

Abstract

Objective: Today, a high rate of prison organization costs constitutes the crimes relating to addiction and rehabilitation; furthermore, relapse into addiction destroys all such expenses. In the same line, the present study aimed at investigating the effectiveness of acceptance and commitment group therapy in reducing depression, stress, and anxiety among ex-addicts in Tabriz central prison. **Method:** For this purpose, 50 clients were selected through convenience sampling method from among the statistical population of 189 male ex-addicts imprisoned in the central prison of Tabriz and were randomly divided into two groups. The participants responded to DASS questionnaire before and after the administration of Acceptance and Commitment Group Therapy. **Results:** The results of this study showed that Acceptance and Commitment Group Therapy has had a positive effect on the reduction of stress and anxiety among the clients, but it has not had any significant effect on depression. **Conclusion:** In addition to Acceptance and Commitment Group Therapy, it is advisable to use other complementary therapies. In this regard, researchers are suggested to consider the long-term effects of this therapy, as well. **Keywords:** addiction, Acceptance and Commitment Group Therapy, depression, stress, and anxiety

Effectiveness of Acceptance and Commitment Group Therapy in Reducing Depression, Stress, and Anxiety among Ex-Addicts in Tabriz Central Prison

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Introduction

Drug use-related crimes, either directly or indirectly, are one of the main factors in increasing the number of prisoners and subsequent costs, as about 60% of prisoners are drug addicts and the addiction-related factors. (Tavakoli-zadeh, Meshki and Moghimiyan, 2012). Today, the approach of the prison organization is a therapeutic approach (Rajaei and Bayazi, 2006). For example, prisoners under methadone treatment are transferred to methadone treatment section, and even recovered prisoners are being transferred to the clean section. The clean section of prison is composed of a group of recovered addicts who gather begin life again. However, some psychological variables, such as depression, stress, and anxiety, have always been with drug addicts (Banna, Back, Do, & See, 2010), especially in the prison environment, this situation is exacerbated. Individuals with addiction and substance abuse are simultaneously affected by other disorders. So, co-dependence on several substances, depression and personality disorder, are considered as addictive disorders (Swendsen et al., 2010). Anxiety and depression are evident in all stages of the life of the addict, whether they use more than usual, or they show the signs because of their withdrawal symptoms (Lai, Cleary, Sitharhan, & Hunt, 2015). The occurrence of depression after drug withdrawal is one of the most prominent symptoms of dependence, therefore, depression is of great importance among psychiatric disorders with addiction, because reducing energy and frustration caused by depression can decrease the motivation of addicts to quit drug and it can lead to risky behaviors such as suicide or self-harm (Ortíz-Gómez, López-Canul, & Arankowsky-Sandoval, 2014; Reed, Nugent, & Cooper, 2015). Stress is another symptom of addicts (Sinha, 2001). If stress is high, it causes anger, fear and failure and endangers the physical and mental health of the individual (Giga, 2001). Several models have attempted to explain the anxiety, stress and depression phenomena and various theoretical views have been presented about it. Among the explanations based on socio-cultural factors, psychological explanations, the concept of eethology and biological-behavioral explanations, humanistic and ontological positions, and finally, behavioral and cognitive models are anxiety, stress, and ddepression (Dadsetan, 2001). Behaviorists believe that individuals with panic, anxiety and stress learn fear, at first by being conditional and then these fears are generalized and extended in the form of anxiety. (Dadsetn, 2001). Depression can also be explained on the basis of this theory. Depression may be due to the effect of conditioning or aggravation of uncomfortable events, or may be learned through the observation of other depressive behaviors (Beck, 1997). According to the cognitive therapists, instead of external events, thoughts cause concern (Teasdale, 2000); Teasdale et al. (2000) state that rumination is disruptive events or false interpretations or the so-called misconceptions about life lead to depression states.

Etiology studies on substance abuse and drug-dependence emphasize the relationship between stress, coping and addiction, and consider drug use as an inefficient coping style in stressful situations, which can be regarded as defective a cycle and can lead to drug use continuation in clean addicts (Tufani and Javanbakht, 2001). On the other hand, in the prison environment, the observation of the situation of other addicts, excessive rumination due to the imprisonment of the individual and the opportunity to generalize the thoughts in the prison environment increase the stress and depression of clean addicts (Darake et al., 2014). Therefore, stress and depression are known risk factors for addiction and vulnerability to addiction relapse after abstinence (Sinha, 2008). In this regard, reports show that 80 percent of addicts have high anxiety, stress and depression (Bukstein, 2002).

