



Original Article

Effectiveness of individual metaphor therapy in irrational beliefs of substance abuse dependents

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Abstract

Introduction: Dependency on substance abuse is a chronic, progressive and destructive disease. The effective psychological on patients beliefs have important role in treatment of this disease. Thus, the present study aims to investigate the effect of the individual metaphor therapy in the irrational beliefs of dependents.

Materials and Methods: This study used a randomized controlled trial (RCT) design. The population of the study included all the opioids dependents referred to the MMT centers in Kermanshah, Iran (Spring 2014). Random cluster sampling was conducted and 38 patients were randomly selected to be assigned to either the experimental group or the control one. Millon Multidimensional Personality Inventory and Jones Irrational Beliefs Questioner were utilized as a measurement tool and an individual metaphor therapy as an intervention for experimental group. To compare the differences between the pre and post-intervention scores, a MANOVA was run using SPSS 20.

Results: The results of the study revealed that the metaphor therapy is significantly effective in reducing "the need of demand for approval", "high self-expectation", "frustration reactivity", "anxious over concern", and "perfectionism" ($P < 0.05$).

Conclusion: It seems that the metaphor therapy can neutralize the patient's reactions without increasing the anxiety and help the patient through the creation of awareness or reframing his condition, it is suggested to use this therapy for the treatment of cognitive restructuring.

Keywords: Belief, Cognitive therapy, Metaphor therapy, Substance abuse

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Introduction

The strategic position of Iran, and the fact that some of its neighbors are among the greatest drug producers in the world, caused a high incidence of substance abuse and dependency in this country (1). Addiction is a chronic, progressive and destructive disease that not only causes the death of the affected person but can also harm the families and the communities in which the individual lives (2). According to a global report, the amount of substance abuse in 2000 was about 2.8% of the world population and this trend has continued to

grow in recent years (3). Addiction statistics in the past four decades were fluctuating and its prevalence in the general population in 2011 was 1,325,000 (4).

There are many different views about willingness to substance abuse. Behavioral theories argue the environmental factors and the cognitive theories put emphases on the role of dysfunctional thoughts and irrational beliefs of such people. In cognitive approach, emotional and psychological problems arise from cognitions, intellectual errors, cognitive distortions, and irrational beliefs (5). Accordingly, in perceiving and interpreting social interactions and challenging events people often face mental errors such as exaggeration, awfulizing, distortion, jumping to conclusion, overgeneralization and so on. Although events cannot cause psychological problems alone, they think of such events as the

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main source of their problems and discomfort. People's way of thinking, their information processing style and interpreting events cause negative emotions and anxiety (6). According to Ellis, when an occasion arises (A in Analysis of ABC), our thoughts and beliefs (B) are activated and behavioral consequences (C) are created. Accordingly, Ellis model of ABC believes that for changing behavior and feelings, especially in relation to drug and alcohol, we must change people mindset (7).

There are three dysfunctional beliefs that lead to a sudden decision by an individual to use drugs: (i) predictive beliefs, (ii) relieving beliefs and (iii) facilitating beliefs. Predictive beliefs refer to specific expectations from drugs. For example, 'if I use drugs, I'll be a powerful person'. Relieving beliefs are about the relieving nature of drugs. For example, 'if I don't use drugs anymore, my willingness to take them continues'. Facilitating beliefs are those which justify the use of drugs in spite of their consequences. For example, 'this is my right to take drugs as I push myself every day. So, it is worth to use regardless of the consequences' (8). Beck et al. (1993) presented a cognitive model of drug abuse as follows:

High willingness to abuse substances ⇒ automatic thoughts ⇒ activation of an individual's major beliefs about drugs ⇒ internal and external conditions ⇒ facilitating beliefs ⇒ Utilizing practical ways to find drugs ⇒ continuing substance abuse or recurrence.

