

Abstract

Objective: The aim of this study was to compare the effectiveness of Marlatt's cognitive-behavioral intervention and group treatment based on change stages in recovery and relapse rates in male crack addicts. **Method:** In an experimental research design, 45 male patients were diagnosed as crack dependent on the basis of DSM-IV-TR criteria who were selected after detoxification through random sampling and divided into two experimental groups and one control group. The first experimental group received 16 ninety-minute sessions of group treatment based on change stages; the second experimental groups received 12 two-hour sessions of Marlatt's cognitive-behavioral intervention; and the control group was just kept under maintenance treatment and received no psychotherapy. The participants were assessed by structured interview and urine test, before treatment, after treatment, and after the 3-month follow-up. **Results:** The results showed that psychotherapy treatments contribute to recovery and reduction of relapse rates in the patients under methadone maintenance treatment. **Conclusion:** It seems that psychological problems and conflicts before addiction and during addiction can cause individuals to resume drug use. Therefore, psychotherapy can be effective in relapse prevention.

Keywords

Group Treatment Based on Change Stages, Marlatt's Cognitive-Behavioral Intervention, Recovery, Relapse Prevention, Crack

The Effectiveness of Marlatt's Cognitive-Behavioral Intervention and Group Treatment Based on Change Stages in Recovery and Relapse Prevention among Male Crack Addicts

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Introduction

Drug addiction has been defined as a high degree of negative consequences associated with drug use that are intensified every day (Sourizaei, Khalatbari, Kwikhayfarzaneh & Raisifard, 2011). The treatment of disorders derived from addiction is one of the important factors in relapse prediction. According to self-regulation theory, the degree of comorbidity of depression, anxiety, and negative emotions (such as anger and shame) brings an increase in drug use towards the reduction of negative emotions or the rise of positive emotions (Sandra, Brown, urnod & Ramo, 2004). In other words, one of the causes of addiction and relapse is negative emotions such as anger, anxiety, depression, and frustration that are often derived from interpersonal high-risk situations and are associated with high rates of relapse (Marlatt & Gordon, 1985). These emotional states may be triggered by primary interpersonal perceptions of specific situations or by response to environmental events. Other situations that involve an individual or a group (for example, interpersonal high-risk situations), especially interpersonal conflicts (struggle with family members) are often the result of negative emotions and can cause addiction relapse. In fact, interpersonal negative emotional states and conflicting situations are considered as stimuli to addiction relapse (Marlatt, Barrett & Daley, 1999). One's coping behavior towards high-risk situations is, in particular, determinant of a sort of crisis like relapse. Therefore, one who is able to effectively put coping strategies into use is at risk of relapse less than one who is not able to. In addition, those who successfully cope with high-risk situations experience a higher sense of self-efficacy. Conversely, people with low self-efficacy perceive themselves to lack the required motivation or ability to resist a high-risk situation of alcohol use (Ghorbani, 2008). Marlatt & Gordon (1985) believe that the past secrets of one's life is strongly associated with risk of relapse, which implies a degree of balance between perceived external demands (for example, dos) and internal enjoyable or satisfying activities (for example, needs). A person whose life is full of various demands experiences constant stress, and not only is prone to oozing negative emotional states, but he/she desires for taking pleasure and thinking that he/she has the right to use too much of drugs. In the absence of pleasurable alcohol-related activities, the individual selects drinking just for pleasure or relief from the pain; therefore, addicts view return to drug use as the only way to deal with these negative states. Accordingly, addicts should be helped to find ways to deal with temptations and negative mood states. All models of treatment and relapse prevention assign importance to the identification of factors associated with relapse. The identification of risk factors enables the patient to prevent catastrophic relapse of drug abuse. To this end, it is needed to address addiction treatment with a multifaceted approach. As well, cognitive risk factors and inefficient attitudes towards drug use should be seriously regarded and examined.