There are several therapeutic methods for treating addiction. Addiction treatment is possible via both pharmaceutical and non-pharmaceutical methods (Lazaratou, Dikeos, Anagnostopoulos, & Sodatos, 2007), although these treatments, and especially cognitive-behavioral therapy have achieved high empirical support for quitting and withdrawal symptoms (American Psychological Association, 2000), but more accurate studies show that these treatments have the greatest impact on addicts with social and family support and even one's life style change (Waldron, Slesnick, Brody, Truner & Paterson, 2001; Mc-Hugh, Hearon & Otto, 2010), while the conditions of social and family protection and even change of life style is not possible for a prisoner. In this regard, some studies have confirmed the weakness of cognitive-behavioral therapies on reducing the psychological symptoms of drug addicts in prison (Heinberg & Becker, 2002; Paddock, Hunter, & Leininger, 2014). Accordingly, there should be treatment in the prison for addiction and reducing its withdrawal symptoms, which is more based on the principle of accepting restrictions for addicted prisoners. Acceptance and commitment based group therapy, known as the third generation of treatment, seems to be the solution for prisoners' therapists. Acceptance and commitment therapy originated from a pragmatic philosophy called functional contextualism. This treatment involves six processes of acceptance, cognitive diffusion, focusing on the present moment, enhancing a transcendent sense of self, values clarification and committed action (Hayes, Luoma, Bond, Masuda, & Lillis, 2006). In this treatment, first of all, attempts are made that the client has psychological acceptance regarding his subjective experiences, then the psychological consciousness of an individual is increased from the present time (you are a prisoner with all the limitations); then, the client is taught to release himself of these experiences. And, at a later stage, the extreme concentration of the individual on his cognitive diffusion is reduced. In the next step, the values of individuals are clear to them, and ultimately motivation is applied to engage in committed action regarding the values specified for the individual (Rajabi and Yazdkhasti, 2014).

Research has shown that the effectiveness of acceptance and commitment therapy based on the clinical experiences associated with mood and anxiety disorders is reported satisfactory (Ossman, Wilson, Storaasli, & McNeill, 2006). Also, some other studies have shown the effectiveness of this therapeutic approach to reduce physical pain. Since substance withdrawal also has physical pain symptoms (Stotts et al., 2012), these investigations can be significant. For example, Qarayi Ardakani, Azad Fallah and Tullahi (2012) have shown its effectiveness on reducing the severity of pain in women with chronic headache disorder. McCracken, & Vowles (2014) found that acceptance and commitment –based therapy is effective on chronic pain. Rajabi and Yazdkhasti (2014) also reported that acceptance and commitment group treatment is effective on anxiety and depression in women with MS. Izadi, Asgari, Neshat Dost, and Abedi (2014) showed that acceptance and commitment group therapy is effective on the treatment of symptoms of obsessive-compulsive disorder and mood and anxiety disorders. Also, Aminpoor and Ghorbani (2015) also showed the effect of acceptance and commitment therapy on reducing stress in patients with gastrointestinal disorders. Koldavy, Borjali, Falsafinejadand Sohrabi (2011) have shown that acceptance, commitment and mindfulness group therapy is effective on preventing the return to addiction and motivation. Alfonso, Caracuel, Delgado-Pastor, & Verdejo-Garcia (2011) showed that acceptance and commitment group therapy is effective on reducing craving, stress and anxiety. Kayani, Ghasemi and Pourabbas (2012) have also shown the effectiveness of acceptance-based therapy on the cognitive regulation of glass users and the reduction of addicts' stress and anxiety. In the field of foreign investigations, De Groot, Morrens, & Dom (2014), in a meta-analysis showed that acceptance and commitment therapy is effective in drugs withdrawal and reducing its psychological symptoms. However, studies of this extensive research, mostly contain smokers and alcoholics. González-Menéndez, Fernández, Rodríguez, & Villagr

(2014), in another study, confirmed the effectiveness of acceptance and commitment therapy to reduce the complications of drug withdrawal in women's detention centers. In the field of local investigation, the effect of this treatment on the psychological symptoms of drug withdrawal has not been addressed clearly. In general, research on the impact of mindfulness therapy on prisoners has been ambiguous and still requires extensive research (Zurhold, 2005). In this regard, the present research intends to answer the question of how effective is the acceptance and commitment group therapy to reduce the symptoms of depression, stress and anxiety in the clean ward of the central prison of Tabriz

Method

Statistical population, sample and sampling method

A quasi-experimental research was conducted and a pre-test-post-test with control group. The statistical population consisted of: men who had been

recovered for at least 3 months and were detained in the clean ward of Tabriz Prison in 2016. They were 189. A sample of 50 people were selected through convenient sampling method and randomly assigned 25 subjects in the experimental group and 25 in the control group. Then the treatment sessions began in sequence. The therapists were imprisoned psychologists and specialist prisoners trained in NA were working as assistant researcher.

