

Abstract

Objective: This study was an attempt to evaluate the effect of group metacognitive therapy on modifying dysfunctional attitudes in male substance abusers treated with methadone. **Method:** The number of 30 people was chosen via purposive sampling from among the patients treated with methadone treatment in Tehran (Tarighat-e- No. Methadone Treatment Center) from January to April, 2014. Then, these participants were randomly assigned to two groups, i.e. experimental group (n = 15) and control group (n = 15). The participants answered Beck and Weissman's Dysfunctional Attitude Scale before and after the administration of group metacognitive therapy. **Results:** The results showed that there was a significant difference between the two groups in dysfunctional attitudes in such a way that dysfunctional attitudes were lower in the experimental group than those in the control group. **Conclusion:** It seems that this therapy can be effective in preventing the addicts' slip and desire for drug use with regard to concepts such as acceptance, awareness raising, presence in the moment, nonjudgmental observation, diffusion, and lets go.

Keywords: Cognitive-Behavioral Therapy, Metacognitive Therapy, Substance Abuse, Dysfunctional Attitudes

On the Effectiveness of Wells' Metacognitive Intervention Therapy in Reducing Dysfunctional Attitudes among Substance Abusers

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Introduction

Today, drug use and its consequences are among the most important public health problems worldwide (Dalley & Marlatt, 2005). Drug dependency and substance abuse is a chronic and relapsing disorder that biological, cultural, psychological, social, behavioral, and spiritual antecedents play some role in its spread and persistence (Brook & Spitz, 2002; Wallace, 2003; cited in Dabaghi, 2008). In addition, drug addiction occasions physical, financial, and familial harms and can lead to a serious drop in the personal and social performance in case of the persistence of this problem and frequent relapse in these patients. Various treatment strategies are at play in the field of addiction. In recent years a variety of treatment methods for drug addiction have come into existence. One of these methods is methadone maintenance treatment. The results of this method have shown that this drug is a good substitute for opiates such as opium, crack, and heroin and has a favorable impact on reducing substance use, abstinence symptoms, psychiatric symptoms, and risk behaviors in these patients during treatment (Leshner, 1999). However, some opioid users patients taking methadone maintenance treatment may experience numerous slips after the passage of a time period from the treatment and they may even turn to other substances, such as stimulants; therefore, conditions for relapse may be provided (Curran, Bolton, Wanigaratne & Smyth, 1999). It seems that the ineffectiveness of maintenance treatment among these patients does not only arise from the continued use of methadone over time, but there are several factors that influence the effectiveness of this therapy.

Addiction stems from several effective reasons, like other mental illnesses. Therefore, when only one of the factors (e.g., its positive impact) is considered in addiction treatment, other factors can reduce the impact of that single factor (Brien & McLellan, 1996). Etiological theories, including cognitive theory assume that drug dependence is due to cognitive mediators (Gorman, Speer, Gruenewald & Labouvie, 2001). Most psychological interventions in addiction treatment have referred to cognitive-behavioral approach as an effective approach in the treatment of this disease (McGovern, et al., 2009). Similarly, group cognitive behavioral therapy and methadone maintenance therapy have been effective in the treatment of depression and anxiety disorders comorbid with substance abuse (Ghodse & Maxwell, 1990).

Cognitive approach suffers from some limitations, such as its emphasis on the content of beliefs (cognitions) and the ignorance of dynamic processes and metacognitive beliefs (Wells, 2009; translated by Akbari, Mohamadi & Anduz, 2012). Metacognitive-based therapy is one of the emerging non-medical treatment methods. Metacognitive therapy presents a general framework in conceptualizing vulnerability, creating, and maintaining the mental disorder.

This model suggests that mental disorders (mood disorders, substance-related disorders) are established and maintained through sustainable thinking patterns

(e.g., anxiety or rumination), flexible attentional control strategies (e.g., monitoring threats and concerns), thought control strategies (e.g., suppression of thoughts), and maladaptive behaviors (e.g., avoidance and drug use). The total of these factors leads to the formation of a Cognitive Attentional Syndrome (CAS) and this syndrome results in failure in the revision of maladaptive beliefs about the self. In this regard, the metacognitive approach alters the mood by teaching flexible attentional control strategies and changing the mental rumination, and it allows the patients to target the process of rumination, overcome iterative thinking styles, and establish a new relationship with their thoughts and beliefs rather than to concentrate on negative automatic thoughts (Wells, 2009; translated by Akbari, et al., 2012). In a correlational study conducted on patients suffering from drug addiction, it was revealed that there was a relationship between metacognitive beliefs and drug dependence. There was particularly a significant positive correlation between three metacognitive factors (positive beliefs about worry, negative beliefs about worry, and beliefs about low cognitive confidence) and drug dependence. However, there was a weak relationship between the next two metacognitive factors (beliefs about the need to control thoughts and beliefs about cognitive self-consciousness) and drug dependence. Similarly, in two other preliminary studies (Spada, Nikcevic, Giovanni & Wells, 2010; Spada & Wells, 2011), it was found that drug-dependent individuals obtained higher scores on cognitive beliefs compared with normal individuals.