Some researchers believe that detoxification alone cannot help patients, but they need psychotherapeutic and motivational interventions. Treatment should be concentrated on strengthening the person's sense of control and mastery, especially through proper planning for opportunities and training coping strategies (Lewis, Dana, & Blevins, 2006). Regardless of how the problem has come into existence, people should learn to take responsibility for solving their problems through behavioral techniques in such a way that they do not have to chide themselves for the start of addiction (Marlatt & Gordon, 1985). One of the first steps in the treatment of addicted patients is to teach them to accept responsibility. The strong point of this approach is that the patient should use all his/her ability to bring about changes in his/her environment. Marlatt & Gordon (1985) emphasize the view that the pathology of addiction can be considered quite differently from the factors related to treatment and recovery process. The essential element of each treatment program is relapse prevention whose approach encompasses two major axes: The first one is focused on training coping skills and the identification and functional analysis of the high-risk situations that lead to drug use. The acquisition of these skills helps people deal with high-risk situations. The second axis is to increase the perception and understanding of the clients from drug use pattern, which can play an important role in relapse prevention. In relapse prevention model, the emphasis is placed upon coping with the relapses and minimizing their negative effect. The enjoyment of such insights helps clients learn that relapses are effective in sustaining their motivation to achieve long-term goals; this perspective is mainly known as a learning process (Marlatt, Blume & Parks, 2004). If clients fall into the pessimistic marsh of unhealthy attitudes, they may reject the principle that relapse prevention entails hard work and they may be steeped in pathos and express impatience towards the slowness of treatment. These conditions lead to depression, chronic fatigue, loneliness, sadness, anger, and feelings of shame and guilt that often underlie relapse (Sorensen, 2005).

Thus far, several different cognitive-behavioral models have been created in the area of addiction. Results of a survey showed that management of drug dependence accompanied by community strengthening approaches or relapse prevention approaches; and relapse prevention accompanied by medicinal therapy are among the most successful treatment methods in patients with concomitant disorders. Cognitive behavioral therapy is one of the most commonly referred and successful treatment methods for addiction-related problems such as alcohol drinking, cocaine use, dependence upon narcotic drugs, and other psychiatric disorders (Marlatt & Witkiewitz, 2005). The Trans-theoretical Model is based on research conducted by Prochaska, Diclemente & Norcross (1992) which is founded upon Bandura's social cognitive theory. This model consists of five stages of change: 1) Precontemplation: no problem is seen here. 2) Contemplation: the problem here is seen and the necessity of action is considered. 3) Preparation: objective plans

are designed for immediate action. 4) Action: people act towards change. 5) Maintenance: measures are taken for the maintenance of change. Prochaska & Diclemente (1984) also identified 10 special processes of change that enable people to move from one stage to the next. They are considered as the engine of change. These processes are known as the engine of change and are categorized into two groups. The first one constitutes the experimental procedures that focus on internal thought processes and on how persons see their positions. These processes share the most correspondence with the initial stages of change. The second group are the behavioral processes that concentrate on behavior and action and are of more importance to next stages of change. In the trans-theoretical approach, personal sufficiency has been also evaluated through the inspection and assessment of the extent of clients' temptation into involvement in a problematic behavior. Studies on alcohol abusers have shown that participants are less tempted to drink alcohol on the threshold of change stage and enjoy higher trust and confidence compared to the patients in primary stages. In a three-year follow-up, the participants whose confidence were more than their temptation were significantly less likely to slip back into alcohol use (cited in Velasquez & Crouch, 2013). According to these findings, the research question in this study was formulated as follows:

Are Marlatt's cognitive-behavioral intervention and group therapy based on change stages effective in recovery and relapse prevention in male crack-dependent patients?

