The Effectiveness of Psychotherapy Based on Quality of Life Improvement on Emotion Regulation and Relapse Prevention in Addicts

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ABSTRACT

Objective: This study aimed to investigate the effect of psychotherapy based on quality of life improvement (QoLI) on emotion regulation and the prevention of relapse in addicts under methadone maintenance therapy (MMT).

Methods: This research is a semi-experimental pretest-posttest study with a control group. Eight sessions of psychotherapy training based on QoLI were implemented for the experimental group; the control group received no intervention. We used difficulties in emotion regulation scale (DERS) to evaluate the participants. 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 analysis of covariance and Chi-square test were used.

Results: There is a significant difference between the scores of the difficulties in emotion regulation between experimental and control groups in post-test ($P<0.05$). Moreover, the rate of relapse among participants in the experimental group was significantly lower than that in the control group.

Conclusion: Psychotherapy based on QoLI was effective on the reduction of difficulties in emotion regulation and prevention of drug abuse relapse among addicts under MMT.

1. Introduction

One of the fundamental problems in the treatment of drug addicts is relapse; the problem is so serious that even long after the termination of the therapy, it may resurface (Stoltenberg, Melissa, & Hersrud, 2011). Marlatt and Gordon (1985) defined relapse as the recurrence of symptoms after a period of healing. Marley's theory stresses upon 2 major categories of determinants in relapse process. The first category consists of environmental determinants, which are used either in the early stages of relapse as a response to the early physical or psychological events (e.g. coping with negative emotional states) or in response to environmental events (e.g. bad luck, misfortune, accident, and financial difficulties). The second category are intraindividual determinants, which appear in the form of other people's involvement in relapse stages (e.g. intraindividual conflict, social pressure) (Marley, Parks, & Witkiewitz, 2002).

As mentioned above, one of the factors affecting the relapse is the emotions and their regulation. Gratz and Roemer (2004) defined emotion regulation as the ability to monitor, evaluate, and modify emotional reactions,

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especially in the context of purposeful behavior. Outcomes of difficulties in emotion regulation include rejection, trouble 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 & Roemer, 2004). Because emotion regulation is an important part of one's life, confusion in emotions and their regulation can cause psychological harm (Amstadter, 2008). According to Khantzian (1997) self-medication hypothesis, drug addiction acts like 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 (Khantzian, 1997; Khantzian, 2011).

Numerous studies suggest that many drug consumers suffer from difficulties in regulating their emotions, and their negative emotional states hasten the return of drug-oriented thoughts and consequentially addictive behavior (Cisler, et al, 2010; Dimeff and koerner, 2007; Pashib, Abdolvahaby, Bahrainian, Khaqani, Layeqian Javan, and Feizabadi, 2014). Therefore, training in and regulation of emotions, which include reduction and control of negative emotions as well as application of positive emotions (Gratz & Gunderson, 2006) help control the temptation of re-consumption, which is a tendency-abstinence conflict, and enables the addict to abstain from drug abuse (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Najt, Fusar-Poli, & Brambilla, 2011).

One of the pharmaceutical programs is keeping the addicts under methadone maintenance therapy (MTT) used for opiate addicts (Marsch et al., 2014). Despite the fact that methadone therapy is a common and effective approach, it seems to be insufficient alone (Kheradmand, Banazadeh, & Abedi, 2010), and other therapies should also be used to consider psychological aspects, social relationships, and patients' environment (Brink & Hassen, 2006). Furthermore, different studies have shown that therapies with 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 recent years, however, various nonpharmaceutical programs have been presented for treatment of addiction and relapse prevention. One of these programs with the mentioned characteristics is "psychotherapy based on quality of life improvement". This kind of therapy is a new approach presented by Frisch (2006) based on the theory of quality of life (QoL), 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 positive well-being through the discovery of capabilities and better quality of life just like positive psychotherapies.