Karol (1996; cited in Irvin, Bowers, Dunn & Wang, 1999) states that the need for newer experimental interventions effective in mediator variables is strongly felt because of the availability of the uncertainties in addiction treatment and relapse prevention. One of the cognitive mediating variables effective in addiction is dysfunctional attitudes. Studies also have shown that addiction process is influenced by persons' beliefs and attitudes (Rohsenow, Sirota, Martin & Monti, 2004; Skinner & Aubin, 2010). It has been also found that people do not often resume drug use suddenly and without reason, but they become actively involved in drugs, and their attitudes, beliefs, and goals play an important role in this regard (Beck, Wright, Newman & Liese, 1993).

Dysfunctional attitudes are those inefficient beliefs and assumptions that make people practice bias regarding the events, influence their feelings and perceptions, and make them prone to depression and other mental disorders (Goldsmith, Tran, Smith & Howe, 2009). According to Beck's cognitive model (1993), substance-related beliefs are not activated suddenly and immediately unless people experience depression and negative emotion. Thus, the individuals who experience negative emotions in the form of anxiety and depression may have some expectation that substance use can reduce their concerns and worries (cited in Goldsmith, et al, 2009). Thus, following the activation of cognitive attentional syndrome, which are derived from metacognitive beliefs, individuals also use dysfunctional strategies to regulate their thoughts and emotions. This

will eventually lead to substance use. According to Rachman & Silva (1978), uncomfortable and intrusive thoughts, which may appear as unwanted or unpleasant images in a rotating fashion, are often natural and universal experiences of the individuals. The methods of dealing with these thoughts are what cause psychological problems and injuries. Studies have shown that people use different strategies to control their intrusive thoughts that normally happen; some of these strategies are associated with emotional distress (Clark, 2004, Wells & Davies, 1994). Wells & Davies (1994) conducted an experiment on people's cognitive coping techniques against unwanted thoughts, which are in the form of thought control strategies. The two strategies, namely worry and self-punishment are considered among antecedents and correlates of psychological problems. In cognitive-behavioral therapy, thought control strategies have not been assigned much credit because of the main emphasis placed on content of thoughts; however, metacognitive therapy focuses on the process of thoughts (Wells, 2009; translated by Akbari, et al., 2012). In metacognitive approach, Wells introduced teaching and training of attention control and detached mindfulness techniques to modify Cognitive Attentional Syndrome in patients (Wells, 2006). Although few studies have been carried out on the effectiveness of metacognitive therapy in the field of addiction, a third wave of new therapies with an emphasis on psychological flexibility have taken new steps in the field of addiction psychotherapy. Some of these therapies have integrated conventional cognitive behavioral techniques with mindfulness (Hayes, Luoma & Bond, 2006). Because of paying attention to concepts such as acceptance, awareness raising, presence in the moment, nonjudgmental observation, diffusion, and lets go; mindfulness can be effective in preventing addicts from committing any slips (Witkiewitz, Marlatt & Walker, 2005). In this regard, Yaghoobi Asgarabad, Basak Nejad, Mehrabizadeh Honarmand & Zamiri Nejad (2013) investigated the effectiveness of group metacognitive therapy in depressive symptoms among drug abusers under methadone maintenance treatment. Research findings showed that group metacognitive therapy has a significant effect on the reduction of depression symptoms at post-test stage among addicts treated with methadone. It seems that there are various factors in the field of addiction treatment that influence the effectiveness of merely medication therapy in the long run. Considering the expansion of addiction, the empirical evaluation of newer psychological interventions based on mediating variables is strongly required (Carroll, 1996; cited in Irvin, et al., 1999). Since negative and intrusive thoughts are among the constant experiences of addicts, it is required to employ the treatment methods that directly aim at modulating Cognitive Attentional Syndrome rather than suppressing thoughts. In this way, metacognitive approach and its pertaining techniques seem to fall in this range (Wells, 2009; translated by Akbari, et al., 2012).

Non-pharmacological interventions (psychotherapy) are of high importance for addicts' psychological problems and addicts' survival in abstinence courses

within maintenance treatment programs is required. In addition, treatment centers seriously need to include group psychotherapy programs in their policies. Therefore, the present study was an attempt to examine the effectiveness of group metacognitive therapy in reducing dysfunctional attitudes among addicts under methadone maintenance treatment.