Upon changing such beliefs, psychologists in general and cognitive therapists in particular seek influential treatment approaches. One of the approaches, which drew little attention, is Metaphor Therapy. Long time before the invention of modern psychotherapy, stories, mythologies and allegories played significant roles in inner conflicts as a factor of reforming, reconstructing and "home remedies". For instance, in Persian culture, Masnavi Manavi, which is the climax of power manifestation and the influence of allegory in Persian poetry, applies the stories as a tool for cognitive restructuring, retraining, modification and behavioral change. Allegory, with its delicate nature, teaches the readers or the listeners, through visualizing the complex concepts, that everything has a structure and change is inevitable for each structure and there is more than one perspective (9). Adults avoid talking about unpleasant issues and utilize allegories as bridges which indirectly pave the ways for discussion (10,11). Adults often touch stories well and accept issues more easily through allegories

which they do not directly accept (12). Metaphor, which is symbolized as perception and experience in different words, (13), can be effective in diagnosing serious mental diseases like schizophrenia, bipolar disorder, major depression, dysthymia (14), enhancing personal growth, self-acceptance, increasing sense of life appreciation, reducing anxiety (15), increasing cognitive development (16), developing self-concept (17), and increasing the sense of responsibility in self-management (18).

The use of metaphor instead of direct therapeutic suggestions weakens the defenses of the clients against the functional changes and will increase the efficacy of therapeutic interventions (19-21). According to a survey by Salimi et al. (22), metaphor therapy is applicable and efficient in Iran due to the cultural affinity. Thus, regarding the prevalence of drug addiction in Iran, and the available constant struggle over the most effective ways of dealing with drug related problems in the U.S (23), the present study aims to investigate the effect of the individual metaphor therapy in reducing the irrational beliefs of the drug addicts being treated with drug.

Materials and Methods

This study used a randomized controlled trial (RCT; with the registration number of 92380) design. The population of the study included all the drug addicts being treated in the Methadone Maintenance Therapy (MMT) centers in Kermanshah, Iran.

The population of the study included all the drug addicts of the MMT centers in Kermanshah, Iran, being treated with Methadone and Opium Tincture in spring 2014. The sample of the study included 40 people who were selected via random cluster sampling to be assigned to either the experimental group or the control one.

After selecting 200 participants from among 10 MMT clinics, the MMPI-2 questionnaire was distributed to 174 of them who had already announced their willingness to participate in the study. The criteria for entering the study were age limit (18-70 years), literacy, not having a higher score than 70 in the clinical scales of MMPI-2, and using methadone or opium tincture. Then, as a result of not having at least one of the above-mentioned criteria, 134 of them were excluded from the study. After that, the pre-intervention was conducted by a psychologist who did not know anything about the study. The remaining 40 participants were assigned in a randomly stratified way to the experimental and the control group (n=20 per group). In both the

experimental and the control groups, there were 4 female and 16 male: in each group, 11 of them were using methadone and 9 of them opium tincture.

Jones Irrational Beliefs Questionnaire was utilized as pre and post-intervention measurement tool and the individual metaphor therapy as the main intervention method, which was run by offering individual consulting sessions for the experimental group. Using the metaphoric approach, the therapeutic intervention was provided individually in the experimental group in 6 one-hour weekly sessions. For each of the 10 irrational beliefs, a metaphoric story was presented to the patient and he was asked to find the relationships between the story and his personal life. In each session, two metaphoric stories were presented based on two irrational beliefs and then the behavioral assignments were provided in the form of a brochure. Of course, the first session was devoted to introduction, knowing each other and the rapport and in the remaining five sessions metaphor therapy was performed. The members of the control group also participated in six sessions and discussed the disadvantages of using drugs with a therapist. Although two members of the experimental group were excluded from the study (a female recipient of Methadone, and a male recipient of Opium Tincture), all the members of the control group attended the sessions. At the end of the study, a post-intervention was conducted by the same psychologist who had conducted the pre-intervention. Due to the ethical considerations, the members of the control group received the same treatment after conducting the study.

