

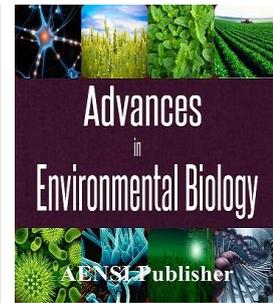


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### Investigating the Effect of Group Cognitive Behavioral Therapy on Sleep Quality in Drug-Dependent Women

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#### ABSTRACT

The present study aims at investigating the effect of group cognitive-behavioral therapy on sleep quality in drug-dependent women using a quasi-experimental design. In a quasi-experimental research project, 14 participants of drug-dependent women who had finished successfully their detoxification period in Dana Abuse Therapy Center in Bam City, were selected as the experiment group based on some criteria and a number of 15 participants were selected as control group among these drug abusers based on some criteria had been matched with this group. The experiment group were treated during eight 1.5 hour sessions by the cognitive - behavioral therapy group. For control group, the same sessions were considered, but in these sessions, no particular therapy was conducted on the participants. The studied participants were evaluated using the questionnaire of sleep quality before starting, at the end of intervention and after finishing the one month follow-up session. To analyze the data, descriptive and inferential statistical methods (ANCOVA) were used. The results of the research indicated that group cognitive-behavioral therapy can create a significant reduction in the scores of sleep quality in drug-dependent women. Therefore, it can be claimed that group cognitive - behavioral therapy has been effective on sleep quality of drug-dependent women.

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#### INTRODUCTION

Addiction is one of the most damaging social disorders in the world today and particularly in Iran. A lot of social crimes have direct or indirect relations with addiction. The existence of addicts in a society results in increasing the number of addicts [1]. The issue of addiction causes general effects on individuals in such a way that it can eliminate some of their beliefs and attitudes and create different physical and psychological disease and causes dismantling societies and family canons [3]. In recent years, a lot of studies about different methods of treating drug-dependency such as Methadone, detoxification and different effects of therapies have been conducted [18,10].

Drug-dependnet in most societies is considered as a problem of general health. This problem is a multifactorial disorder which most of the time has a chronic, relapsing and remitting circle. In Iran, the disorders of drug abuse after the events and disasters, cardiovascular diseases and depression is located in the fourth classification of diseases. Drug dependency and drug abuse is along with health problems, poverty, violence, criminal behaviors and social exclusion. Furthermore, the costs of healthcare and other costs due to the consequences of drug abuse have frequent social cost including the reduction of family productivity and income, violence, security problems, traffic and work events; it is related to financial corruptions. These costs result in staggering economic costs and unacceptable waste of human resources [13].

Group therapy sessions is the vital aspect of recovery from Addiction. Group therapy helps patients to encounter the fact, be aware of the negative results of abusing, reinforce their motivation for drug withdrawal, and the patients find suitable methods for solving their interpersonal and emotional problems without being forced to abuse drugs [12]. Regarding the fact that life quality and waking activities are inflicted greatly by

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individuals' sleep quality [11]. Therefore, the present study is to clarify this issue whether group cognitive-behavioral therapy is effective on sleep quality of drug-dependnet individuals?

*Theoretical framework:*

Addiction to drug as a social crisis, is a phenomenon which is called the "Ruinous Disaster" because its ruins cause the collapse of many cultural and moral values and norms and threaten the health of a society; in fact, every year, this disastrous crisis kills a lot of its victims [16]. Regarding the fact that drug addiction is considered as a chronic and relapsing disease and biological, psychological and social factors and conditions result in reconversion to abusing drugs after completing the detoxification period, it is necessary that addiction therapy centers, after the completion of detoxification period, during the time when the probability of relapse is high, keep the visitors' relationship with the therapy centers. Different studies indicate that the degree of relapse among the alcohol addicts and drug addicts is very high (Dally and Marlat, 1992 as cited in Islamdoust, 2007: 64).

In addiction psychology, drug addiction requires abusing drugs which in case of not taking them, particular states engender which sometimes are intolerable for addicts. Increase in drug abuse for creating the state or quality which is possible for the first time of abusing drugs, causes physical and psychological reliance which result in an effort to prepare it.

