Comparison of the Effectiveness of Group Reality Therapy and Pharmacotherapy in the Improvement of Mood Symptoms in Addicts

Amir Jalali, Davood Ghaderi

Amir Jalali
M.A. in Clinical Psychology, Urmia Branch, Islamic Azad University, Urmia, Iran

Davood Ghaderi
Assistant Professor, Department of Psychology, Sarab Branch, Islamic Azad University, Sarab, Iran, Email: d.ghaderipsy@gmail.com

Abstract

Objective: The aim of this study was to compare the effectiveness of group reality therapy and pharmacotherapy in the improvement of mood symptoms in addicted patients. **Method:** This research was conducted on the addict population of Mahabad city. From among this statistical population, the number of 30 patients was selected via voluntary sampling method and they were randomly assigned to two experimental and control groups. For the comparison of the two approaches, the groups were treated with group reality therapy and pharmacotherapy. Anxiety, Stress, Depression Scale DASS-21 was administered to the participants as the pre-test and post-test. **Results:** The results showed that mood symptoms in the experimental group under reality therapy have witnessed significant improvement compared to the group under pharmacotherapy. **Conclusion:** Accordingly, reality therapy can be considered as an appropriate therapeutic approach for the treatment of mood symptoms in drug addicts.

Keywords: pharmacotherapy, mood symptoms, addicts, group reality therapy

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Introduction

There are few phenomena, if any, that have threatened human societies as seriously as addiction. From 1998 to 2002, Europe, Asia, and Australia had been suffering from opiate addiction, while this issue had been common in South America (Sahh, 2005). The World Health Organization has announced that addiction in 2000 caused the death of almost two hundred thousand people (Saniotis, 2010). Addiction has imposed huge cost on the consuming societies. For example, Americans have spent about 57 million on drugs between 1988 and 1995 (Sahh, 2005). According to the World Health Organization's report (2007, cited in Kianipour & Pourzad, 2011) about two million people (5% of the world's population) aged 15 to 64 years around the world use one or more than one illegal drugs every year.

Due to the large volume of the population involved in the phenomenon of addiction and also the consequent huge costs imposed on communities by addiction, the need for addiction prevention and treatment through different approaches is strongly felt (Mollazadeh & Ashoori, 2009). Thus, despite the movement towards addiction treatment, a large number of drug users suddenly leave the treatment process and experience relapse due to the problems and difficulties (Lejuez et al., 2008). Pharmacotherapy in the form of methadone maintenance treatment has been the main theme of the majority of research conducted on addiction treatment (Karimi Talabari, Noori Khajavi & Rafi'ea, 2012). Research findings have indicated that there is an average rate of recovery through this treatment method in the possible state in addicts and a higher number of addicts are viewed leaving the treatment process every day (McKellar, Kelly, Harris &Moos, 2006; Coviello, Zanis, Wesnoski, Lynch & Drapkin, 2011). The important aspects in the study of initial factors of addiction are the factors correlated with addiction that have made the addiction treatment more complex. In the meantime, the psychological factor is a significant chain of the factors that assign meaning to the behavior of substance abuse (Bazmi, 2012). Mood disorders are among the most common addiction disorders. The prevalence of major depressive disorder and anxiety in the affected individuals is about 50-60 percent, which is the main cause of morbidity and relapse (Ilgen, Jain, Kim & Trafon, 2008). In addition, according to a large number of studies in this area, it has been revealed that depression and anxiety are the common disorders associated with substance abuse (Langas, Malt & Opjordsmoen, 2010, cited in Vafayi Jahan, 2011).

One of the strategies that can reduce addiction relapse in addicts due to the comorbid disorders is to treat the psychiatric symptoms and disorders comorbid with it (Zemestani Yamchi, Sohrabi & Borjali, 2011). Group reality therapy is one of the therapeutic approaches that can have a positive and effective role in the improvement of the symptoms of disorders comorbid with addiction is (Massah, Husseini & Farhoudian, 2015). Glasser's Reality Therapy lays an

