The Effectiveness of Psychotherapy Based on Quality of Life Improvement on the Difficulties in Emotion Regulation and Relapse Prevention in Addicts under Methadone Maintenance Therapy

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Abstract: Objective: This study intended to examine the effect of psychotherapy based on quality of life improvement on the difficulties in emotion regulation and the prevention of relapse in addicts under methadone maintenance therapy. Methods: Semi-experimental pretest-posttest structure and control group were applied. The study population consisted of all male opium addicts kept under methadone maintenance therapy admitted to Aramesh Rehab Center, referred in the summer of 1393. The sample consisted of 30 men who were randomly selected and assigned into two experimental and control groups. Eight sessions of psychotherapy training based on quality of life improvement were implemented for the experimental group; the control group received no intervention. Difficulties in Emotion Regulation Scale (DERS) was used. In the post-test phase, both control and experimental groups had a urine test for morphine. For data analysis, SPSS version 18 and the statistical methods of covariance and chi-square analysis were used. Results: The results showed that there is a significant difference between the scores of the difficulties in emotion regulation for experimental and control groups in post-test ($P<0.05$). Moreover, the rate of drug abuse relapse among participants in the therapy group based on quality of life improvement was significantly lower than the control group. Conclusion: It was concluded by the findings that psychotherapy based on quality of life improvement was effective on the reduction of difficulties in emotion regulation and the prevention of drug abuse relapse among addicts under methadone maintenance therapy. Therefore, the composting processes could be optimized by the application of the developed simulation model.
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1. Introduction

One of the most fundamental problems in the therapy of drug addicts is relapse; the problem is so serious that even long after the termination of the therapy, it may be challenged (Stoltenberg, Melissa & Hersrud, 2011). Marlatt & Gordon (1985), define relapse as the recurrence of symptoms after a period of healing. Marley's theory stresses the two major categories of determinants in relapse process. The first category are environmental and intra-individual determinants which are used either in the early stages of relapse and as a response to the early physical or psychological events (such as coping with negative emotional states, etc.), or in response to environmental events (e.g., bad luck, misfortune, accident, and financial difficulties). The second category are intra-individual determinants which appear in the case of other people involvement in relapse stages (e.g., intra-individual conflict, social pressure) (Marley, Parks and Witkiewitz, 2002).

As mentioned above, one of the factors affecting the relapse is the subject of emotions or emotion regulation. Gratz and Roemer (2004) have defined emotion regulation as the ability to monitor, evaluate and modify emotional reactions, especially in the context of purposeful behavior. Dimensions of difficulties in emotion regulation include rejection, difficulties in taking a purposeful behavior, difficulties of impulse witness, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity when the person experiences negative emotions (Gratz and Roemer, 2004). Given that fact that emotion regulation constitutes an important part of one's life, confusion in emotions and their regulation can cause psychological harm (Amstadter, 2008). According to Khantezian (1997) Self-Medication Hypothesis (SMH), drug addiction performs as a tool to modify the distressing emotions

and stressors. Drug consumers describe negative emotions and restlessness as unbearable and frustrating. They are not able to manage negative emotions without relying on drugs, and use the physiological and psychological properties of drugs to adjust their negative emotions and gain emotional stability (Khantezian, 1974; Khantezian, 1997). Numerous researches suggest that many drug consumers suffer difficulties in regulating their emotions, and their negative emotional states hasten the return of drug-oriented thoughts and consequentially addictive behavior (Bradley et al, 1992; Dymeff and Coerner, 2007; Pashib, Abdolvahaby, Bahrainian, Khaqani, Layeqian Javan, and Feizabadi, 2014). Accordingly, training in and the ability of emotion regulation, which include the reduction and control of negative emotions and the method of positive application of emotions (Graz and Gunderson, 2006) helps control the temptation of re-consumption which is a tendency-abstinence conflict, and enables the addict abstain from drug abuse (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Najt, Fusar-Poli, & Brambilla, 2011).

