
Stress	1.13	58	0.29

As it can be observed in the table above, the assumption of the equality of the error variances has been met in all components. Thus, multivariate analysis of covariance was performed and the results indicated the significance and effectiveness of the intervention (Eta Squared = 0.151; P < 0.001; F = 9.970; Wilks's Lambda = 0.58). Univariate analysis of covariance was used to examine the patterns of difference as follows.

Table 3: Results of univariate analysis of covariance on the patterns of difference

Variable	*Mean Square*	*F*	*Sig.*
Addiction	3944.70	11.960	0.001
Depression	24.06	9.960	0.003
Stress	93.75	19.850	0.0005

As it is observed in the above table, music therapy has been effective in all the variables (P < 0.01). In other words, it can be argued that music therapy has led to the reduction of depression and stress as well as reduced level of substances in addict's blood.

Discussion and Conclusion

The current study was carried out to determine the effectiveness of music therapy in reducing depression and stress relapse in addicted people. Music therapy was used to treat the depression and stress relapse in addicts under the logic that listening to music influences the internal nerves of humans and leads to the secretion of various hormones in the body and also affects the whole body. For example, listening to music increases the level of endorphins and these endorphins can reduce pain and award natural trance to people (Cample Don, 2001). In general, research findings suggest that music therapy can reduce addiction relapse among drug addicts. In terms of the decrease of addiction relapse, the current findings are consistent with those of the study reported by Abdollahnejad (2009). In his study, Abdollahnejad even claims that there is significant relationship between the type of substance used by addicts and the type of music that they listen to. Music therapy not only can play an important role in the treatment of addicts as a means of rehabilitation, but is also welcomed by substance abusers due to its dynamism, endless creativity, exhilarating nature, and non-threatening feature. In this regard, the results of the present study are consistent with those of the study done by Baker & Libby (2007). Art therapy is one of the old and common methods, and art therapy, especially music therapy has been taken into consideration as a common therapeutic method due to the

incomplete effectiveness of pharmacotherapy and increased attention to non-pharmacological methods (Guetin & Soun, 2009; Wakim, 2010; Mcffrey, 2011; Stanczyk, 2011). Moreover, the results of this study showed that music therapy reduced depression in addicts. This finding is consistent with the findings of the studies conducted by Streeter (2012); Ling Lai (2011). In a recent study, it has been found that music therapy, as a complementary therapy, helps people improve their general situation with regard to social and mental performance. In another study, Lesiuk (2008) showed that music increases positive affect. Dillard (2006) showed that music can serve as an important catalyst in helping patients regain physical and cognitive functions. In this regard, the improvement of quantitative research on music therapy has been reported by several researchers. Gilboa (2007) and Silverman (2011) have confirmed the therapeutic effects of music therapy. The results also showed that music therapy reduces anxiety and stress in addicts. To interpret this finding, one may argue that music is effective in reducing anxiety in the patients with physical problems, such as heart disease. Music can reduce stress; indeed, people feel relaxed by listening to light music and nervous system activities are performed in a better way and more regularly (Gelson, 1977). In another study, Shin & Kim (2011) evaluated the effect of music therapy on anxiety and stress in 232 pregnant women. In another research, conducted on patients with heart disease, it was shown that music can improve stress, heart rate, respiratory rate, quality of life, and psychological well-being. In addition, there are a number of pieces of research that have supported the positive effects of music therapy (Streeter, 2012; Baker, 2007; Campo, 2005; Cooper &Foste*r*, 2008; Bensimon, 2008; Gilboa, 2007; and Dillard, 2006). The results of the current study are consistent with the above-mentioned studies. Music therapy research have put an emphasis on the importance of listening to favorite music for relaxation. The results of a meta-analysis in this field showed the selection of desired music reduces stress, and when music leads to one's motivation and arousal, his/her performance will get better (Lesiuk, 2008). The mixed music therapy and pharmacotherapy can have positive impacts on the real treatment. It is recommended that other treatment methods can be integrated with this method and applied to males and females separately so that these methods can act as alternative methods to drug use.

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