According to psychotherapy based on quality of life improvement (QoLI), individuals learn principles and skills which help them identify, search, and fulfill their most important needs, goals, and aspirations in their lives. The main scope of this approach include physical health and hygiene, self-esteem, goals and values, job, money, play, learning, creativity, helping others, love, friends, children, family and relatives, home and neighbors, spouse, and life in general. This type of therapy is based upon a 5-way model as 1) Conditions of life; 2) Attitudes; 3) Standards that we have defined for ourselves; 4) Values; and 5) Overall life satisfaction. This pattern helps the clients increase their satisfaction and happiness by changing these 5 areas. So, based on the created satisfaction and happiness, the gap reduces between what one wants to have and what one has, and consequently QoL improves (Frisch, 2013). In line with this approach, Toghyani and colleagues (2011) examined the quality of life therapy on subjective well-being of male adolescents. The results showed that it has significantly developed a sense of well-being among these people.

Furthermore, 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, & Mohseni, 2014; Khalilpoor, Sobhi, & Hejazi, 2014) among addicts. However, no research has yet specifically conducted on the effectiveness of QoLI therapy based on Frisch model on the emotion regulation and relapse prevention in addicts. Therefore, the necessity of such a research is felt. This study seeks to test these 2 hypotheses:

- Psychotherapy based on QoLI is effective on emotion regulation in addicts under MMT?
- Psychotherapy based on QoLI is effective on relapse prevention in addicts under MMT?

2. Methods

This study was a semi-experimental research consisted of an experimental and a control group. Pretest and post-

test were implemented for both groups before and after intervention. The independent variable has 2 levels of psychotherapy based on the QoL 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 MMT therapy admitted to Aramesh Rehab Center, Yazd, Iran, the summer of 2014. The inclusion criteria were as follows: Aged between 20 and 55, opioid dependence based on the DSM-5 criteria, at least 1 week of successful detoxification, and no regular use of antipsychotics during the treatment program. The exclusion criteria were development of psychotic disorders, bipolar, depression, or mental illness at the time of the study. The sample consisted of 30 men who were randomly selected and assigned into two experimental and control groups. The subjects' mean age was 32.21 years. Regarding the educational status of the subjects, having the fifth grade had the highest frequency (40%), and then diploma (13.3%), and BA (6.7%). Most participants were married. Fifteen subjects were randomly assigned in the experimental group and the other 15 in the control group. The experimental group received eight 90-minute sessions of training in psychotherapy based on quality of life improvement twice a week. During the study, the control group received no experimental intervention. After the conclusion of sessions, both groups were tested by morphine test kits.

Morphine test kit: The kit is a narrow strip into which morphine is artificially compacted. When the strip inserted into the urine sample, 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, 2 lines can be seen on the strip (Marlatt et al., 2002).

Difficulties in emotion regulation scale (DERS): It is a 36-item self-report questionnaire designed by Gratz and Roemer to assess multiple aspects of emotion dysregulation (Gratz & Roemer., 2004). The measure yields a total score as well as separate scores on 6 scales derived through factor analysis as follows: 1) Nonacceptance of emotional responses (nonacceptance); 2) Difficulties in 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 has shown that the scale has high internal consistency. The Cronbach α coefficients have been reported as 0.93 for the total scale, 0.85 for subscale nonacceptance, 0.89 for subscale goals, 0.86 for subscale impulse, 0.08 for subscale awareness, 0.88 for subscale strategies, and 0.84 for subscale transparency. Test-retest reliability for the total score was 0.88 and for the subscales of nonacceptance, goals, impulse, awareness, strategies, and clarity were 0.69, 0.69, 0.57, 0.68, 0.89, and 0.08, respectively.