Instrument

1- Depression Anxiety Stress Scale (DASS): Depression scale, anxiety, stress (Lovibond, & Lovibond, 1995) is a collection of three self-report scales for assessing negative emotional states. This scale is used to measure the intensity of the main symptoms of depression, anxiety and stress. To complete a questionnaire, one must specify the status of a symptom during the last week. Antony, Bieling, Enns, & Swinson (1998) assessed this scale as a factor analysis. The results of the research again showed that there were three factors: depression, anxiety and stress. The results showed that 68 percent of the total variance was measured by these three factors. The Eigenvalue of stress, depression and anxiety in this study was 9.07, 2.89, and 1.23, respectively, and the alpha coefficient for these factors was 0.97, 0.92, 0.95, respectively. Validity and reliability of this scale in Iran were investigated by Samani and Jokar (2007), which tested the test re-test reliability for the depression, anxiety and stress scale of 0.80, 0.76, 0.77, respectively and Cronbach alpha 0.81, 0.74 and 0.78 respectively. Each question is scored from zero (it does not apply to me at all to 3 (quite true of my case). Cronbach's alpha method was used to determine the reliability of the instrument and 0.79, 0.80 and 0.73 respectively were obtained for depression, anxiety and stress.

Procedure

After obtaining permission from the relevant organizations, the researcher psychologists visited the clean ward and with the coordination of the ward, provided a brief speech on the purpose of the research. Then, among the clients who had been in prison for at least three months since their last use period and at least were for 1 year in jail, and at least 6 months were remained of their imprisonment were considered as the study sample. Based on these criteria, 54 clients were selected to participate in the study, four of them were released in the middle of the trial due to the amnesty and open poll verdict, and only 50 remained. After describing the purpose of the research, a pre-test was carried out. The subjects were assigned to groups, and interventions for acceptance and treatment commitment were performed in 8 sessions of 90 minutes and 2 sessions per week, as follows:

The first session included the group's introduction to each other and with the treatment team, as well as people were familiar with the symptoms after drug withdrawal, the stages of treatment and the sessions were described, each member took a note of the symptoms of the withdrawal from the first day of quit.

made Session 2: It is based on the investigation of the inside and outside world in acceptance-based therapy; at this stage, the desire and interest to quit the inefficient past programs was presented. Session 3: The values of individuals were identified, and the goals were clearly expressed. For example, as practice, the members closed their eyes and imagined they were released from prison and returned to their own family, the scene in which their children describe daddy and how they themselves will express their new self, Imagined Then, the important things that were said during the exercise were written by each person. Session Four: The values of individuals were investigated in groups. Session 5: Exercises were conducted for fusion. Session Six: Self-mixture was conceptualized and its fusion was taught. Seventh Session: Exercises were performed to strengthen mindfulness. For example: prisoners should, as they were sitting, be sure to hear exactly all the sounds around, or at the same time, they would recognize which surface of their body is in contact with which area (touch sense). Eighth Session: The story of each person's committed life was examined one by one (Hayes, Strosahl, & Wilson, 2012). Finally, one day after the sessions, both groups were tested back

Results

Among the sample group, 17 (34%) were imprisoned for theft, 7 (14%) for assault, 10 (20%) for fraudulence, 11 (22%) for drug use, and 5 (10%) for other reasons. Twenty people (40%) were between the ages of 23 and 30 years, 17 (34%) 31-35 years old, and 13 (26%) were 35 years and older. Twelve (24%) were single, 23 (46%) married, and 15 (30%) were divorced. Twenty-three (46%) were addicted to heroin, 15 (30%) were psychedelics, and 12 (24%) were addicted to opium.