emphasis on participants' ability to focus on their needs through rational processes. In this view, Glasser introduces five fundamental needs and recognize them as the factors influencing individuals' adjustment. Glasser believes that people create some imaginations in their mind to satisfy these inherent needs of theirs (Glasser, 2010). Glasser uses a specific term, namely personal photo album, in order to address these imaginations. Personal photo album is a world in which we live and realize our desires. In addition, Glasser believes that behavior has been composed of the four elements of activity, emotions, physiology, and feelings (Zeeman, 2006). Reality therapy is, in fact, a practice or a special performance that is taught to the person in a short time during his/her natural growth (Zeeman, 2006). In this therapy, people develop their basic needs through better choices. Hence, reality therapy helps people become aware of their needs in order to see their behaviors in a better way and make expedient choices (Glasser & Glasser, 2009). Another study revealed that group reality therapy has a significant positive impact on the increase of self-esteem, responsiveness to one's own behavior, and better methods to communicate with friends in the group of substance abusers (Hermmann & Betz, 2006). Numerous studies have shown that group reality therapy is effective in reducing depression (Wexler & Williams, 1986; Durlak & Wells, 1997; Rahiminiat, 2013; Parizadeh, 2012; and Toozandehjani, Soltanzadeh Mezerji & Rad, 2014). Massah, Hosseini & Farhoudian (2015) also found that reality therapy has a positive impact on stress, depression, and anxiety in the substance abusers who were in the rehabilitation stage.

According to the above-mentioned points, the main research question is raised to see whether pharmacotherapy is more effective or reality therapy. Considering the high number of addicts in Iran that increases every year (Mahmoudi, Noormohammadi, Azizpourfard & Farhadi, 2015), the need to address the therapies that can be applied along and parallel with pharmacotherapy is felt. Unfortunately, despite the existing reality about addicts, few studies have been carried out around the current subject of the study. The main objective of this study was to address the importance of the treatment methods that can be effective in improving mood symptoms. As mentioned above, these symptoms can cause addiction and bring high rates of relapse into drug addiction in the population of addicts.

Method

Population, sample, and sampling method

The research design in this study falls within the category of quasi-experimental design with pretest-posttest and control group. The statistical population of this study included all the male addicts who had presented to addiction centers in the city of Mahabad from June 22, 2014 to September 22,

2014. From among this population, one of the centers was randomly selected at first. Then, the number of 30 patients was selected via voluntary sampling method according to the researcher's summon for those who would like to participate in the study. Next, they were randomly assigned to two experimental and control groups. One of the groups was randomly exposed to pharmacotherapy and the other group was exposed to group reality therapy. All participants were aware of the nature of the research stages and had complete freedom in participation or non-participation in the study. All patients underwent morphine testing for the confirmation of addiction. The participants were matched with each other in terms of demographic characteristics, such as age, education level, income level, gender (male), marital status (married), no history of mental illness, and duration of substance consumption.

Instrument

Depression, Anxiety, Stress Scale DASS-21: This scale was developed by Lovibond & Lovibond (1995) and encompasses a set of three self-report scales to assess mood symptoms of depression, anxiety, and stress. The number of 7 questions assesses mood symptoms (depression). The items are scored based on a 4-point Likert scale in such a way that the point zero is assigned to the option *I usually don't do this at all*, the point one is assigned to the option *I don't do this very much*, the point two is assigned to the option *I usually do this*, and the point three is assigned to the option *I usually do this a lot*. In Lovibond & Lovibond's study (1995), this scale was highly correlated with Beck Depression Inventory ($r = 0.4$) in a large sample of 717 students, which is indicative of the convergent validity of the scale. In addition, Antony, Bieling, Cox, Enns & Swinson (1998) obtained a similar pattern of correlation in clinical samples. Crawford & Henry (2003) compared this sample with two other instruments related to depression on a 1771-partcipant sample. They reported the Cronbach's alpha reliability of this scale for depression 0.95 and for the total scale 0.97. Sahebi, Asghari & Sadat Salari (2005) reported that the reliability and validity of the scale on an Iranian sample of 1070 participants were acceptable. Similarly, the correlation of 0.7 was reported between the scores of this scale and of Beck Depression Inventory. The Cronbach's alpha coefficient for the present sample was obtained equal to 0.78.

Procedure

After group selection, the pre-test was administered to all participants and, then, the members of one of the groups were exposed to pharmacotherapy (treatment with antidepressants, which was conducted by a psychiatrist). The members of the other group received 8 group reality therapy sessions. Finally, both groups were evaluated immediately after the end of the treatment period in

the post-test. The reality therapy was implemented through 8 sessions as follows. This intervention has been extracted from Glasser's book (2010).

