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Original Article

Effectiveness of Coping Skills Education Program to Reduce Craving Beliefs among Addicts Referred To Addiction Centers in Hamadan: A Randomized Controlled Trial

Mohammad AHMADPANAH [1], ***Mehdi MIRZAEI ALAVIJEH*** [2], ***Hamid ALLAHVERDIPOUR*** [3], ****Farzad JALILIAN*** [4], ***Mohammad HAGHIGHI*** [1], ***Ali AFSAR*** [1], ***Hassan GHARIBNAVAZ*** [5]

1. Research Center for Behavioral Disorders and Substance Abuse, Hamadan University of Medical Sciences, Hamadan, Iran
2. Dept. of Health Education, Faculty of Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran
3. Dept. of Health Education and Promotion, Faculty of Health and Nutrition, Tabriz University of Medical Sciences, Tabriz, Iran
4. Substance Abuse Prevention Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran
5. Dept. of Epidemiology, Faculty of Health, Tehran University of Medical Science, Tehran, Iran

***Corresponding Author:** Email: f_jalilian@yahoo.com

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Abstract

Background: One of the most important factors affecting relapse of addiction is craving beliefs of substance use. The goal of the present study was assessment of the effectiveness of coping skills education program to reduce craving beliefs among opium addicts.

Methods: In a randomized controlled trial, during September 2011 to August 2012, 70 opium addicted men referred to the Behavioral Disorders and Substance Abuse Research Center in Hamadan, western Iran were assigned to intervention group (receiving coping skills education program) and control groups. The study information was analyzed using SPSS software.

Results: Regarding craving beliefs for continuing drug use, the two groups had similar scales at the beginning of interventional program, while the level of these beliefs was significantly reduced in the intervention group (P= 0.002), but not in the control group (P= 0.105). Also, a significant correlation was also revealed between taking advantage of the educational program and increase awareness of the signs of relapse in the intervention group (P=0.003) that was not revealed in the control (P= 0.174). On the other hand, executing coping skills education program led to reduce craving beliefs and improve knowledge towards signs of relapse.

Conclusion: Our findings demonstrate positive impact of coping skills education program after detoxification process on decrease of craving beliefs among opium addicts.

Keywords: Addiction, Belief, Substance abuse, Coping, Iran

Introduction

Drug addiction is a major problem in society ruining the life and leading to use of national assets for combating addiction and its defects. Unfortunately, the number of addicts is gradually elevating that suffer from its physical, mental, cultural, familial, economical, as well as social consequences of addiction. Our community is prone to turning to substance use because of its especial

conditions such as cultural aspects, myths, and special geographical conditions (neighborhood with a large national producer of opium) (1). Addiction is a disorder with clinical, behavioral, and cognitive symptoms affected by social, psychological, biological, and pharmacological factors. Social factors are more affect onset of substance use and biological factors affects continuing its consumption (2). In this century, illegal smuggling of narcotics, psychotropic drugs, and substances has turned into a social crisis. Currently, more than 26 million annual deaths occur due to drug use worldwide ant it will rise to more than 40 million within next 20 years that more than a third of it will occur in developing countries (3). Addiction to legal and illegal drugs is widespread in the past few decades and now; nearly a thousand addictive drug, stimulant and sedative agents have been identified usable through various methods such as eating, smoking, injection and inhalation. Unfortunately, the statistics published by international organizations such as the UNDCP, UNESCO, WHO indicate the increasing use of this material worldwide and only difference between countries is the utilization patterns of these materials (4). Furthermore, one of the main challenges of behavioral scientists is high rate of relapse following drugs withdrawal that after withdrawal, the addicts has an intense desire to experience substance use again. This feeling may be observed a few hours after drug withdrawal to several months after treatment. This phenomenon is usually reported in the first months of detoxification and gradually reduced its frequency and severity (5).