In medicine, instead of the term addiction, usually the word drug dependency is used and the addict is the person who is dependent to drug both psychologically and physically. Dependency is a psychological state that the individual enjoys and feels calmness and satisfaction. The mentioned dependency is the most important factor of regular consumption of addictive substances. Physical dependency refers to the compatibility state in the individuals' body and appears after regular abuse of substance in the body; in fact, the individual's body will be accustomed to it and in case of not abusing, some reactions such as physical pain occur."

The remaining symptoms due to drug withdrawal such as insomnia, bradycardia, disorder in body temperature and high tendency to abusing drugs may endure for some months after drug withdrawal. On the other hand, nightly insomnia can influence life quality in such a way that it can increase suffering from depression and anxiety and reduce the ability to cope with everyday stresses [6].

Most of the researchers has come to this conclusion that sleep has abalancing and restorative function; it seems that it has fundamental importance intemperature regulation and energy conservation. Since sleeping increase hunger, this stage may be related to satisfying the metabolic needs.

If one wants to be at psychologically good state have balance, he requires sleeping well. If he does not sleep well and sufficiently, he will encounter particular emotional consequences. Dysphoria is one of the commonest consequences of insomnia. In addition, insomnia causes anxiety and excitation. Sometimes individuals, due to insomnia, would be in a bad mood and sometimes would get depressed. Brain sleeps to compensate the insomnia and it causes the stimulation of the body to sleep [17].

Insomnia can causesleep disturbance to other family members. Insomnia can be problematic in other ways. In normal individuals, insomnia is not considered as a serious problem; consequently, the individuals suffering from this disorder are not sufficiently sympathized, while the same problem can influence family relationship. Individuals who sleep well, hardly can believe that you have not slept because they have slept well and assume that you as themselves have slept calmly. In this regard, there are another fact stating that family members have to tolerate the consequences of insomnia which are fatigue and bad mood [17].

Insomnia, in addition to individuals themselves, has a negative influence on the job quality and social life. The conditions and quality of individuals' life, i.e. from two aspects namely in terms of mental concentration and emotional factors. When one has passed a bad night due to insomnia, this issue influences the activity and life of the next day. In such conditions, the individual tries to fight with fatigue and it should be noted that the more one is aware of his fatigue, the more he will get tired. It should be said that there are less researches on the effect of insomnia on the work conditions and environment and consequently, there is not sufficient and suitable information in this regard. However, recent researches indicate that individuals suffering from insomnia are more absent at their work than those who have good sleep and insomniac individuals are present at their work more lately than the normal ones, or they leave workplace sooner than the due time because of lethargy and illness. Insomnia is economically costly. Insomnia has other costs. In clinical affairs, individuals have been observed that have lost their promotions and better jobs or have not accepted extra responsibilities because they have thought that if they have accepted a responsibility, they would not be successful in doing it. In fact, it can be said that drug dependency influence individuals' sleep quality and results in insomnia. There are ways and methods for treating insomnia, one of these ways is to use group cognitive-behavioral therapy for treating these individuals.

Applying group cognitive-behavioral therapy (CBT) in groups based on the particular requirements of therapists in each group is different, but all have common aspects. Group CBT is homogenous, its time is limited and relatively short and usually is constructed of two to three hour eight to twelve sessions. Group CBT emphasizes the structure, concentration and acquisition of cognitive-behavioral skills. Therapists clarify this

issue that the members of a group each are responsible in the advancement of therapy and determine tasks between sessions. The type of the tasks are compatible with each and every therapist individual. Each can take notes of his spontaneous thoughts and see how these thoughts are related to moods and cover behavioral tasks which fight with avoidance [18].

Investigating tasks is a key part of each group session and indicates a key difference between group CBT and the group exchange therapy in this regard that "cold process" of the client's function in home is replaced by the "hot process" which is the main characteristics of the group exchange therapy. In other words, the group gets concentrated on the client's descriptions of home actions instead of concentration on actions and exchanges here and now. Measuring the client's discomfort and advancement via self-report questionnaire provide constant feedback or support therapy or indicate that Reality therapy is required (ibid).

CBT group therapists use a set of strategies and techniques which are along with diverse combinations. Therapists apply these techniques and speak with the group about them. These activities divide therapists' problems into different parts and it is in this line that it prevents them from tending towards generalization, exaggeration and deviation (ibid).