On the other hand, in recent years various programs has been presented for addiction therapy and relapse prevention offered in and non-pharmaceutical forms. One of pharmaceutical programs is keeping the addicts under methadone maintenance therapy used for opiate addicts (March, et al., 2014). Despite the fact that methadone therapy is a common effective approach, it seems that the approach is not sufficient alone (Kheradmand, Banazadeh, & Abedi, 2010), and other therapies which consider psychological aspects, social relationships and patients environment should also be used (Galanter, Kelebr, & Herbert, 2004). Furthermore, different studies have shown that those therapies that can cause long-term remission increase the patient's motivation for therapy; use patient's involvement in therapy; pay attention to psychological and psychiatric disorders associated with addiction and consider the patient's daily behaviors (Gossop, et al., 2002; Cipriano, 2003). In this regard, an approach that has the mentioned characteristics, and with being so is distinguished from other methods is 'psychotherapy based on quality of life improvement'. This kind of therapy is a new approach presented Frisch (2006) based on the theory of quality of life, with a combination of Aaron T. Beck's cognitive approach, Skzyt Mihaly Activities Theory, Seligman Positive Psychology, metaphor application, relaxation training and meditation. It seeks to promote happiness and well-being positive through the discovery of capabilities and better quality of life just like positive psychotherapies.

According to psychotherapy based on quality of life improvement, individuals learn principles and skills which help identify, search and fulfill their most important needs, goals and aspirations in the precious and worthwhile fields of life. The main scope of this approach include: (1) physical health and hygiene, (2) self-esteem, (4) goals and values, (5) job, (6) money, (7) play, (8) learning, (9) creativity, (10) helping others, (11) love, (12) friends, (13) children, (14) family and relatives, (15) home and neighbors, (16) spouse, and (17) life in general. This type of therapy is formulated based upon a 5-way model (CASIO): (1) conditions of life, (2) attitudes, (3) standards that we have defined for ourselves, (4) values, (5) overall life satisfaction. This pattern helps the clients increase their satisfaction and happiness by changing these five techniques. So, based on the created satisfaction and happiness, the gap between what one wants to have and what he/she has reduces, and consequently results in quality of life improvement (Frisch, 2006). In line with this approach, Toghyani and colleagues (2011), has examined the of quality of life therapy on subjective well-being of male adolescents. The results showed that such a therapy has significantly developed a sense of well-being among these people.

On the other hand, several studies examined the effectiveness of psychological therapies, particularly cognitive-behavioral therapy, on relapse prevention (Junkers, et al., 2012; Hides, et al., 2010; Hunter, et al., 2012) and emotion regulation (Otto, Power, & Fishman, 2005; Sakineh Poor, Farhadi, Najafzadeh, Hemmati, and Mohseni, 2014; Khalilpoor, Sobhi, and Hejazi, 2014), among addicts. However, no research has yet specifically examined the effectiveness of quality of life improvement therapy based on Frisch model on the difficulties in emotion regulation and relapse prevention in addicts. Therefore, the necessity of such a research is felt. This study seeks to answer these questions 1- "Is psychotherapy based on quality of life improvement effective on the difficulties in emotion regulation in addicts under methadone maintenance therapy?", 2- "Is psychotherapy based on quality of life improvement effective on the difficulties in relapse prevention in addicts under methadone maintenance therapy?"

2. Methodology

2.1 Subjects

In this study, 30 drug users were recruited who were all male and aged between 20-55 years old. The subjects' mean age was 32.21. Regarding the educational status of the subjects, fifth grade had the highest frequency (40%), and then diploma (13.3%) and BA (6.7%) were included. Most participants were married and the rest were single.

2.2 Measuring instruments

Morphine Test Kit: The kit is a narrow strip into which morphine artificially compacted. When the strip

inserted into urine sample, if the person is taking drugs, the morphine in urine competes with the morphine in the strip, and the patient's body morphine shows off. If the result is positive a special line can be seen on the strip which indicates the presence of morphine, and if the result is negative two lines can be seen (Marlatt, Parks, Witkiewitz, 2002).