Research instruments

- *Jones Irrational Beliefs Test (1968)*: This scale is

constructed by Jones in 1968 to measure and evaluate the irrational beliefs and include 10 subscales and 100 items. Each subscale is related to one of the irrational beliefs which are: Demand for Approval, High Self Expectation, Blame Proneness, Frustration Reactivity, Emotional Irresponsibility, Anxious Overconcern, Problems Avoiding, Dependency, Helplessness for change, and Perfectionism. Scoring of the test is done on a 5-point rating scale from "1" (very agree) to "5" (very disagree) which scoring for some of the items is reversely. Various studies confirm the result of this test and show that the Cronbach's alpha of the test is 0.71. This test has also an acceptable validity and consistency. Jones has observed the test-retest reliability to be 0.92 (24).

According to Bahremand et al. (25) and Sahebi (9,12), metaphor therapy was conducted within five sessions of one hour duration in such a manner that in each session, two metaphoric stories corresponding to two of the irrational beliefs were presented to the patient and he was requested to establish a relationship between the metaphor and his thoughts, emotions, and behaviors especially those related to drug addiction. At the end of each session, the patient was provided with behavioral assignment forms and he was requested to make a review over the said metaphors by his mind every day. At the beginning of each session, corresponding assignment to the previous session was studied. Metaphor therapy was performed by an experienced clinical psychologist weekly within 5 sessions of one hour and individually for the patients of experimental group. The sessions were conducted at the clinic that where patients received medication.

Table 1. The content of metaphor therapy sessions

Sessions	Intervention content
1	The first session was devoted to introduction, knowing each other and the rapport and in the remaining five sessions metaphor therapy was performed
2	In this session, two metaphoric stories corresponding to approval seeking and high self-expectation were presented to the patient and he/she was requested to establish a relationship between the story and his thoughts, emotions, and behaviors especially those related to drug addiction. At the end of the session, the patient was provided with behavioral assignment forms and he/she was requested to make a review over the said metaphors by his mind every day and take a note of the said metaphors designating that the said metaphors have led to what changes in his/her beliefs and behaviors.
3	After checking the patient behavioral assignments, the patient was asked to talk about self-blame and frustration reactivity. After recalling the irrational beliefs by the patient, metaphoric stories of blame proneness was presented to him/her.
4	Initially, the patient homework was evaluated. The patient was asked to talk about his/her thoughts and emotions, especially those related to drug addiction. Then, two metaphoric stories corresponding to emotional irresponsibility and anxious overconcern were presented to the patient.
5	In the seventh session, the irrational belief of problem avoidance and dependency were check. Then, two metaphoric stories corresponding to problem avoidance and dependency were presented to the patient and he/she was requested to establish a relationship between the metaphors and his/her thoughts, emotions, and behaviors especially those related to drug addiction.
6	At the closing session, metaphors presented in previous sessions were reviewed. Then, metaphoric stories of helplessness for change and perfectionism were presented to the patient and his/her irrational beliefs were challenged by therapist. At the end of treatment period, the patients were requested to memorize the metaphors presented for them and benefit from their

results accordingly.

Adapted from Sahebi (2008, 2014) and Bahreman et al. (2015)

Corresponding data of 38 persons were analyzed using multivariate analysis of variance (MANOVA) with and SPSS (ver. 20.0) software. To compare the differences between the pre and the post-intervention scores, a MANOVA was run. With regard to the presence of ten dependent variables that each may affect another, it is better was used MANCOVA. We used MANOVA due to absence of pre-assumptions for MANCOVA including normality, outliers, linearity, multicollinearity and singularity, and homogeneity of variance-covariance. The mean and standard deviation of continuous variables are also reported. The P value of less than 0.05 was considered statistically significant.

Results

In this study, 40 participants were assigned in the experimental and the control group (n=20 per group). In both the experimental and the control groups, there were 4 female and 16 male: in each group, 11 of them were using methadone and 9 of them opium tincture.

Table 2 presents the mean and the standard deviation of the pre and the post-intervention scores in the experimental and the control groups. To compare the differences between the scores of the pre and the post-intervention of the irrational beliefs test, MANOVA was utilized. The results can be seen in Table 3.