Eight sessions of therapy based on QoLI were conducted (Frisch, 2006). The sessions were held twice a week over a 4-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 the meetings regularly, discussion about the quality of life, life satisfaction, happiness, pretest implementation, and feedback (85 min);

Second session: Review of the previous session's discussions, definition of therapy based on the quality of life improvement, introduction of quality of life dimensions, introduction of the tree of life, detection of problematic members, summary of discussions, and feedback (75 min);

Third session: Review of the previous session, introduction of 5 roots, starting off with one of the 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 5 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 5 roots, introduction of the standards, priorities, and satisfaction change as the third, fourth, and fifth strategies 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 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 sessions, sum up and train-

ing the generalization of the 5 roots in different situations in different aspects of life, and the application of principles in different dimensions of quality of life (90 min).

A main part of the therapy based on QoLI is training how to control negative emotions. It helps individuals search out for and organize effective and valuable objectives in their lives. Because negative emotional experiences would cause failure in meeting the needs and achieving the goals and aspirations in life (Frisch, 2006).

Thus, in the course of therapy, addicts need to learn strategies to control these emotions. Among these strategies are learning cognitive reconstruction skills which are useful in controlling negative emotions. Furthermore, during this therapy, mindfulness-based training also takes place which can be effective on negative emotions controlling, while the patients are trying to achieve goals in their lives. Its role is to prevent (in the form of cognitive therapy) relapse and facilitate excited emotions (Chiesa & Serretti, 2014; Singh & Mishra, 2011). Thus, the theory and techniques used in the "therapy based on quality of life improvement" are effective on emotion regulation of addicts under MMT. To ensure the participants, research questionnaires were designed in a way that they need not to provide any personal information. Furthermore, the participants were assured of the confidentiality of the research information and the necessary ethical demands.

The data extracted from the survey questionnaires were analyzed using appropriate statistical tools (between groups t-test). All statistical analysis was done by SPSS version 10.0 Windows (SPSS Inc. Chicago, IL, USA). To examine the effectiveness of QoLI on the difficulties in emotion regulation and relapse prevention in addicts under MMT, covariance analysis and chi-square test was used.

3. Results

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. Table 1 presents descriptive statistics of the variable "difficulties in emotion regulation" of the control and experimental groups in pretest and posttest. As shown in Table 1, subjects' scores in the experimental group in post-test significantly reduced, while the control group showed no significant difference between the pretest and posttest scores.

According to the results of Levene and Kolmogorov-Smirnov tests, the consistency of variances and the normality of "difficulties in emotion regulation" scores were confirmed ($P \geq 0.05$). So to examine the effectiveness of psychotherapy based on QoLI in addicts under MMT, analysis of covariance was used. Results of covariance analysis are presented in Table 2.

As shown in Table 2, with the elimination of the pretest effect and according to F coefficient (15.31), there is a significant difference between the experimental and control in the posttest with regard to modified mean scores of participants in "difficulties in emotion regulation" ($P<0.05$). Thus, psychotherapy based on QoLI is effective on emotion regulation ($P \leq 0.05$). The results indicate that 33% of the total variance or individual differences in 'difficulties in emotion regulation' of studied addicts was related to psychotherapy approach based on QoLI. So, 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 in post-test are presented. As shown in Table 3, in the experimental group, which received intervention, only 4 (26.7%) patients had a relapse, while in the control group 7 (46.7%) patients had a relapse. To examine the effectiveness of therapy based on QoLI on addicts' relapse rate, the Chi-square test was used; its results are shown in Table 4.

Table 1. Descriptive statistics of "difficulties in emotion regulation," of 2 groups in pre-test and post-test.

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

Table 2. Results of analysis of covariance for the effect of QoLI therapy on the difficulties in emotion regulation.

Dependent variable: Post-test							
Variable	**Statistical indicator**	**SS**	**df**	**MS**	**F**	**Sig.**	**Effect size**
Difficulties in emotion regulation	Pre-test	1236.12	1	1236.12	13.65	0.73	0.004
	Group	1386.41	1	1386.41	15.31	0.001	0.33
	Error	2444.40	27	90.53			
	Total	335214	30				

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Table 3. Frequency and percentage of relapse of the 2 groups at the end of the treatment program.