Difficulties in Emotion Regulation Scale (DERS): The DERS is a brief 36-item self-report questionnaire designed by Gratz and Roemer (2004) to assess multiple aspects of emotion dysregulation. The measure yields a total score as well as scores on six scales derived through factor analysis: 1. Non-acceptance of emotional responses (NONACCEPTANCE), 2. Difficulties engaging in goal directed behavior (GOALS), 3. Impulse control difficulties (IMPULSE), 4. Lack of emotional awareness (AWARENESS), 5. Limited access to emotion regulation strategies (STRATEGIES), and 6. Lack of emotional clarity (CLARITY). Higher scores indicate greater difficulties in emotion regulation. Results of reliability by Gratz and Roemer (2004) has shown that the scale has high internal consistency and Cronbach's alpha for the total scale has been reported 0.93, for subscale non-acceptance 0.85, subscale goals 0.89, sub-scale impulse 0.86, sub-scale awareness 0.08, sub-scale strategies 0.88, and sub-scale transparency 0.84. Test-retest reliability for the total score was 0.88 and for the subscales of non-acceptance, goals, impulse, awareness, strategies, and clarity are respectively, 0.69, 0.69, 0.57, 0.68, 0.89 and 0.08.

2.3 Procedure

This study is a semi-experimental research consisted of an experimental group and a control group. Pre-test and post-test were implemented for both groups before experimental intervention. In this study, the independent variable has two levels of psychotherapy based on quality of life and non-intervention and the dependent variables were difficulties in emotion regulation and relapse prevention. The study population consisted of all male opium addicts kept under methadone maintenance therapy admitted to Aramesh Rehab Center, referred in the summer of 1393. The sample consisted of 30 male opiate addicts receiving methadone maintenance therapy. Inclusion criteria were: A minimum age of 20 and maximum of 55, opioid dependence based on the criteria mentioned in DSM-5, an interval of more than one week of successful detox, lack of regular use of antipsychotics in the therapy program. The exclusion criteria were: development of psychotic disorders, bipolar or depression or mental illness at the time of the study. 15 subjects were randomly assigned in the experimental group and the other 15 subjects in the control group. The experimental group received eight 90-minutes sessions of training in psychotherapy based on quality of life improvement per week. During the study, the control group received no experimental intervention. After the conclusion of sessions, both groups were tested by morphine test kits.

2.4 The structure of treatment sessions

Eight sessions of therapy based on quality of life improvement were conducted. The sessions were held twice a week over a four-week training program, as follows:

First Session: Communication building, members introduction, expression of rules, goals and introduction to course, commitment of the participants to attend meetings regularly, discussion about the quality of life, life satisfaction, happiness, pretest implementation, feedback. (85 min)

Second Session: Review of the previous session's discussions, definition of therapy based on quality of life improvement, introduction of quality of life dimensions, introduction of the Tree of Life, detection of problematic members, summarization of discussions, feedback. (75 min)

Third Session: Review of the previous session, introduction of the five roots, starting off with one of roots, introduction of life circumstances as the first strategy, and its application in quality of life dimensions. (75 min)

Fourth Session: Review of the previous session, discussion over the five roots, introduction of approach as a second strategy, and its application in quality of life dimensions. (90 min)

Fifth Session: Review of the previous session, discussion over the five roots, introduction of standards, priorities, and satisfaction change as the third, fourth and fifth strategies in order to increase life satisfaction, training of quality of life principles. (80 min)

Sixth Session: Review of the previous session, discussing over the principles of quality of life, presentation and explanation of the application of these principles to increase life satisfaction. (70 min)

Seventh Session: Review of the previous session, continuation of the previous session's discussions, debate over the scope and application of the principles in the area of relationships. (75 min)

Eighth Session: Presentation of a summary of the materials introduced in the previous session, summarization and training the generalization of the five roots in different situations in different aspects of life, and the application of principles in quality of life different dimensions. (90 min)

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

3. Results

Descriptive statistics of the variable "difficulties in emotion regulation" of the control and experimental groups in pre-test and post-test are given in Table 1.