Method

The present study is an applied one with an experimental design. The population of the study consisted of 163 addicted patients who had referred to the rehab clinic entitled Sun's Population of Tehran, from March 21, 2011 to June 21, 2011. Of the population, 45 clients were selected through purposive sampling with regard to inclusion criteria that were as follows: 1) Abstinence from substance use before arrival to treatment program for at least 1 week; 2) Early diagnosis of substance dependence based on DSM-IV-TR criteria; 3) No regular psychotic medication on the arrival to the treatment program; 4) Placement in the 18-60 age group; 5) Holding at least primary education. Exclusion criteria in this study were: 1) Suffering any psychotic or bipolar disorders; 2) Suffering severe medical condition which prevents the client's participation; 3) Simultaneous participation in other health programs. The selected sample was divided into three 15-person groups, i.e. two experimental groups and one control group.

Instrument

1. Opiate Therapy Index: It is a structured interview for the comprehensive assessment of opiates. The main objective of developing this instrument was to

provide a comprehensive set of standardized and comprehensive measures to assess the treatment of opiate-related diseases. There is some evidence that the problems associated with opioid use are relatively independent; therefore, the measurement instruments must include such heterogeneity in their structure (Dabaghi, 2006). This index contains five sections for the assessment of persons dependent on narcotic drugs and other addictive drugs and is completed in the form of interview with addicts by the therapist. In a study on Iranian samples to check the validity of this index, 30 patients under treatment completed it. The resultant Cronbach's alpha coefficients were 0.81, 0.69, 0.53, 0.71, and 0.75 for injection and high-risk sexual behaviors, social functioning, crime, health, and psychological adjustment, respectively. As well, test-retest reliability at a two-week interval was calculated for different scales. The resulting values were obtained 0.84, 0.85, 0.81, 0.73, and 0.76 for opioid abuse, high-risk sexual behaviors, social functioning, crime, and health status, respectively. These values were indicative of significant coefficients. Similarly, the questionnaire was completed by 30 wives of addicts concurrently to examine the correlation coefficients and concluding values were 0.89, 0.83, 0.91, and 0.73 for opioid abuse, injection and high-risk sexual behaviors, social functioning, and criminal behaviors, respectively. The consistency between the results of 40 urine samples and the patient's report to check the accuracy of the reported cases was reported. The relevant consistency was obtained 0.85 (Dabaghi, 2006).

2. Urine test: This test was randomly given to patients without information once a week up to three months after detoxification and once every 15 days afterwards by means of morphine, amphetamines, and cannabis kits.

Results

In the intervention group based on change stages, 66.7% were married and the remaining 33.3% were single. Marital status for other groups was as follows: In Marlatt's intervention group, 60% were married and 40% were single while 46.7% were married and 53.3% were single in the control group. In terms of education level, 66.7% held diploma degree or lower and 33.3% held higher degrees than that in the intervention group based on change stages; 53.3% held diploma degree or lower and 46.7% held higher degrees than that in the intervention group in Marlatt's intervention group; and 60% held diploma degree or lower and 40% held higher degrees than that in the control group. Also, 40%, 60%, and 53.4% of the participants in the group treated with change stages, Marlatt's group, and the group under methadone treatment had from three to five avoidance attempts, respectively. Only 13.3% of the participants in the treatment group had experienced from six to eight avoidance attempts. Descriptive statistics of opioid therapy index separate groups and test procedures are given in the table below.

Table 1: Descriptive statistics of opioid therapy in terms of groups and test procedures

<i>Groups</i>	<i>Pretest</i>		<i>Posttest</i>		<i>Follow-up</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Experimental1	29.66	4.67	22.60	2.87	23.06	2.34
Experimental2	29.47	4.75	23.60	3.25	25.33	3.33
Control	31.13	4.62	29.93	3.17	32.53	2.06

Repeated measure ANOVA was used to evaluate the effectiveness of interventions as follows.

Table2: Results of repeated measures ANOVA for assessing the effectiveness of interventions

<i>Source of variance</i>	<i>Sum of squares</i>	<i>df</i>	<i>Mean square</i>	<i>F</i>	<i>P</i>
Group	956.86	2	278.43	23.533	0.0005
Group error	854.10	42	20.33		
Time	504.52	2	252.26	24.603	0.0005
Time error	612.09	84	7.29		
Time & group interaction	275.41	4	68.85	9.449	0.012

As it is observed in the above table, group effect was significant. In other words, interventions have been effective. Then, Scheffe's post hoc test was used for the binary comparisons. The results showed that there was a significant difference between the experimental groups and the control group. However, no significant difference was found between the two experimental groups. In other words, the interventions have caused the improvement of both experimental groups.