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

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

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

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As shown in Table 4, the relapse rate significantly increased in the experimental group. Given that the experimental group showed a significance level of less than 0.05, ($P \leq 0.05$), psychotherapy based on QoLI is effective on relapse rate in addicts under MMT. So the second hypothesis was confirmed.

4. Discussion

First hypothesis

Psychotherapy based on QoLI is effective on emotion regulation in addicts under MMT. With regard to the first hypothesis, the obtained posttest results showed that there was no significant difference between the experimental and control groups in terms of difficulties in emotion regulation. Therefore, psychotherapy based on the QoLI is effective on the reduction of difficulties in emotion regulation in addicts under MMT. Although no research has examined exactly this topic, our results are in line with Otto and colleagues (Otto et al., 2005).

They noticed that the application of therapies containing cognitive-behavioral techniques would be effective on the improvement of performance and adjustment, and mitigation of negative emotions in patients with substance abuse experience. Other studies also confirm the validity of these findings (Yonkers et al., 2012; Curry, 2003).

According to various studies, individuals who are in positive emotional states compared to people in negative or neutral emotional states, learn faster and show improvements in their intellectual functioning (Bryan, Mathur, & Sullivan, 1996). In fact, positive emotions sweep aside the obstacles and allow individuals to see more possibilities and think optimistically (Fredrickson et al., 2000).

A main part of the process of therapy based on QoLI is controlling negative emotions which helps individuals search out for and organize effective and valuable objectives in their lives. Because negative emotional experiences would cause failure in meeting the needs and achieving the goals and aspirations in precious periods of life (Frisch, 2006).

In the course of therapy, patients need to learn strategies to control these emotions. Among these strategies are cognitive reconstruction skills, which are useful in controlling negative emotions. Furthermore, during the therapy based on QoLI, mindfulness-based training also takes place which can be effective on controlling negative emotions while the patients are trying to achieve goals in their lives. Its role is to help (in the form of cognitive therapy) prevent relapse and facilitate excited emotions (Chiesa & Serretti, 2014; Singh & Mishra, 2011). Thus, the theory and techniques used in the "therapy based on quality of life improvement" are effective on difficulties in emotion regulation in addicts under MMT.

Second hypothesis

Psychotherapy based on QoLI is effective on relapse prevention in addicts under MMT. With regard 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 QoLI showed a significant reduction, as compared to the rate in the control group. This 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 medications can be effective on the process of treatment and prevention of relapse in addicts (Hides, 2010; Hunter et al., 2012; Yonkers et al., 2012).

Similarly, Karow and colleagues investigated the effectiveness of QoL program training on 3 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, compared to the control group, with regard to drug consumption, relapse rate, and the occurrence of depression and schizophrenic symptoms (Karow et al., 2011).

Seligman, Rashid, and Parks 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, Smock, & Tabor Wilkes, 2011) - can play an important role in the prevention of relapse in patients under MMT (Seligman, Rashid, & Parks., 2006).

Therefore, therapy based on QoLI can not only create a positive resource, but also impact negative syndromes and create a barrier against their reoccurrence. We suggest that in future studies both male and female patients be used to increase the generalizability of the results. We also recommend therapists to use this program as a model of therapy for patients under medical treatments to avoid drug use. The limitations of the study included sampling method, implementation of the research in a specific clinic, and the short period of therapy sessions (to prevent the loss of patients). These limitations forced us to generalize our findings with caution.

In conclusion, as cognition, happiness, and positive/negative emotions are related to difficulties in emotion regulation and relapse, treatment based on QoLI is effective on emotion regulation and prevention of relapse in addicts under MMT. Also, our approach and results can pave the way for reducing the difficulties in emotion regulation and prevention of relapse among drug addicts in Iran.

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