

## The study of meta-cognition techniques to reduce the temptation in the dependence on opiates

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**Abstract:** The purpose of this research was study of the effect of meta-cognition techniques to reduce the temptation in the dependence on opiates in Ardabil. The method was from type of semi-experimental with pretest and posttest. The research population included all persons referred to one of the withdrawal centers in Ardabil in 2014. 50 people dependent on opiates were selected as accessible according to the criteria of entry and exit and obtaining the necessary approval of medical certificate based on withdrawal and they were placed randomly in two 25 people groups. Then experimental group received 8 session of meta-cognition technique training and control group carried out their daily routine. Data were collected using the tempting ideas questionnaires of Beck and demographic. Information was analyzed using multi-variable variance and covariance analysis test of MANOVA and using SPSS. The results showed that meta-cognitive techniques training have significant effect to reduce the temptation for addicts in Ardabil ( $P < 0.01$ ). In general, this study showed that meta-cognitive techniques training can be used to reduce the temptation of drug use among people taking drugs.

**Keywords:** Meta-cognitive techniques, tempting ideas, opiates

### Introduction

Drug abuse is one of the most important social problems which different features can be seen in it such as creating physical dependence, psychological dependence and incidence of drug tolerance (Eslam dost, 2011). Because of the consumer individual is damaged at various aspects of the personal and social (Naji, 2004) also change in various personality aspects (Mousavi, 2012). Despite the extensive efforts has taken place in the world to control narcotics, the prevalence of drug use continues to grow and age drug use is declining. The cause of addiction prevalence is complex. Drug control headquarters has been estimated the number of consumers' between 15-64 years old in Ardabil namely 40,126 people or 1.26% of total population of Ardabil in 2013. That only 11,000 people are treated through the clinic and camp and associations (Statistics anti-drug campaign in Ardabil, 2014). In determining the causes of people tendency to drug abuse, there are several theoretical approaches such as biological, sociological and psychological. In determining the psychological, addiction is a mental disorder that is defined in division of psychiatric Substance abuse and it is the second most common mental disorder (Kaplan & Sadock, 2010).

Beliefs includes the ideas about themselves, others and the world which affect how our interpretation from the events. Belief and knowledge include two levels, fundamental level which is called unconditional belief and conditional level which is usually known as conditional orientation or belief (Nobre, Gouveia & Gomes, 2003).

Different approaches separately discuss to assess different aspects of substance abuse disorder

(Abu Saleh, 2006). Research has shown that meta-cognitive approach is one of important approaches in the identification and treatment of drug abuse.

Several researches have been done by Wells and colleagues in the field of the role of meta-cognitive beliefs in the drug dependence. The results of their recent studies indicate that there is a relationship between meta-cognitive beliefs and drug dependence (Wells, 2000).

Trends in drug abuse psychological factors have a prominent role that in the meantime researchers have underscored the role of belief systems of people. One of these belief systems is meta-cognitive beliefs. Meta-cognitive beliefs are those that a person has about thinking and its processes (Janeck et al., 2007).

Temptation can be defined as a penchant for drug use that if it is not fulfilled, followed psychological and physical pain such as weakness, anorexia, anxiety, insomnia, aggression, and depression (Addolorato, Leggio, Abenavoli & Gasbarini, 2005).

People suddenly and without reasons do not reuse the drug, but they are actively involved in drug use on the basis of their temptation and desire and their attitude, imitation, beliefs and expectations is important in this area (Beck et al., 1993, Samimi Bonab, 2012).

Studies have shown that uncontrollable temptations and desires are important factor in return treatment failure because of their nature during treatment and after. Also surveys in recent years have endorsed with regard to this temptation and attention bias so that, the attention bias is

considered as a cognitive component of temptation or responsible for it.

Beck believes that cognitive and behavioral techniques including attention which is presented by Clark and Teasdale in order to control the thoughts and disturbing mental images can help patients to reduce evocative temptations with creating the delay between the temptations and search (Firoozabadi, 2009).

