

Research Paper: The Effectiveness of Cognitive-Behavioral Group Therapy on Craving and Relapse in Addicts with HIV



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ABSTRACT

Background: Today, one of the most important public health problems in the world is the unpleasant consequence of substance abuse disorders. This study was aimed to investigate the effectiveness of cognitive-behavioral group therapy on craving and relapse among addicts with HIV in the Kermanshah city.

Methods: The research design was quasi-experimental with the control group and post-test pretest. The statistical population was the addicts with positive HIV in Kermanshah City and 20 people were selected using the J Power sampling method based on the sample size formulation and were divided into experimental group (n=10) and control group (n=10). The experimental group received 10 sessions of cognitive-behavioral group therapy. Pretest and post-test of Wright's Relapse Prevention Scale (RPS) (1991) were used. Data were analyzed by using the covariance method with SPSS-23.

Results: The results showed cognitive-behavioral therapy reduced the desire and risk of recurrence in the experimental group compared to the control group at the level $p < 0.001$.

Conclusion: The results showed the importance of cognitive-behavioral group therapy to reduce craving and relapse addicts with HIV. Therefore, depending on the importance of complementary aspects of drug therapy, psychological therapy may enhance addiction psychological problems.

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Introduction

Acquired Immunodeficiency Syndrome (AIDS) is disease of body infected with human immunodeficiency virus (Human Immunodeficiency Virus: HIV) caused by cellular and humoral immunity dysfunction [1]. The virus was first diagnosed by gay men in 1981 and HIV affected more than 70 million people worldwide. About 90% of those infected live in developing countries and 80% have been diagnosed with sexual intercourse. It is the cause of death more than 25 million people in 2006. This disease was commonly referred to as destructive pandemics and is estimated to account for 6% of the world's population living with HIV infection [2,3].

It is most important in worsening the situation of people with AIDS and its transmission, unprotected sexual intercourse with the same sex or opposite sex or sex with multiple partners and injecting the drug with shared needles into this disease. The majority of cases of HIV infection in Iran (approximately 62 percent) were ingested by drug users [4,5].

AIDS is a challenge and a major threat to health, social, cultural, political and economic consequences for human societies around the world [6]. The prevalence of HIV in Iran is less than 1% over 5% in the general population and high-risk groups such as some injecting drug users [7]. The most important factor in the spread of the disease is intravenous drug abuse. The drug addiction phenomenon is not only causing many problems, abnormal society but also causing many problems. Bloodborne viral diseases, especially HIV, hepatitis B and hepatitis C, are common among drug users who inject drugs with undesirable effects and their severity [8].

Addiction is the disease of biology, psychology and society. Research has shown that the mechanism of addiction is affected by the beliefs and attitudes of patients [9]. The culture which interacts with each other is influenced by several factors leading to drug abuse and addiction. Understanding all causes and factors results in a systematic strategy for prevention, diagnosis, treatment and follow-up [10]. Therapeutic goals emphasized on three occasions of physical dependence on drugs, emotional dependence and decreased non-physical effects associated with drug abuse such as anxiety, depression, and quality of life and eventually avoidance of recurrence of diseases [11]. Cognitive-behavioral group therapy is non-drug therapy. Through several clinical studies, cognitive-behavioral group therapy has been recommended for abusers with clinical and evidence-based efficacy [12]. The results

clearly showed that cognitive-behavioral group therapy is effective in solving depression and distress issues and can be used in the treatment of addiction and is also effective in reducing relapse and reduce drug addicts [13].

Many studies have shown the most important cognitive-behavioral patterns of intervention in drug treatment and their efficacy. Hides and colleagues [14] investigated among 60 cases of substance abuse and depression. They had 20 weeks of cognitive-behavioral interventions and it was found that the experimental group showed significant improvements in depression, anxiety, substance abuse and coping skills compared to the control group, but its focus on modifying thoughts and understanding in some of them made it possible for clients to challenge their thoughts. This approach has also emphasized metacognitive patients. The development of new methods to overcome these problems seems necessary [15]. Cognitive-behavioral therapy involves use of practical strategies and specific cognitive and behavioral [16,17].