Table 1: The content of reality therapy sessions

Session	*Content*
First	The introduction of members and of the number of sessions, a written undertaking for privacy and providing a secure and reliable environment, the expression of each member's objective in participating in the sessions
Second	The expression of happiness by the therapist for the purpose of communication, the explanation of the differences and similarities between humans, and the provision of basic human needs according to Glasser's theory In addition, it was agreed that each of the members prepares a list of his basic needs as an assignment and select some methods to meet his needs.
Third	Discussion of the previous session's assignment, explanation and interpretation of accountability, the feeling of adequacy and valuableness, creation of a sense of commitment with the aim of the achievement of members to the feeling of valuableness and real affection The members were asked to specify a list of behaviors that help with the satisfaction of their needs and bring them the feeling of adequacy and valuableness.
Fourth	The review of the previous sessions and responding to questions and problems, design of an open question to connect the past meaningful activities to the present behaviors with the aim of the expression of successful experience in one section of life, recall of the past activities that give them a good sense and feeling of valuableness. As the assignment, they were asked to determine one main behavior and its components based on which they want to change their lives.
Fifth	Review of the assignments, the statement of the question whether their behaviors are controlled internally or externally, some explanations on how to control behavior As the assignment, they were asked to specify a list of behaviors that are controlled internally and externally and the strategies to control behaviors.
Sixth	Review of the assignments, awareness of capabilities, realism about the world, teaching of the qualitative world, and valued judgment of the members about the current behaviors
Seventh	Review of the assignments, the reinforcement of accountability through the achievement of the specified goals without damaging others, specification of goals As the assignment, they were asked to set their goals and specify their most important goal.
Eighth	An overview of all the items and plans discussed in previous sessions and a final conclusion, the conduct of the post-test

Results

The mean and standard deviation of participants' age were 37 and 2.03 years. The mean and standard deviation of their addiction period were 1.18 and 3.68 years, respectively. The descriptive statistics of depression are presented in the table below for each groups and test stage.

Table 2: Descriptive statistics of mood symptoms for each group and test stage

Variable	*Group*	*Test stage*	*N*	*Mean*	*SD*
Depression	Reality therapy	Pre-test	15	23.26	2.60
		Post-test	15	9.93	5.24
	Pharmacotherapy	Pre-test	15	22.53	4.01
		Post-test	15	12.60	4.35
Stress	Reality therapy	Pre-test	15	21.26	1.02
		Post-test	15	14.66	5.13
	Pharmacotherapy	Pre-test	15	25.53	1.01
		Post-test	15	18.26	1.63
Anxiety	Reality therapy	Pre-test	15	17.40	1.50
		Post-test	15	7.40	3.99
	Pharmacotherapy	Pre-test	15	16.53	2.03
		Post-test	15	8.46	3.04

Univariate analysis of covariance should be used to compare the effectiveness of therapy methods (reality therapy and pharmacotherapy) in the improvement of addicts' mood symptoms. One of the assumptions of this analysis is the equality of regression slopes while the pertaining results are presented in the table below.

Table 3: Results of regression slope equality in components

Variable	*Sum of squares*	*Df*	*Mean Square*	*F*	*Sig.*
Anxiety	0.26	1.43	18.61	2	37.22
Depression	0.49	0.73	17.06	2	34.11
Stress	0.30	1.27	19.88	2	39.77

As it can be observed in the above table, the equality of regression slopes has been met in all the components ($P > 0.05$).

Another assumption for using this analysis is the equality of error variances. In this regard, the Levene's test results are presented in the table below.

Table 4: Levene's test results checking the equality of error variance of the components

Variable	*F*	*Df1*	*Df2*	*Sig.*
Anxiety	0.523	1	28	0.47
Depression	0.13	1	28	0.73
Stress	4.02	1	28	0.053

As it can be observed in the table above, the assumption of the equality of the error variances has been met in all components (P > 0.05).

Thus, multivariate analysis of covariance was performed and the results indicated the existence of a significant difference in the linear combination of the variables (effect size = 0.151; P < 0.05; F = 2.76; Wilks's Lambda = 0.76).

Univariate analysis of covariance was used to examine the patterns of difference as follows.