Rahmanian et al. (2005) in the study of relationship between craving and the attention bias by comparing those dependent on opiates, relapsed and left showed that amount of temptation has a significant negative correlation with the reaction time than words related drug that these findings suggest that there is a correlation between craving and attention bias. Also three groups were significantly different in terms of temptation. Spada, Zandvoort & Wells (2007) in their research examined the relationship of meta-cognition with the drug use. Their results showed that there is a significant relationship between meta-cognitive with drug use. Especially there was a significant positive correlation between three meta-cognitive factors (Positive beliefs about worry, negative beliefs about worry and beliefs about the low reliability) with the drug use. Azad et al. (2009) in a research examined the impact of therapy group with cognitive approach on the men dependent on opiates. Their results showed that such treatment had a significant impact on reducing the drug dependence. Firoozabadi et al. (2009) in a research examined the impact of detached mindfulness and distraction techniques (Meta-cognitive therapy techniques) in the amount of drug use temptation and probability of slip in the male patients dependent on drugs. Their results showed that both methods have been effective to reduce the temptation of drug use and the amount of slip on subjects dependent to drugs. Detached mindfulness techniques were more effective than distraction techniques.

Yaghoobi Asgrabad et al. (2013) in a study entitled assessing the effectiveness of group meta-cognitive therapy in reducing depression symptoms of addicts treated with methadone, showed that meta-cognitive therapy has a significant effect in reducing the depression symptoms in the post-test in addicts treated with methadone in intervention group. They also concluded that meta-cognitive therapy can be short and effective. So thoughts and feelings is done without judgment and evaluation and with the help of mental imagery; in addition, it match us with the notion of mindfulness problematic abuse behaviors and increase our knowledge the specific role of meta-cognition and mindfulness in the chain of abuse behaviors and the emotional disorders. Terry Mac et al. (2012) in a research showed that there is a significant relationship between meta-cognitive beliefs related to drug and temptation ideas

so that people who had craving ideas and beliefs associated with more drugs, experience more temptation after withdrawal and in the course of abstinence. Yaghoobi et al. (2013) in a study have shown that meta-cognitive therapy has been effective in reducing the anxiety symptoms of addicts referring to the withdrawal center and this treatment leads to reduce their symptoms with adjusting cognitive symptoms and attention.

Considering the above cases, the aim of this study was to determine the role of meta-cognitive techniques in the reduction of temptation in addicts.

## **Methods**

The population of this research, including all men dependent on opiates who had referred to one of the opiate withdrawal centers in Ardabil in 2014.

### ***Sampling, sample size and methods***

The research was from type of semi-experimental studies with pretest and posttest and control group. Sampling method in this research was as available. So that among addicts referred to the withdrawal centers in Ardabil, 50 people were selected and randomly placed in two groups (25 people meta-cognitive intervention group and 25 people control group). Meta-cognition was taught to the participants by the researcher in the 8 sessions. That the structure of the sessions was designed based on Wells meta-cognitive pattern based on meta-cognitive defects as follows: First session: Introduction and attention technique training. Second session: Mindfulness training and testing repression - lack of repression. Third session: Training to postpone attention focused with uncontrollability beliefs. Fourth session: Training of the focus attention again on safety symptoms. Fifth session: Training the use of encounter techniques and prevent the response focused on assurance beliefs. Sixth session: Training monitoring the threat focused on the self-belief. Seventh session: Training behaviors focused on the risk beliefs. Eighth session: Training techniques to review the contrary evidence and preparing the members to identify obstacles and finally was concluded.

## **Tools**

### ***Craving Beliefs Questionnaire***

This questionnaire is a self-report scale that measures opinions related to temptation of drug abuse (Beck, 1993). 20 articles about opinions related to craving is made by Wright as Likert rating scale from strongly disagree to strongly agree in 2003. Its reliability has been reported 95% using Cronbach's alpha coefficient. Mir Jafari (2008) has reported that the internal consistency coefficient of the test in terms Cronbach's alpha is 0.84%. This coefficient also in research Mohammad khani et al. (2011) is obtained 0.77. Score of individual in this

scale will be between 20 and 140. Internal consistency reliability coefficients in two half are

**Findings**

**Descriptive Findings**

As can be seen in the table (1) the mean of pre-test craving beliefs in control group is 106.16 and

obtained respectively 84% and 81% (Ashtiani et al. 2005).

post-test of control group is 107.52. In experimental group also pre-test is 108.44 and post-test is 76.68.