Chi-square test was used to examine the difference in relapse rates as follows.

Table3: Cross table of the test results evaluating the effectiveness of interventions on relapse rates

<i>Result</i>	<i>Experimental1</i>	<i>Experimental2</i>	<i>Control</i>	<i>Chi-square</i>	<i>P</i>
Avoidance	14	13	8	7.910	0.019
Relapse	1	2	7		

As seen in the above table, a lower percentage of participants in the experimental groups had relapse and this difference was significant (Chi-square=7.971, $P < 0.05$).

Chi-square test was used to compare the relapse rates in posttest as follows.

Table4: Results of the cross table in the follow-up to assess the maintenance of effectiveness of interventions on relapse rates

<i>Result</i>	<i>Experimental1</i>	<i>Experimental2</i>	<i>Control</i>	<i>Chi-square</i>	<i>P</i>
Avoidance	13	11	4	12.668	0.002
Relapse	2	4	11		

As seen in the above table, a lower percentage of participants in the experimental groups had relapse and this difference was significant (Chi-square=12.668, $P<0.01$).

Discussion and Conclusion

This study was an attempt to explore the effectiveness of group therapy based on change stages and Marlatt's cognitive-behavioral therapy in the rate of recovery and relapse prevention in crack dependent patients (compressed heroin) compared to the patients under maintenance with methadone. The research findings showed that both group therapy based on change stages and Marlatt's relapse prevention have been effective in the improvement and reduction of relapse rates in crack dependent participants. These results are consistent with the research findings of other researchers (Golestani, 2008; Dabaghi, 2006; Goudarzi, 2008). These studies have shown that medication alone cannot fully treat drug addiction and psychological interventions are an important part of treatment for drug-dependent persons. In other words, the people who had received these training programs experienced a significant decrease in slipping back to drug use compared to the control group. This result indicates the effectiveness of psychotherapeutic interventions based on cognitive-behavioral tenets and the increase of feelings of self-efficacy in the clients (Ouraki, Bayat & Khodadoust, 2013; Dabaghi, 2006; Ranjbar Nousahri et al., 2013). The interventions based on change stages and Marlatt's relapse prevention enable the patients to prevent catastrophic relapse to drug abuse by means of active awareness-raising about individual attractions and desires and wrong beliefs in terms of substance use and also about negative mood states and stressful situations; and the identification of risk factors. No statistically significant difference was found between the impacts of the two interventions used in this study on the treatment of drug abuse and reduction of relapse that can be due to the fact that both of the approaches create motivation, increase social support and coping skills in dealing with the problems associated with drug use.

The change of patients' lifestyle is one of the other factors effective in relapse prevention. The imbalance between demands, addicted friends, type of life enjoyment, and distance from the normal life are the factors orienting one towards drug use.

Clients need to make changes into their lifestyle. The patients who have managed to make positive changes into their personal lifestyle through filling

the emptiness left from drug use and replacing it with healthy and enjoyable activities, have a greater chance to have a successful treatment. They participate in sports and fitness programs, retreat from their friends, avoid keeping substance in different places, and spend time doing work and leisure (Lewis, Dana, & Blevins, 2006, 2006; Bayat, 2012). The increase of self-efficacy in participants can be a sign of the effectiveness of this method since, according to experts, self-efficacy is one of the mechanisms of healing. Therefore, the more one enjoys self-efficacy, the more possible he/she receives success in treatment (Schemitt, 2003). On the other hand, as Bandura (1999) has stated, those people are able to overcome their craving for drug use who enjoy high self-efficacy judgments and see themselves more capable in the face of problematic issues.

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