Method

Population, sample, and sampling method

A quasi-experimental research design along with pretest-posttest and control group was employed for the conduct of this study. The experimental group was treated with group metacognitive therapy whereas the control group received no treatment. All the individuals under methadone treatment presenting to Tarighat No. Methadone Treatment Center in Tehran constituted the statistical population of this study. In fact, the number of 250 individuals constituted this population. In the present study, the number of 30 participants was chosen via purposive sampling from among this population considering the inclusion criteria, such as: 1) use of opium, opium sap, heroin; 2) minimum addiction length of one and maximum length of 5 years; 3) aged between 25 to 40 years; 4) being male; 5) no suffering from important physical and mental diseases. They then were randomly assigned to two groups, i.e. experimental ($n = 15$) and control ($n = 15$) groups. Exclusion criteria from the study were also: 1) absence in at least one therapy session 2) suffering from symptoms of hallucinations and delusions.

Instrument

Dysfunctional Attitude Scale: Beck and Weissman (1978) developed a 40-item questionnaire to measure dysfunctional attitudes. These items are scored on a Likert scale from (1) strongly disagree to (7) strongly agree. The items numbered 37, 35, 30, 29, 24, 17, 12, 6, 2, and 40 are scored in reverse. The reliability of this questionnaire has been reported to range from .84 to .92 (Tehranizadeh, 2004). In this study, the internal consistency reliability of the scale was obtained equal to .88.

Procedure

At first, the necessary arrangements were made between university and Tarighat No. Methadone Treatment Center in Tehran. Then, the number of 30 participants was selected from among the 250 clients present in the treatment center considering the inclusion criteria. Then, these participants were randomly divided into two 15-member groups, i.e. experimental and control groups. Next, both groups responded to Dysfunctional Attitude Scale. Group metacognitive therapy and training techniques were administered to the experimental group in 8 one-hour sessions.

Metacognitive therapy method was put into practice based on the stepwise implementation of Well's model presented in the book entitled *A Practical Guide to Meta-Cognitive Therapy for Substance Abuse* (2009). One week after the finish of the sessions, both groups were assessed by the post-test. In addition, three participants were excluded from the experimental group because of absence in the sessions. Therefore, three participants were also randomly excluded from the control group so that the population of both groups would equal. At the end, 12 participants constituted each group.

Table 1: Description of Wells' metacognitive model for each session

<i>Sessions</i>	<i>Description</i>
1	Welcome and greeting, presenting a brief description of the model and the goals of treatment sessions, conduct of the pre-test
2	Familiarity with metacognitive therapy, patients' familiarity with both worry and rumination strategies as dysfunctional coping strategies with intrusive thoughts, harm-benefit analysis of anxiety and rumination
3	Analyzing thought suppression process and familiarity of the participants with Cognitive Attentional Syndrome
4	Testing thought suppression and impartial mindfulness training (detached mindfulness) when faced with intrusive thoughts and observing thoughts without commentary, interpretation, and control
5	Training exposure and response technique and how to postpone the worries and any act in order to move away from metacognitive processing of intrusive thoughts
6	Discussing the positive and negative dysfunctional metacognitive beliefs and verbal challenges with them
7	Teaching attentional technique training as an efficient metacognitive strategy
8	Reviewing the role of dysfunctional strategies in maintaining disorders and the role of the techniques and already-passed treatment procedures in removing disorders

Results

The descriptive statistics relating to the variables under study are presented in the table below for each group and test type.

Table 2: Descriptive statistics of dysfunctional attitudes for each group and test type

<i>Test type</i>	<i>Experimental</i>		<i>Control</i>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Pretest	162.67	10.00	156.50	14.94
Posttest	138.92	10.04	154.00	14.19

Analysis of covariance should be used to evaluate the effectiveness of metacognitive therapy. One of the assumptions of using this test is the equality of variances. Levene's test results indicate the establishment of this assumption

($P > .05$, $F = .56$). in addition, Kolmogorov-Smirnov test results also indicate the normal distribution of the data. Therefore, analysis of covariance was conducted as follows.