In a study done by Imani and et al (2012), which entitled as "study of effectiveness cognitive group therapy in relapse prevention among substance abuser" showed that group counseling with cognitive-behavioral approach was effective in reducing the rate of relapse of addicts to addiction (relapse) [18].

Similar results were also shown in other studies that cognitive-behavioral therapy is effective in reducing drug addicts' recurrence [19-24].

Cognitive-behavioral group therapy focused and helped drug abusers identify high-risk situations of substance abuse and time-needed to avoid these situations and eventually problem behaviors related to drug issues [25]. Different techniques were used in the cognitive – behavioral therapy.

In this method, behavioral techniques include primarily methods of avoiding situations or modifying the response to such stimulus. Use of muscle relaxation techniques when severe anxiety instead of using fresh ingredients and provide reinforcement and other techniques treatment is appropriate. Using cognitive techniques, detecting and identifying thoughts and faulty thoughts leads to substance and trying to instead substitute good thoughts. The patrons are taught techniques that look at relationships and situations with new perspective [26].

Over the past few years in the field of clinical significance as important factor in the etiology of mental disorders, prognosis and treatment of the patient's vulnerability and the chronicity of symptoms and signs associated

with disease recurrence [27]. Since the failure of traditional therapy in opiate abusers usually due to medical and psychological comorbid disorder in these patients has high cost of health care therapeutic. The results of this study can provide valuable information on traditional addiction specialists [28]. Conducted researches on specific aspects of rehabilitation have been considered given the prevalence of mental disorders among drug addicts with more than the general population and are the main reason for their recurrence to this violence. Despite studies in the above fields, we have different types of treatment in the treatment of mental disorders, but work on the effectiveness of this approach has not been done to reduce cravings and relapses in AIDS patients.

The above findings may suggest the importance of the focus of this study on the effectiveness of cognitive-behavioral therapy in reducing the rate of temptation and recurrence of drug use in addicted people with HIV and since less work has ever been done to treat HIV-infected people's addiction, the importance of this study is doubled. Therefore, this study was aimed to determine the effectiveness of cognitive behavioral group therapy on craving and relapse in addicted patients with HIV-positive.

Methods

The research design was quasi-experimental with pre-test-posttest and control group among addicts. The population in this study included 150 addicts who were HIV-positive in 2014 and referred to HIV-positive association in Kermanshah city and detection of both the addiction and HIV were identified. Then 20 people were selected based on the sample size formulation by using J Power software by sampling method and were assigned into experimental group (n=10) and control group (n=10). The sample has been chosen among the

patients who had active health files to the HIV-positive association in Kermanshah. The subjects were randomly selected among HIV-positive association but replacement of the group was randomly. At first sample of 30 patients were selected, but given the lack of cooperation of people, eventually 20 people were randomly divided into two groups of 10 people. In order to homogenize the selection of groups, characteristics such as age, education and gender were applied to a certain extent.

This inventory has 45-item which was developed by Wright et al and it can be used to measure the craving rate and the possibility of drug abuse in the addicts. The main form of this inventory has 50 items that every item involves situations which usually provoke propensity to consume cocaine or crack. The range of the inventory scores varies between zero and 180. Asghari, Poorshahbaz and Farhoudian [29] have reported the Cronbach's alpha of this test as 0.87. In this study, Cronbach's alpha was 81% which indicates good reliability. According to experts, this inventory has content validity [30].

In order to confirm diagnosis of HIV, disease diagnosis data was in HIV-positive association in Kermanshah. To addition to the data in the patient records, substance abuse diagnostic kits were used for the diagnosis of addiction. After selecting subjects and approval from them for research and after assignment the patients into experimental and control groups, relapse inventory and variables temptation in both groups were measured (pre-test), then the independent variable (group therapy and cognitive-behavioral) in the experimental group were exposed and the control group did not receive any instruction. At end of intervention, variables were measured again and craving and relapse prediction (post-test) and then data were analyzed with standard deviation, mean and multivariate analysis of covariance by SPSS-23.