Table 1. The mean and standard deviation of craving beliefs in the studied groups

Variable	Group	Time	Mean	Standard Deviation
Craving Beliefs	Control	Pre-test	106,1600	10,45498
		Post-test	107,5200	6,98880

**Inferential Findings**

Meta-cognitive techniques influence to reduce temptations in addicts.

According to the results table (2) significant level test error of the variances equality ( $P > 0.05$ ) show that variances are equal.

Table 2. Levine test results to determine the equality of variances

F	DF 1	DF 2	Significant Level
1.566	3	96	145

According to the results table (3) and given the amount of F (121.27) and also considering that significant level of test error for confidence level 0.99

is less than 0.01, we can say that the first hypothesis is confirmed and meta-cognitive techniques influence to reduce the temptations in addicts.

Table 3. the results of variance analysis test (MANOVA)

SC	Total Squares	DF	Mean Squares	F	Significant Level	Eta Square
Model	994009,000	1	994009,000	17582.70	0.000	0.995
Group	5097,9660	1	5097,9660	90.176	0.000	0.484
Pre-test	5776,000	1	5776,000	102.170	0.000	0.51
Post-test						6
Group* Pre-test	6855,840	1	6855,840	121.271	0.000	0.558
Post-test						

**Discussion and Conclusion**

The purpose of this study was determining the role of meta-cognition to reduce the temptation in addicts. The results of the analysis indicated that this hypothesis is confirmed ( $P < 0.01$ ). Results of this study showed that meta-cognitive techniques training is effective in the experimental group in reducing the temptation for addicts that is consistent with researches results Powell et al. (2000); Avento (2003); Rahmanian et al. (2005); Firoozabadi (2009); Terry Mac et al. (2012) and Mohammad khani et al. (2011). Rahmanian et al (2005) showed that amount of temptation had significantly negative correlation with the reaction time than words related drug that this finding show existence of correlations between craving and attention bias. Also three groups had significant differences in terms of temptation. The results Firoozabadi et al (2009) showed the method detached mindfulness techniques and distraction is effective in reducing the temptation of drug use and the amount of slip on subjects related to drugs. Detached mindfulness techniques were more effective compared to distraction techniques. Terry

Mac et al. (2012) in their study showed that there is a significant relationship between meta-cognitive beliefs related to drug and craving opinions so that people who had more tempting ideas and beliefs associated with drug experience more temptation after leaving the drug and during the abstinence. Powell et al. (2000) conducted a study entitled the effect of blackout to reduce the temptation and conditioned withdrawal syndrome and those dependent on opiates which showed treatment program was useful to reduce the temptation. According to Franken research (2000) on the meta-cognitive analysis from a temptation, psychoactive substances not only can directly moderate cognitive events, but it also indirectly moderate them with the impact on meta-cognition and changing beliefs and attitudes compared to cognitive events. Research showed that blackout strategies are effective to reduce the temptation and conditioned withdrawal syndrome and those dependent on opiates in a treatment program.

In the explanation of these findings it can be said that the purpose of most of investigations

conducted in the field of meta-cognition technique is on the temptation so that people who had more tempting ideas and more beliefs associated with drug experience more temptation after leaving the drug during the abstinence. Also the amount of ability to induce craving through negative mood can predict the possibility of returning to addiction among alcoholics (Kenny et al., 1991). However, the clinical experiences and various studies show that craving can be influenced by various factors (Alterman et al., 1990). In addition to the role of negative emotion and beliefs associated with drugs in increasing temptation, many people have not learned the skills of their temptation control (Beck, 1993; Aldao, Nolen, Hoeksma Vasco, 2010). Therefore, we conclude that meta-cognitive therapy as found in the study, leads to knowledge of patients from the process of meta-cognitive processing system, changes state of mind and controls thinking and can be effective in reducing beliefs related to drug because this treatment diverts attention from stopping on the dysfunctional beliefs related to drug including: "The only way to deal with anger is drug abuse and life is boring without it" and leads to the learning of this issue that these opinions do not necessarily lead to action. In fact, people with the development of meta-cognitive awareness manage and control their beliefs about drug abuse. The results MANCOVA showed that considering the results of the post-test, it seems that Wells' meta-cognitive pattern is effective in the improvement of tempting ideas in the patients dependent on opiates. So in the treatment of meta-cognition it is tried, meta-cognitive deficits that cause to form tempting ideas in drugs be changed and maladaptive coping behaviors of drug abuse decrease.

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