Table 1. Descriptive statistics of "difficulties in emotion regulation", by group and type of test

Maximum	Minimum	Variance	Standard deviation	Mean	Number	Test	Group	Statistical indicator
121	101	38.35	6.19	111.6	15	Pre-test	Control	**Difficulties in emotion regulation**
121	103	41.06	6.40	111.26	15	Post-test		
124	100	43.71	6.61	112	15	Pre-test	Experimental	
125	73	221.15	14.89	98.60	15	Post-test		

As shown in Table 1, subjects' scores in the experimental group at post-test were significantly reduced, while the control group showed no significant difference between the pretest and posttest scores.

To examine the effectiveness of psychotherapy based on quality of life improvement on the difficulties in emotion regulation and relapse prevention in addicts under methadone maintenance therapy since according to the results of Levine test, and according to the results of Kolomogrov-Smirnov test the consistency of variances and the normality of difficulties in emotion regulation scores were confirmed ($P \geqslant 0.05$), covariance analysis was used. Results of covariance analysis are presented in Table (2).

Table 2. ANCOVA results for the effect of quality of life improvement therapy on the difficulties in emotion regulation (Dependent variable: post-test)

Effect size	Significance	F	MS	Df	SS	Statistical indicator	Variable
0.004	0.73	13.65	1236.12	1	1236.12	Pre-test	**Difficulties in emotion regulation**
0.33	0.001	15.31	1386.41	1	1386.41	Group	
			90.53	27	2444.40	Error	
				30	335214	Total	

As shown in Table 5, with the elimination of the effect of pre-test variable and according to F coefficient (31.15), it can be noticed that there is a significant difference between the modified mean scores of participants in difficulties emotion regulation in terms of group membership (experimental and control) by posttest ($P<0.05$). Thus, it can be concluded that psychotherapy based on the quality of life improvement is effective on difficulties in emotion regulation ($P \leqslant 0.05$). This impact means "practical significant" of 0.33, i.e. 33% of the total variance or individual differences in 'difficulties in emotion regulation' in addicts under methadone maintenance therapy was related to psychotherapy approach based on quality of life improvement. The first hypothesis was confirmed.

In Table 3, the frequency and percentage of relapse and abstinence in the experimental group as opposed to the control group by posttest are presented.

Table 3. Frequency and percentage of relapse of the two groups at the termination of the group therapy

Control group N= 15		**Experimental group N= 15**		**Groups Variable**
Percent	Frequency	Percent	Frequency	
53.3	8	73.3	11	**Prevention**
46.7	7	26.7	4	**Relapse**
100.0	15	100.0	15	**Total**

As shown in Table 3, in the experimental group which received an intervention of psychotherapy based on quality of life improvement; only 4 patients (equal to 26.7 percent) had a relapse, while in the control group which received no non-pharmaceutical intervention; 7 patients (equal to 46.7 percent) had a relapse.

To examine the effectiveness of therapy based on quality of life improvement on addicts' relapse rate, chi-square test was used and the results are shown in Table 6.

As shown in Table 6, the relapse rate was significantly increased in the experimental group. Given that the experimental group showed a significance of less than 0.05, ($P \leqslant 0.05$), it can be concluded that psychotherapy based on the quality of

life improvement is effective on relapse rate in addicts kept under methadone maintenance therapy. So the hypothesis is confirmed.

Table 4. Chi-square test for relapse in both control and experimental groups

Sig	X^2	Df	Expected frequency	Observed frequency	Relapse	Group
0.04	3.62	1	7.5	11	**Lack of relapse**	**Experimental**
			7.5	4	**Relapse**	
0.79	0.06	1	7.5	8	**Lack of relapse**	**Control**
			7.5	7	**Relapse**	

4. Discussion and conclusion

In relation to the first hypothesis, the obtained results showed that there was no significant difference between the experimental and control groups in terms of difficulties in emotion regulation by post-test. Accordingly, it can be concluded that psychotherapy based on the quality of life improvement is effective on the reduction of difficulties in emotion regulation in addicts kept under methadone maintenance therapy. No research has yet precisely examined the issue, however it can be said that the results are in line with Otto, et al. (2005). They noticed that the application of therapies containing cognitive-behavioral techniques would be effective on the improvement of performance, adjustment, and mitigation of negative emotions in patients with substance abuse experience. Other studies also confirm the validity of these findings (Corey et al, 2003; Junkers & Associates, 2012).