Table 1. The cognitive-behavioral group therapy protocol

First session	Research objectives, rules Group, responsible members of the group and pretest
Second session	The introduction of cognitive - behavioral therapy, providing the rationale for assignments backyard raising hopes motivation and commitment to the cessation of drug patients
Third session	Identifying and dealing with drug-related thoughts
Fourth session	Identifying the signs and triggers the desire for material. Identification of suppliers understanding of the role of communication in personal and social life
Fifth meeting	Refusal skills training products - difference between the response of passive, aggressive and predatory dare - talk about responsibility
Sixth session	Talking about arising of responsibility, identification of strengths and weaknesses - learn and practice refusal skills Materials
Seventh session	Discussing about methods to communicate with members - practical training in the group (working with model ABCD)
Eighth session	Talking about irrational thoughts irresponsibility emotional predict dangerous situations
Ninth session	Developing a sampling plan discussion of helplessness in the face of change
Tenth session	Reviewing the application and provide feedback on the progress of treatment goals and the run the post-test then analyzed in multivariate analysis of covariance

The intervention of separate meetings and goals are provided in Table 1. 45-minute sessions 10 sessions of cognitive-behavioral group therapy based on the theory that cognitive-behavioral treatment program by Edinger, Olsen, Stechuchak, Lineberger, Kirby, Carney[31] and Beck’s cognitive model [32] was used.

Results

A total of 20 drug abusers with HIV have been selected and studied. The mean age was 15.45 ± 46 that the oldest of them had 52 years old and the youngest was 23 years old.

Table 2. Descriptive data craving scores in the experimental and control subjects

		Experimental		Control	
	dependent variable	Mean	Standard deviation	Mean	Standard deviation
Pretest	Craving	53.6	2.41	54.3	1.64
	relapse rate	54.8	2	55.7	4.6
Posttest	Craving	30.8	4.1	50.9	4.1
	relapse rate	31.5	4.4	55.7	4.6

The mean of each of dependent variables in intervention before experimental group was 53.6-54.3 and this rate for the control group was 54.3- 55.7. The mean of experimental group after cognitive-behavioral therapy intervention in “craving” subscale in posttest 30.8 and subscale of “relapse” is in 31.5 after intervention. The control in subscale of “craving” in the posttest was 50.9 and relapse rate is 53.4.

Levene’s test showed that since the significance level is greater than p<0.01, therefore, there was no significant

differences between two groups in terms of variance.

Firstly the homogeneity of slopes of pretests and posttest scores were calculated in order to evaluate the presumptions of the analysis of covariance (ANCOVA).. Multivariate ANCOVA was used to compare experimental and control groups with respect craving and relapse scores. The results showed that the tests were significant (P<0.01). This means that there was a significant difference at least between two groups. The results are shown in Table 3.

Table 3. Results of multivariate analysis of covariance for mean scores of post-test of variables in two groups

	Value	F	Hypothesis df	Error df	Sig	Square Eta
Pillai’s trace	0.74	15.41	19	2	0.001	0.74
Wilks lambda	0.29	15.41	19	2	0.001	0.74
Hotelling’s trace	4	15.41	19	2	0.001	0.74
Roy’s largest rot	4	15.41	19	2	0.001	0.74

ANCOVA was carried out to determine the observed difference. Considering the calculated effect size, 74% of total variances of experimental and control groups was the result of effectiveness of the independent variable. Moreover, statistical power of the test was 0.80 which means that the test was able to reject the null hypothesis with a power of 74%.

Table 3 also reports that the difference between experimental and control groups is significant in one of the areas. Multivariate analysis of covariance (MANCOVA) was used to distinguish which area was significantly different. The results have been shown in Table 4.

Table 4. Results of multivariate analysis of covariance of effects of group membership on craving in the post-test

Pre-test	Craving	1	787.35	8.6	0.006	0.21	0.81
	Relapse rate	1	5059.51	65.06	0.001	0.67	1
Cognitive behavioral therapy	Craving	1	1124.7	12.3	0.01	0.43	0.99
	Relapse rate	1	1669.9	19.7	0.001	0.55	1

Results of Table 4 shows that remaining differences between the mean scores at post-test of experimental and control groups in craving and relapse are significant (p<0.001). It is concluded that cognitive-behavioral group therapy significantly reduced craving and relapse in the experimental group than the control group.