#### *Review of literature:*

Aminnia *et al.* [2], in their research titled as "investigating the effect of group cognitive-behavioral therapy on the symptoms of insomnia in women with chronic insomnia" found out that group cognitive therapy with taking medicine is more effective on the symptoms of insomnia than only taking medicine.

Jarnft *et al.*, in their research investigated the effectiveness of group CBT on chronic insomnia in professional health forces and concluded that the variables of sleep of the participants including insomnia severity, inefficient thoughts in sleeping and physical and psychoanalytical symptoms had been significantly improved.

Aharonovich *et al.* [4], via investigating the cognitive performance of 56 cocaine-dependent individuals who for 12 weeks or more were under cognitive-behavioral treatment, found out that cognitive deviations predict less maintenance of cocaine-dependent individuals for continuing therapy. Therefore, behavioral and pharmacological interventions should consider cognitive deviations in order to improve drug-dependent individuals' therapy.

Ballenger *et al.* [5], in a research, to answer these questions "does effective management of sleep disorders reduce drug dependency?", concluded that cognitive behavior therapy or pharmacological therapy of sleep disorders can reduce the relapse in drug-dependent individuals.

Harvey *et al.* [8], in a research applied cognitive therapy in a group of insomniac individuals. The results indicated the significant improvement in night and day sleep problems in the post-test. The improvement endured for 12 follow up months.

Sivertsen *et al.* [15], in a study, compared the effect of CBT with Zopiclone Insomnia Drug for treating chronic primary insomnia in adults. The participants who were in three CBT, drug treatment with Zopiclone and placebo groups, during 6 weeks (6 follow up months) were under treatment. The results indicated that CBT had better results than Zopiclone. In this research, there was no difference between the group received Zopiclone and that which received placebo.

Regarding the role and importance of group CBT approach in improving and resolving drug-dependent women's problems and due to the importance which it has for individuals' attitudes and behaviors, the present study is to investigate the effect of group cognitive-behavioral therapy on sleep quality in drug-dependent women. Undoubtedly, paying attention to such an issue is the path of enriching literature of preventing relapse, addiction and the approach of group CBT and variables related to it. Therefore, based on the research conceptual framework, the present study is to answer the following hypothesis:

Is group CBT effective on sleep quality of drug-dependent individuals?

#### *Methodology:*

The population of the study consisted of all women visitors of Dana Methadone Maintenance Treatment Center (MMT) under the supervision of Bam University of Medical Sciences who had completed the detoxification period. Accordingly, the investigated sample included 34 drug-dependent women selected using convenience sampling. Among this sample, 17 participants, regarding the include criteria mentioned below, were put in the cognitive-behavioral group and the other 17 participants, regarding the mentioned criteria and some other criteria including marital status, the type of abused substance (drugs such as opium, heroine, and etc.) as well as the time of addiction same as that of experiment group, were put in the control group. In the present study, in the experiment group, 2 participants, due to taking hypnotic drugs and a participant due to not participating more than 3 regular sessions were excluded from the study. In addition, in the control group, 2 participants, due to unclear reasons, avoided to participate in methadone dream; as a result, the results of the research were obtained by investigating 14 participants in the experiment group and 15 participants in the control group. In the present study, to evaluate sleep quality in drug-dependent individuals, Pittsburgh Sleep

Quality Questionnaire was used. To analyze the data, descriptive and inferential statistics such as ANCOVA were used.

#### Research findings:

In this section, based on the provided data, the research questions are investigated and analyzed. In this section, ANCOVA test was used.

**Table 1:** the frequency distribution of group participants

	F	Percentage	Cumulative frequency
Experiment	14	48.3	48.3
Control	15	51.7	100.0
Total	29	100.0	

**Table 2:** comparing post-test of the sleep quality in the two groups with the pre-test effect control

Sources of variation	Df	F	P-value	effect size	Statistical power
Pre-test	1	19.249	.000	.425	.988
Group	1	16.769	.000	.392	.976
Error	26				
Total	29				

**Table 3:** comparing the follow-up of the sleep quality in the two groups with the pre-test effect control

Sources of variation	Df	F	P-value	effect size	Statistical power
Pre-test	1	16.442	.000	.387	.974
Group	1	12.136	.002	.318	.918
Error	26				
Total	29				

As observed in the results obtained from comparing the post-test of sleep quality in the two groups with controlling pre-test effect indicate that after participating in the sessions of group CBT, the scores of the drug-dependent women who were in the experiment group were significantly less than those of the drug-dependent women who were in the control group ( $F(1,26)=16.769, p<0.0005$ ). Regarding the fact that the higher scores in the sleep quality test indicate more sleep problems, the reduction in the scores of this test indicates an improvement in sleep quality. Therefore, group CBT is effective on the drug-dependent women's sleep quality.