Table 3: Results of univariate analysis of covariance on assessing the effectiveness of metacognitive therapy on dysfunctional attitudes

<i>Source</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>	<i>Eta squared</i>
Pretest	.86	28.780	.01	.51
Group	.20	6.650	.01	.19
Error	.81	-	-	-

Discussion and Conclusion

This study aimed to examine the effect of group metacognitive therapy on modifying dysfunctional attitudes among the male substance abusers under methadone treatment. The results suggested the existence of a significant difference between the two groups in terms of dysfunctional attitudes in such a way that the experimental group (who had received treatment) experienced a significant reduction in the mean score of dysfunctional attitudes compared to the control group. This finding is supported by other research findings (Haji Alizadeh, Bahrainian, Naziri & Modares Gharavi, 2008). Dysfunctional attitudes, as a vulnerable factor, reduce the probability of inclination to drug abuse. Addicted individuals suffer from numerous dysfunctional attitudes and consequently undergo negative emotions and feelings in the face of life situations. Such emotions are the most important drivers of drug abuse and drug dependence. Dysfunctional attitudes are the attitudes and beliefs that generally predispose a person to depression and mental confusion (Miranda, Gross, Persons & Hahn, 2003). Metacognition is one of the factors that can have an impact on dysfunctional attitudes. Research suggests that metacognitive components are correlated with dysfunctional attitudes and emotional disorders (Wells & King, 2006; Roelofs, Huibers, Peeters & Arntz, 2011). Based on the theoretical foundations of metacognition, it can be argued that dysfunctional attitudes can receive attention as the conscious cognitive processing and correlate of metacognitive factors (Peterson, et al., 2007; Papageorgio & Wells, 2001; Bouman & Meijer, 1991). This processing can monitor and control individuals' cognitive activities and act as the starting point of emotional turmoil. Some studies have reported a significant positive relationship between emotional states and cognition & metacognition (Smith, Muir & Blackwood, 2005). Some other studies have shown that metacognitive disorders can also be found in patients with psychological disorders (Wells & Purdon, 1999; Wells, 2000). It is possible to state that disorders in metacognitive components can be a reason for psychological and cognitive problems (Wells, 2000; Wells & Papageorgio, 2001).

According to the research conducted in this area, addiction processes are influenced by patients' beliefs and attitudes (Holman, 2004). Research has shown that people's attitudes correspond with their cognitive and emotional responses (Farhoudian, 2002). One can claim that people use drugs because they believe that drugs can reduce or regulate their negative emotions and feelings. Depressed people use drugs because they believe in their healing effects and perform some self-cure in this way. Lack of energy, bad mood and fatigue in depressed people can vanish by drug use in the short run. Substance use brings about dimensional negative mood among the users and this leads to persistence in substance use. Cognitive factors and ideological systems in adolescents with substance abuse significantly differ from those in the adolescents fleeing from substance. In general, it should be noted that cognitive processes, such as drug-related beliefs and dysfunctional attitudes have a very important role in substance abuse and dependence.

Metacognition is one of the variables that is disrupted via substance abuse and may be significantly related to addicts' cognitive analyses. From the metacognitive perspective, substance abuse brings about significant rapid changes in cognitive events such as feelings, thoughts or memories. Narcotics and psychoactive drugs may affect cognitive events directly (e.g., peace-making, creation of avoidance, evasion of painful cognition, and creation of awareness and attention) or indirectly (e.g., sense of attachment, stagnation, and suppressed assessments) by changing beliefs and attitudes about avoiding cognitive events (Toneatto, 1999; cited in Abolghasemi, 2007). Research findings on the relationship of dysfunctional attitudes as a cognitive component with metacognition show that metacognition and its components can influence dysfunctional attitudes and their components in patients with psychological disorders (Benazzi, 2006). Inefficient metacognitive beliefs and dysfunctional attitudes both are involved in the development of psychological consequences (such as anxiety, depression, anxiety) and these disorders lead to negative emotions in people. Therefore, such emotions are considered as the most important drivers of drug abuse and drug dependence. Therefore, metacognitive therapy has an impact on the dysfunctional attitudes and it can make people enabled against the most important incentives to narcotic drugs and drug dependence by regulating the dysfunctional attitudes and affecting negative emotions and feelings such as anxiety and depression. Metacognitive therapy can be considered as the treatment that empowers patients to identify dysfunctional thinking and coping styles that cause chronic emotional turmoil. In addition, metacognitive therapy helps patients change these styles and patterns and modify metacognition about their thoughts and feelings. Group metacognitive therapy influences dysfunctional attitudes and their components in addicted men treated with methadone and leads to the gradual disappearance of these attitudes. The results also showed that this method is still effective after the passage of one month. In terms of the limitations of the study, care and

discretion should be exercised in generalizing the obtained results since this study was conducted in only one treatment center. In fact, a variety of socioeconomic and cultural factors are at play in the treatment process of a patient. Therefore, the course of treatment might be different depending on the economic and cultural conditions in individual or group mode. In this study, factors such as the patients' family conditions, cultural level, and educational degree were not taken into consideration due to the complexity of the variables. Thus, it is suggested that further studies be conducted on the factors affecting treatment (such as personality, duration of dependency, employment, education, and family status). It is also suggested that another study be done on the relapse rate of the drug addicts after the passage of six months from the completion of Wells' therapy in comparison with the patients who undergo individual treatment methods.

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