Table 2. The mean of the pre and the post-intervention scores in the groups

Irrational Beliefs	Experimental Group		Control Group	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Demand for approval	35.05 ± 4.96	31.61 ± 4.84	31.75 ± 3.64	31.55 ± 4.74
High self expectation	36.11 ± 4.52	30.77 ± 7.15	32.20 ± 4.42	31.75 ± 5.29
Blame proneness	38.16 ± 5.61	37.94 ± 4.65	30.75 ± 4.43	31.95 ± 4.90
Frustration reactivity	36.22 ± 4.23	32.61 ± 4.07	31.05 ± 4.08	30.05 ± 5.37
Emotional irresponsibility	39.61 ± 6.10	38.88 ± 4.75	32.45 ± 6.27	30.80 ± 6.07
Anxious overconcern	34.55 ± 5.02	31.22 ± 6.73	30.15 ± 3.96	30.35 ± 3.99

Problems avoiding	32.77 ± 3.28	32.0 ± 5.56	31.45 ± 5.70	32.0 ± 6.33
Dependency	39.27 ± 4.04	38.0 ± 4.27	32.35 ± 5.14	32.30 ± 6.02
Helplessness for change	34.72 ± 5.31	31.55 ± 6.11	30.25 ± 5.16	31.10 ± 3.75
Perfectionism	31.83 ± 6.37	28.33 ± 6.38	31.40 ± 2.72	30.95 ± 3.69

Table 3. The comparing the differences between the scores of the pre and the post-intervention

Effect	Test	Value	F	Hypothesis df	Error df	P	Eta Squared
Group	Wilks' Lambda	0.50	2.92	9	26	0.01	0.50
Group* Drug	Wilks' Lambda	0.72	1.13	9	26	0.37	0.28
Group* Sex	Wilks' Lambda	0.58	2.06	9	26	0.07	0.42

According to the F value for the effect of the group (2.92), it can be mentioned that at least there is a significant difference between the two groups. Therefore, to understand which changes in which factors are significant, one-way ANOVA was used for each of the irrational beliefs in tests of between-subjects effect (Table 4). In addition, the results in Table 3 reveal that the interactions between drugs and the groups as well as sex and the groups were not significant. It means that the sex and the drugs variables did not have any effects in the experimental intervention.

Table 4. Tests of between-subjects effects

Irrational I beliefs	SS	df	MS	F	P	Eta Squared
Demand for approval	96.80	1	96.80	7.21	0.01	0.17
High self expectation	223.23	1	223.23	9.69	0.004	0.22
Blame proneness	27.32	1	27.32	0.93	0.34	0.02
Frustration reactivity	73.97	1	73.97	5.00	0.03	0.12
Emotional irresponsibility	9.26	1	9.26	0.43	0.51	0.01
Anxious overconcern	109.51	1	109.51	4.77	0.03	0.12
Problems avoiding	13.82	1	13.82	1.01	0.32	0.03
Dependency	16.11	1	16.11	1.00	0.32	0.03
Helplessness for change	13.82	1	13.82	1.01	0.32	0.03
Perfectionism	77.29	1	77.29	4.21	0.04	0.11

The results in table 4 indicate that there is a significant difference between the pre-test and the post-term in terms of “the need of demand for approval”, “high self-expectation”, “frustration

reactivity”, “anxious overconcern”, and “perfectionism”. It means that metaphor therapy has significantly affected those five sub-scales of the irrational beliefs ($P < 0.05$).

Discussion

The present study was a modest attempt to investigate the effectiveness of the individual metaphor therapy in reducing the irrational beliefs of the drug addicts being treated with Methadone and Opium Tincture. The results revealed that this intervention is effective in reducing “the need of demand for approval”, “high self-expectation”, “frustration reactive”, “anxious overconcern”, and “perfectionism”. These findings are in accordance with the previous finding regarding the effects of metaphor therapy in reducing mental problems and improving the mental health factors (10,14-18,21, 22,25,26).