Studies show that 20 to 90 percent of undertreated addicts may experience relapse (6). It should be noted that addiction is a disease that expresses with the three biological, psychological and social features that all of them are in need of treatment and evaluation. Since, it is more important that opium addicts try to leave drug use repeatedly, but after a while, they turn back toward addiction. Recurrent relapses of addiction can prevent daily regular activities, and reduce confidence, accountability, and efficiency, and thus destroy family foundation. In addition, family problems can be resumed, mistrust of family members is strengthened, and acceptance of the next addiction leaving is more difficult (7).

In this context, the relationship between drug craving and relapse has been noted in several studies (8-10). Drug craving has been defined as tendency or compulsion to abuse substances. The studies have shown that drug craving disrupts attention in addicted ones and the individuals who experience relapses are more motivated by substances in comparison with other addicts and thus, the former group experience drug craving more (8). In this regard, studies have indicated that the ability to deal efficiently can reduce symptoms of psychopathology and thus by modifying appropriate education programs; coping with stressful conditions can be taught (1).

The goal of the present study was assessment of the effectiveness of coping skills education program to reduce craving beliefs among opium addicts.

Materials & Methods

Study subjects

This randomized before-after controlled trial was carried out on 70 opium addicted men referred to the Behavioral Disorders and Substance Abuse Research Center in Hamadan, western Iran between September 2011 and August 2012. The inclusion criteria were referring to detoxification, negative morphine test, and volunteering withdrawal. After coordination with officials of addiction research center in the university, two addiction centers were randomly selected from all centers in Hamadan City (the intervention center containing 35 addicts receiving coping skills education program and the control center containing 35 addicts as the control). All the participants were explained about the aim of the study and were ensured the confidentiality of information. Also, all participants were enrolled with their desire and their written consent was received.

This study was conducted with approval from Hamadan University of Medical Sciences' institutional review board. Furthermore, this study

was registered by Iranian Registry of Clinical Trials (IRCT2013092314736N1).

Intervention procedure

The coping skills training program was performed on intervention group including drug addicts in withdrawal. The two intervention and control groups were assessed three months after executing interventional program and the groups were evaluated at the two study time points (before and 3 months after the program schedule). Participants who did not participate regularly in sessions were not included into the trial. The participants were individually educated based on the opinion polls. The educational planning in this study was based on active learning and the educational intervention was an attempt to have participants actively participated in the educational program. Educational programs for participants in the intervention group were held on 45 to 60-minute training sessions. Training sessions included: the processes of substance abuse, common types of materials used, effects and consequences of substance use, wrong beliefs associated with drug use, awareness of the signs and symptoms of relapse and coping skills training, including stress management skills, skills to resist pressure, problem solving skills, communication skills, and anxiety management. In order to further support the patients, the families of patients (mostly spouses) were invited to become more familiar with the program and help the patients in the trend of addiction treatment.

Data collection tools

The study information were collected using a self-administered questionnaire consisted of three parts of demographic information, information for craving beliefs for continuing drug use, and information for awareness of the symptoms of recurrence. The first section included 15 questions about baseline variables such as age, age of the onset of drug use, occupational status, education level, marital status, history of smoking, and history of alcohol consumption, the use of the variety of substances such as opium, crack, cocaine, crystal, heroin, and cannabis. The second part was structured as the questionnaire for assessment of craving beliefs for continuing drug use including 20 questions with likert-scale questions. The reliability of this section was assessed through internal consistency (Cronbach's alpha) as 0.88.The third section was specified to assessing awareness of the signs of relapse that was scored as 0 to 10 (higher score indicating more awareness). The reliability of this part based on the Split Half method as 0.65.

Statistical analysis

Results were reported as mean ± standard deviation (SD) for the quantitative variables and percentages for the categorical variables. The groups were compared using the Student's *t*-test or the Mann-Whitney U test for the continuous variables and the chi-square test (or Fisher's exact test if required) for the categorical variables. Changes in the scores of craving beliefs and awareness were compared in each group using paired t test. P values of 0.05 or less were considered statistically significant. All the statistical analyses were performed using SPSS version 19.0 (SPSS Inc., Chicago, IL, USA).