According to various researches, individuals in positive emotional states compared to negative emotional or neutral states, learn faster and show improvements in their intellectual functioning (Bryan, 1996). Indeed, positive emotions sweep aside the obstacles and to allow individuals to consider more possibilities and think optimistically (Fredrickson et al, 2000).

A main part of the process of therapy based on quality of life improvement is training how to control negative emotions which helps individuals search out for and organize effective and valuable objectives in their lives. Because negative emotional experiences would cause lack of success in meeting the needs and achieve the goals and aspirations in precious stages of life (Frisch, 2006). Accordingly, in the course of therapy, users need to learn strategies to control these emotions. Among these strategies are training cognitive reconstruction skills which are useful in controlling negative emotions. Furthermore, during the therapy based on quality of life improvement, mindfulness-based training also takes place which can be so effective on negative emotions controlling while the patients are trying to achieve goals in their life. Its role is to help, in the form of cognitive therapy, prevent relapse and facilitate excited emotions (Segal, et al, 2002 Chiesa & Serretti, 2014). Accordingly, the theory and techniques used in the 'therapy based on quality of life improvement' are effective on difficulties in emotion regulation in addicts under methadone maintenance therapy.

In relation to the second hypothesis, the results showed that therapy based on quality of life improvement is effective on the reduction of relapse frequency. To test this hypothesis, the chi-square test was applied. Based on the results, the relapse rate in the experimental group which received therapy based on quality of life improvement showed a significant reduction, as compared to the control group which indicates the effectiveness of this therapy on the reduction of relapse among addicts. In line with these findings, previous studies also indicate that the use of psychotherapy sessions with pharmaceutical therapy can be effective on the process of treatment and the prevention of relapse in addicts (Junkers & Associates, 2012; Hides, et al., 2010; Hunter, et al., 2012). In line with these studies, Carver and colleagues (2011) investigated the effectiveness of quality of life program training on three groups of addicts with depression, schizophrenia, and no disorder under drug maintenance therapy,. The results suggested that individuals who were trained under the program showed a significant reduction, as compared to the control group, in drug consumption, relapse rate, and the occurrence of depression and schizophrenia symptoms.

Seligman, Rashid and Parks (2006), in their medical reports, noticed that the kind of psychotherapy which adopts positive approach techniques, not only through the reduction of negative symptoms but also through a direct and effective manner and by creating positive emotions, and character strengths and resiliency strengthening - which is an essential component in relapse prevention - (Harris, et al., 2011) can play an important role in the prevention of relapse in patients under methadone maintenance therapy. Therefore, therapy based on quality of life improvement not only can create a positive resource, but also can impact negative syndromes and create a barrier against their reoccurrence.

According to the issues mentioned and by the consideration of the fact that cognition, happiness, and

positive and negative emotions are related to difficulties in emotion regulation and relapse, it can be concluded that therapy based on quality of life improvement is effective on difficulties in emotion regulation and the prevention of relapse in addicts under methadone maintenance therapy. Accordingly, the results obtained in this study can be an appropriate and effective model for reducing the difficulties in emotion regulation and prevention of relapse among drug addicts in Iran. It is suggested to apply it by the therapists as a model of therapy for patients under medical therapy in order to avoid drug use. It is also suggested that in subsequent studies both male and female patients be used to increase the generalizability of the results in terms of gender. The limitations included sampling method and the implementation of the research in a specific clinic, and the briefness of therapy sessions to prevent the loss of clients which forced us to generalize the findings with caution.

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