The effect of this intervention on craving 0.43 and the relapse rate was 0.55 which this means that the variance in scores craving 0.43 and 0.55 of variance in scores on cognitive behavioral group therapy was relapse rate resulting from membership. Statistical power analysis revealed that both statistical precision of

this test were high.

Discussion

The results showed that cognitive - behavioral group therapy reduced the craving and relapse in experimental group compared to control group. The findings of this study showed that cognitive - behavioral group therapy changed in psychological dimensions of addicted patients with HIV. These findings were consistent with the results of Coon, Pena, Illich[33], Gladwin, Rinck, Eberl, Becker, Lindenmeyer, Wiers[34], Delgado, Gore, Ali, Ekers, Gilbody, Gilchrist, McMillan, Hughes[35], van Emmerik-van Oortmerssen, Vedel, van den Brink, Schoevers [36], Heijnen, Mumtaz, Abu-Raddad[37].

Indeed addiction, physical , psychological illness and not only are factor, interpersonal and social, but it also triggers other illnesses. Researchers and experts believed that the pattern of HIV in Iran is different and has been estimated that 31% of Iranian cases have AIDS through drug injection. According to the World Health Organization injecting drug use is the most important route of HIV transmission in Iran [38].

On the other hand, as drug therapy has been observed in the treatment of patients with relapsing disorder, so psychological approaches, particularly cognitive approach-by reconstruction of cognitive behavioral is ideal approach.

Although the symptoms of addiction such as drug therapies have positive effect but they are not able to change the negative feeling and individual's role. Psychological intervention focused on rectification of documents, challenging irrational beliefs, relaxation, coping skills training including treatment strategies based on cognitive- behavior approaches which negative emotional consequences of substance abuse discount it and also increase the level of adherence help to treatment recommendations. In the treatment of drug abusers, they are taught to accept their experiences and to the extent that they can accept and endure this experience. The researchers believed that the use of cognitive behavioral therapy techniques could increase effectiveness of treatment. So, for increasing of psychological flexibility, cognitive therapy can treat the patient's ability to fight temptation and cope with withdrawal symptoms as the main indicator in these patients [39].

An important component of addiction treatment is to

stop the temptation cycle. In the addiction cycle, the double-sidedness and the compulsion of the individual act through the conditioning system and it plays an important role in denying or accepting a person's addiction. Stimulus, emotions and temptations can go on together during addiction. The normal dependency cycle is as follows: the stimulant leads to drug thought, which in turn leads to temptation and ultimately leads to consumption [40].

In a high-risk situation if a person is able to respond to an effective coping (such as showing courageous behavior in relation to social pressures), the possibility of relapse is reduced. A person who acts effectively in a high-risk situation is more likely to have a sense of control or a sense of control. Positive monitoring of the problem situation is often expected to increase perceptions of positive coping, self-esteem, control perception and decrease the risk of recurrence. The inability to deal effectively with the stressful situation and the drug's positive expectation significantly increase the possibility of initial slip after cessation. Risky situations threaten self-control and provide relief. These do not always lead to relapses, because reuse is often adjusted to the attitude of the individual to the ability to cope with the drug or to manage the position .

Conclusion

The use of self-reporting tool, reporting more or less than the actual size of symptoms and disorders can be listed as limitations of this study as well as the non-generalization of these findings to HIV-addicted women. It is proposed that the findings can be used in drug facilities to address the physical and psychological effects of bio-treatment leading to both treatment and recovery. The findings of this study showed the importance of cognitive-behavioral group therapy for addiction and relapse in order to reduce HIV transmission.

Ethical Considerations

Compliance with ethical guidelines

This study was approved in Ethics Committee of Kermanshah University of Medical Sciences with the code IR.KUMS.REC.1396.303.

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Authors' contributions

Study design: Nahid Dehghan Sarvolia, Akram Dehghani; Data collection and analysis: Nahid Dehghan Sarvolia, Akram Dehghani; Manuscript preparation: Nahid Dehghan Sarvolia, Akram Dehghani.

Conflict of interest

The authors declared no conflict of interest.

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