Results

The average age of participants was 34.85 years in the case group and 35.94 in the control group. The two interventional and control groups were matched for baseline variables including age, age of the onset of substance use, educational level, and occupation status, marital state and first substance used (Table 1).

The most common substance used in both group was opium (in half of the patients) followed by hashish and crack.

Regarding craving beliefs for continuing drug use (Table 2), the two groups had similar scales at the beginning of interventional program, while the level of these beliefs was significantly reduced in the intervention group (P= 0.002) but not in the control group (P= 0.105). Also, a significant correlation was also revealed between taking advantage of the educational program and increase

awareness of the signs of relapse in the intervention group (P=0.003) that was not revealed in the control (P= 0.174). On the other hand, executing coping skills education program led to reduce craving beliefs and improve knowledge towards signs of relapse (P <0.05).

Table 1: Baseline characteristics of study population

Characteristics	Intervention group (n = 35)	Control group (n = 35)	*P*-value
Age, year	34.85/9.02	35.94/7.64	0.440
Age of onset of drug use, year	20.54/5.16	21.85/7.64	0.341
Education level			0.494
Primary	8 (22.9)	7 (20.0)	
Secondary	10 (28.6)	14 (40.0)	
Diploma	15 (42.9)	10 (28.6)	
College degree	2 (5.7)	4 (11.4)	
Marital status			0.640
Married	27 (77.1)	30 (85.7)	
Single	6 (17.1)	4 (11.4)	
Divorced	2 (5.7)	1 (2.9)	
First drug used			0.563
Opium	27 (77.1)	29 (82.9)	
Hashish	7 (20.0)	6 (17.1)	
Crack	1 (2.9)	0 (0.0)	

Table 2: Mean score of craving beliefs and awareness of the signs of relapse

Characteristics	Before intervention	After intervention	*P*-value
Craving beliefs			
Intervention group	49.21/15.19	41.96/12.38	0.002
Control group	51.00/15.78	48.83/15.21	0.105
Awareness			
Intervention group	5.84/2.31	6.71/2.45	0.003
Control group	5.33/1.66	5.63/1.62	0.174

Discussion

Our results showed a significant reduction in the mean scores of craving beliefs in the intervention group after the training program that was absolutely consistent with the previous similar studies (11-14). As we previously described, drug craving disrupts attention in addicted ones and the individuals who experience relapses are more motivated by substances in comparison with other addicts and thus, the former group experience drug craving more. In addition, Drug means tendency or compulsion to abuse substances (8). Thus, anyone who has more craving beliefs is more likely to continue drug use. Allahveripour and his colleagues pointed to the negative attitude towards drug consumption in reducing its use (11). Coping skills training can cause an imbalance in individual through changes in lifestyle and reduce drug use and also prevent relapse through developing the necessary capabilities to deal with an urgent desire to consume substance and avoiding being in situations that are likely to recur (12). In the treatment and prevention of relapse, the major risk factors for recurrence were positive and negative emotional states, desire and temptation, and interpersonal conflicts (13). Regarding prevention of drug craving, craving after intervention among patients was significantly lower that before (14). Thus, it seems that educational pro-

grams have beneficial results in reducing drugs consumption and also preventing relapse rate.
The present study also indicated high effectiveness of coping skills education program in improving awareness of the signs of relapse in the intervention group after intervention and also in comparison with the controls that was in consistent with the previous observations. Similarly, one of the approaches to drug abuse prevention was to disseminate information on the consequences of drug abuse (12). Jalilian and Barati also emphasized the benefit of training sessions on knowledge of participants towards substance abuse and its consequences (15, 16). Some researchers believe that although these programs can increase awareness on consequences of drug abuse, but have little impact on drug consumption (17) that should be more evaluated.
The potential limitation of the present study was our small sample size, performing study only on men, and low collaboration of patients' families.