To support the idea that metaphor therapy has significant effects in reducing the demand for approval from other people, it can be mentioned that the drug addict has been rejected from his family and the society due to drug abuse and its unpleasant behavioral consequences for a long time causing him to feel sinful. One of the factors that can reduce the burden of such guilt is that the behaviors of the addicts are approved by other people giving them enough justification for their abnormal behaviors which can help them to feel relaxed. The irrational beliefs get stronger if the drug abuse lasts longer which can become a part of an individual’s beliefs. Meanwhile, metaphor therapy can improve the personal growth and the self-acceptance of such people (15) leading to the promotion of their self-concept (17).

Generally speaking, addicts do not consider themselves as addicts for a long time and even deny this fact for many years. They further believe that they are strong enough and can do whatever they like despite of the fact that their health does not let them do many things. However, when they try to do some activities, they understand their inability which can lead to disappointment. In such cases, metaphor therapy weakens their defenses against such changes (19) and helps them in accepting the reality.

To explain this finding that metaphor therapy affects their frustration reactivity, we can say that addicts usually have high amount of hopelessness and low amount of sense of responsibility. They quickly get anxious when they face obstacles. By then, metaphor therapy can help such people through increasing sense of responsibility in self-

management (18).

It has also been clear that metaphor therapy is significantly effective in reducing anxious overconcern in drug addicts. Due to the family, social and financial conditions, the existence of high rate of anxiety in such patients is not abnormal. Metaphor therapy leads to a reduction in anxiety through distracting the patient’s attention from the past or future to the present time as well as highlighting the individual’s role in reducing their own problems (15).

Perfectionism, from the initial stages of the drug abuse, is one of the dysfunctional beliefs of the patients through using the words “always” and “never”. For instance, the addict says “It such an event did not happen, I would never get anxious and use drugs” or “there has always been some issues hindering my treatment”. Thus, metaphor therapy can reduce their perfectionism through improving the patient’s cognitive development (16).

On the other hand, the findings of the present study, based on the ineffectiveness of metaphor therapy in improving self-concept, which is in line with those of Powell et al. (11), revealed that metaphor therapy does not have significant effects in reducing beliefs such as “blame proneness”, “emotional irresponsibility”, “problems avoiding”, “dependency” and “Helplessness for change”. One of the reasons could be the inability of the contents of the stories and metaphors in conveying the messages. The second reason is the patients themselves as extending a metaphor depends on the willingness and the ability of the clients in using their imagination and visualization (10). By the same token, another reason could be the conditioning process for some of these beliefs have been conditioned classically due to the interference with the subsequent behavioral outcomes. For example, these patients have been always blamed for their mistakes causing them to retaliate in similar situations. Due to their self-esteem problems, they have always overestimated themselves in dealing with problems having the need to rely on other people. By the same token, their family and friends exacerbate such irrational belief through providing his needs. The dysfunctional model that has been utilized during the therapy sessions can be regarded as an important factor in reducing the role of metaphor therapy.

Finally, it should be mentioned that this study was conducted in only one city and the participants had different medical situations regarding the frequency of treatment periods and the recurrence of their sickness. Therefore, it is recommended that future

studies use larger population and try to select patients with the same frequency and treatment conditions. In addition, our study did not include a follow-up stage and it is better to have a follow-up for future studies. Due to the results of the study regarding the effectiveness of metaphor therapy in reducing half of the irrational beliefs of the addicts, this therapy is suggested be used for reducing the mental problems of such patients considering the special cultural norms of each country.

Conclusion

The results of the study revealed that individual metaphor therapy is significantly effective in reducing "demand for approval", "high self-expectation", "frustration reactivity", "anxious overconcern", and "perfectionism". However, this therapy does not have any significant effects in reducing "blame proneness", "emotional irresponsibility", "problems avoiding", "dependency", and "Helplessness for change".

Since metaphor therapy can neutralize patients' reactions without increasing their anxiety and help the patients through the creation of awareness or reframing their condition, it is suggested to use this therapy for cognitive restructuring.

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