Table 5: Results of ANCOVA for examining the patterns of difference in the components

Variable	*Mean Square*	*F*	*Sig.*	*Effect size*
Anxiety	8.53	0.68	0.42	0.024
Depression	53.33	2.29	0.14	0.076
Stress	97.2	6.70	0.01	0.193

As it is observed in the above table, there is a significant difference between the two groups in terms of stress (P < 0.01).

Discussion and Conclusion

The majority of studies in this area have greatly approved the effectiveness of pharmacotherapy in the treatment of depression (Drummond, 2007; Maremmani, Pani, Pacini & Perugi, 2007, Lotfi Kashani, Mojtabayi & Ali Mehdi, 2013; Mokhber, Azarpajooh & Asgharipoor, 2012). However, this effectiveness has been at a moderate level (McKellar, Kelly, Harris & Moos, 2006; Coviello, Zanis, Wesnoski, Lynch & Drapkin, 2011). The results of the present study are consistent with those of the studies that have assessed the effectiveness of pharmacotherapy in the improvement of mood symptoms in healthy people and drug addicts. In fact, considering the biological roots of depression (Kaplan & Sadock, 2014) and especially the mechanism of neurotransmitters' impact on the generation of mood symptoms (Kaplan & Sadock, 2014), it can be expected that the treatments applied in this regard will be effective. However, since pharmacology has been the only factor in the success of this treatment, attention to psychological factors in the development of mood symptoms as well as the treatment of these symptoms has assumed paramount importance. The results of the present study are representative of the significant effectiveness of reality therapy in the improvement of mood symptoms in addicts compared to pharmacology. This finding is consistent with most of the research findings in this domain (Wexler & Williams, 1986; Durlak & Wells, 1997; Rahimi, 2013; Parizadeh, 2012; Toozandehjani, Soltanzadeh Mezerji & Rad, 2014; and Massah, Hosseini & Farhoudian, 2015). Drug dependent people attribute the highest share of their entrapment to the environment and society, and regard themselves as sacrificed people (Bahrami Ehsan, 2014). In this study, it was attempted to logically attribute the responsibility for problems to the addicts through the manipulation of the

independent variable. In this method, a higher level of energy was obtained during the treatment. Indeed, the results suggested the desired and significant effectiveness of the therapy. The participants could play a significant role in the improvement of their mood symptoms through the recognition of the process of finding problems and one's role and accountability. Reality therapy is a method based on sensible wisdom and emotional conflicts wherein the reality, acceptance of responsibility, and recognition of right and wrong affairs and their relationship to everyday life are emphasized (Glasser & Glasser, 2009). The main objective of reality therapy is to create responsible behavior in the individual because irresponsible behaviors lead to the incidence of depression and anxiety. According to Glasser, the emergence of maladaptive behaviors in the individual is an attempt to harness the perceptions and life. This means that the individual personally selects anxiety and depression to control his/her anger and enjoy the support and assistance of others (Glasser & Glasser, 2009). In fact, the key concept in the effectiveness of reality therapy, in general, and its more positive effects than pharmacotherapy in the improvement of addicts' mood symptoms can be attributed to the acceptance of reality and responsibility for what has happened and the changes that have to happen in the future. Although the addicted person feels a sense of improvement in his/her mood by taking narcotic drugs due to the changes in the chemical process related to neurotransmitters in the brain, s/he does not find him/herself responsible for this phenomenon as s/he does not consider him/herself blameworthy and responsible for the addiction (Bahrami Ehsan, 2014). What reality therapy awards the addict in terms of content is to take responsibility for the addiction and also for the treatment of the symptoms of addiction. In fact, this therapy induces this sense to addicts to show a more responsible behavior towards the elimination of the negative symptoms. These findings are important in that studies have shown that addicts suffer higher rates of depressive symptoms. In addition, given that the presence of only a few symptoms of depression results in the reduces performance of the individual (Crum, Cooper-Patrick & Ford, 1994), the positive impact of reality therapy, especially its more positive effect in the improvement of mood symptoms than pharmacotherapy can introduce this therapeutic method as a very convenient and efficient approach to mental health professionals. The results of this research show that reality therapy can be used both in its short-term and group formats as a useful method in improving the mood disorder symptoms that has a significant role in relapse prevention.

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