Conclusion

Emphasis on drug therapy alone, lack of facilities, and lack of appropriate coping skills can be underlying barriers for preventing relapse among addicts in withdrawal. According to this fact that several studies have shown usefulness of the use of consulting supports and coping skills among these addicted patients, providing continuous training programs and appropriate coping skills under the supervision of an experienced psychologist in the addiction treatment centers is recommended. This approach creates incentives to increase social support and learn coping skills to deal with problems related to drug use.

Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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References

1. Ashouri A, Mollazadeh J, Mohammadi N (2008). The effectiveness of cognitive-behavioral group therapy on the improvement of coping skills and relapse prevention in addicted individuals. *Iran J Psychiatry Clin Psychol,* 2008; 14:281-8.
2. American Psychiatric Association (1994). Diagnostic and Statistical Manual of Mental Disorder. 4th edition. USA Arlingtom: American Psychiatric Pub Inc, pp. 175.
3. Imam Hadi M, Jalilvand M (2007). Comparison of methods to reduce the impact of substance abuse trends in students. *J Med Council Islamic Republic Iran,* 25: 441-9.
4. Firooz A, Ahari S. Sadeghieh, Mohammadi S, Azami A (2005). Changes in patterns of drug addicts referring to addiction. *Ardabil Univ Med Sci Health Services J,* 5: 220-4.
5. Ekhtiari H, Edalati H, Behzadi A, Safaei H, Noori M, Mokri A (2008). Designing and Evaluation of Reliability and Validity of Five Visual Cue-induced Craving Tasks for Different Groups of Opiate Abusers. *Iran J Psychiatry Clin Psychol,* 14: 337-49.
6. Wallace J (2009). Theory of 12-step oriented treatment. New York: The Guilford Press.
7. Golestani F (2009). The impact of group therapy based on change stages in prevention relapse among substance abusers in kerman. *Res Addiction,* 8: 254-68.
8. Rahmanian M, Mirjafari A, Hasani J (2006). The Relationship between Craving and Attentional Bias in Opioid Dependent, Relapsed and Abstinent Individuals. *IJPCP,* 12: 216-22.
9. Drummond DC (2000). What dose cue-reactivity have to offer clinical research. *Addiction,* 95: 129-44.

10. McKey JR (1999). Studies of factors in relapse to alcohol, drug and nicotine use: A clinical review of methodologies and findings. *J Stud Alcohol,* 60: 566-76.
11. Allahverdipour H, Hidarnia A, Kazemnegad A, Witte K, Shafii F, Fallah A (2006). Applying Fear Appeals Theory for Preventing Drug Abuse among Male High School Students in Tehran. *Sci J Hamadan Univ Med Sci,* 13: 43-50.
12. Jafari E, Eskandari H, Sohrabi F, Delavar A (2009). Effectiveness of Coping Skills Training Based on Marlatt Relapse Prevention Model in Relapse Prevention and Resiliency Enhancement in Subjects with Substance Dependency. *JCP,* 1: 77-87.
13. Marlatt GA (1999) Cue Exposure and Relapse Prevention in the Treatment of Addictive Behavior. *J Addictive Behav,* 15: 395-9.
14. Coffee SM, Asfnjany M, Nouri Khajavi M, Salehi I (2011). Effectiveness of the group interaction analysis of marital adjustment and prevention of relapse in detoxified. *Modern Psychol Res,* 6: 111-32.
15. Jalilian F, Allahverdipour H, Moeni B, Moghimbeigi A (2011). Effectiveness of Anabolic Steroid Preventative Intervention among Gym Users: Applying Theory of Planned Behavior. *Health Promot Perspect,* 1: 32-40.
16. Barati M, Allahverdipour H, Moinei B, Farhadinasab A, Mahjub H (2011). Evaluation of Theory of Planned Behavior-Based Education in Prevention of MDMA (ecstasy) use among University Students. *Med J Tabriz Univ Med Sci,* 33: 20-9.
17. Rajaee A, Biazi MH (2006). The Study Effects one of Addiction Preventing Program in Adolescents' Self-Esteem, Attitude, Tendency and Knowledge in Substance Abuse. *JSR,* 1: 71-86.