After comparing the results of the post-test of sleep quality in the members of control and experiment groups, then, it is time to compare the results of follow up in these two groups. In this stage, using ANCOVA, the results of the follow up of participants' sleep quality in two groups by controlling the pre-test effect are compared. Before administering ANCOVA test, the assumption of homogeneity of variances of the variable of sleep quality in the follow up stage was investigated using Leven test. The results are reported in table 2.

As observed, the results obtained from comparing the follow up of sleep quality in the two groups by controlling the pre-test effect indicate that one month after participating in the sessions of group CBT, the scores of the drug-dependent women who were in the experiment group were significantly less than those of the drug-dependent women who were in the control group ( $F(1,26)=12.136, p<0.002$ ). Regarding the fact that the higher scores in the sleep quality test indicate more sleep problems, the reduction in the scores of this test indicates an improvement in sleep quality. Therefore, group CBT is effective on the drug-dependent women's sleep quality. To investigate the effect of group CBT on the prevention of relapse in drug-dependent women, Chi square test was used. Table 3 indicates the results obtained from this test.

#### Discussion and conclusion:

The first finding of the present study was obtained from the confirmation of the first hypothesis. This hypothesis claims that "group CBT is effective on sleep quality of drug-dependent women". Regarding the results, the significance of this hypothesis indicates that group CBT is effective on the sleep quality of drug-dependent women. The drug-dependent women in the experiment group who were under cognitive-behavioral therapy, in the post-test and follow up by controlling the pre-test effect, had better sleep quality than the control group. This finding is consistent with the results of the researches done by Aminnia *et al.* [2], Jarnft *et al.* [8], and Sivertsen *et al.* [15]. By these results, it can be found out the importance of psychological interventions in improving sleep quality. Unfortunately, the first step which people take in treating sleep disorders is drug therapy because it is both easier and fast-treating. This is while taking hypnotic drugs will engenders endurance after a while, it means that individuals should increase the amount of taking drugs to attain the previous results. Dependency and a kind of feeling lack of control on sleeping are other problems of taking hypnotic drugs.

The main mechanism involved in the effect of cognitive therapy is related to the deep effect which this method have on individuals' beliefs and attitudes regarding insomnia. Most individuals suffering from insomnia

have wrong thoughts and beliefs regarding sleep and insomnia and these thoughts result in the anxiety and consequently increase in the insomnia severity [2]. Cognitive therapy, by changing these beliefs and thoughts, causes the reduction of anxiety and sleep problems. Another important point is that when these therapies are conducted in group, they cause the creation of more motivation in individuals. Since a group consists of individuals with similar problems, by participating in group sessions, the members find out that other individuals have their problems and this awareness causes feeling comfortable for the members [2]. It seems that the other reasons of the effectiveness of these interventions can be the regular structure of the sessions of groups and the commitment of the members of groups to each other. Furthermore, using methods such as the methods of stop thinking, attention reversion and problem solving causes the reduction of the influx of negative thoughts during days and sleep time. On the other hand, training guidelines for reforming sleep and the principles of sleep health result in improving sleep quality.

Regarding the research findings, it can be stated that the arrangement of cognitive-behavioral therapy has better results in the treatment of drug abuse disorders with drug therapy. In addition, in the final conclusion, it should be stated that for improving sleep quality, it should not suffice drug therapies because using hypnotic drugs can create endurance after a while. It means that individuals should take more amount of drugs to obtain the previous results, while group CBT, via changing thoughts and beliefs, causes the changes in individuals' attitudes toward their sleep and feelings. When thought is changed, the quality and pattern of sleep are changed and improved. Therefore, as the previous 25 year researches indicate, it can be claimed that group CBT is one of the effective methods of improving sleep quality.

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