A single-sample Kolmogorov-Smirnov test was used to investigate the normal distribution of variables in the post-test. The results showed that the depression variable in the experiment I group ($z = 0.86, P > 0.05$), in the control group ($z = 0.11, p > 0.05$) had normal distribution. The anxiety variables in the experimental group ($z = 0.82, P > 0.05$) and the control group ($z = 0.15, p < 0.05$). The stress variable in the experimental group ($Z = 0.14, P > 0.05$) and in the control group ($P = 0.84, P > 0.05$), has normal distribution. The results of regression slope test to determine the homogeneity of the regression of the variable and dependent variable in the groups indicated that the pre-assumption is satisfied ($F = 1.03, P > 0.05$). Also, the results of the box test showed that the covariance matrix was equal ($M \text{ box} = 8.71, F = 1.35, P > 0.05$). Also, the results of Bartlett's test showed that there is a significant linear relationship between dependent variables ($P < 0.001, \text{Chi-square} = 43.53$). Finally, the results of the Leven's test are presented in Table 1 for examining the error variance. With the values (Bartlett' chi-square = 43.53; $P < 0.001$), the Leven test was used to examine the homogeneity of the variables of the dependent variables in the groups, the results of which are reported in Table 3.

Table 1: Leven's Test Results to Evaluate the Error Variance in Post-test Variables

<i>Variables</i>	<i>F statistics</i>	<i>Degree of freedom</i>	<i>Significance</i>
Depression	3/14	48	0/08
Stress	0/13	48	0/71
Anxiety	0/06	48	0/81

As can be seen, the equality of error variances is also found in all variables ($P > 0.05$).

Multivariate covariance analysis was carried out according to the presuppositions and the results showed a significant difference between the two groups in the linear combination of variables wilks Lambda =0.60, $F=9.70$, $P < 0.001$). The uni-variate covariance analysis is used to evaluate the difference models as shown in Table 2.

Table 2: The Uni-variate Covariance Analysis to Evaluate the Difference Models

<i>Variables</i>	<i>Mean of square</i>	<i>F statistics</i>	<i>Significance</i>	<i>Eta square</i>
Depression	0/25	0/79	0/38	-
Stress	5/37	18/88	0/0005	0/30
Anxiety	2/29	12/72	0/0005	0/22

As can be seen, only in depression there is no significant difference ($P > 0.05$).

Discussion and Conclusion

The purpose of this study was to investigate the effectiveness of acceptance and commitment group therapy in reducing depression, stress, and anxiety among ex-addicts in Tabriz central prison. The results showed that the acceptance and commitment group therapy was effective on reducing stress and anxiety level of addicts, but did not have a significant effect on depression. Decreased stress and anxiety among addicts is consistent with the results of research of Kiani et al., 2012; Hayes et al., 2004; DiGoret et al., 2014; González-Menéndez et al., 2014. Also, this finding is consistent with a part of the results of other researches of Gharayi Ardakani et al., 2012; Rajabi and Yazdkhasti, 2014; Izadi et al., 2014; Aminpour and Ghorbani, 2015; McCracken, & Vowles, 2014, to study the effect of acceptance and commitment group therapy on depression, anxiety and stress of individuals with specific illnesses and is not consistent with other parts of this research. Indeed, recent studies such as Rajabi and Yazdkhasti (2014) showed that acceptance and commitment group therapy was effective on anxiety and depression in women with MS, while the findings of the present study showed that acceptance and commitment therapy had no significant effect on the depression of recovered addicts.

Effect of acceptance and commitment group therapy in reducing craving and, consequently, to reduce stress and anxiety is consistent with the results of researches by Koldoi et al. 2011; Alfonso et al., 2011; González-Menéndez et al., 2014. In explaining this finding, one can consider the return of consciousness as one of the essential elements of reducing stress. In other words, a prisoner who imagines himself in the past with a complete break with his prison position,

then, with self-consciousness, becomes aware of his condition and the mistakes he has committed previously. In acceptance and commitment therapy, the concept of cognitive fusion is the effect of thought on behavior; the behavior depends on the position of the individual and the behavior dependent on the continuity of the fusion to reality. Therefore, when one is mixed with his thoughts, he can not distinguish his own judgment of reality from reality itself (Heyez et al., 2012). In the fusion stage, the level of stress and anxiety of the imprisoned addicted person increases, but in the acceptance and self-awareness step, stress and anxiety are reduced to the minimum level. Because in these therapies, by teaching mindfulness and action in the moment, the effect of the physiological and emotional sensitivities caused by drug use on covert behavior is moderated by the relationship of an individual with these experiences. In this treatment, users are taught to accept their experiences and tolerate them to the extent that they can accept these experiences. To the same extent, they can act independently of these experiences (Kayani et al., 2012). Given the fact that the physical release of drug in the prison environment is in the clean ward, cognitive release can be effective when accompanied with deep acceptance, and since acceptance to prisoners in most of the therapies, is a mechanism that can increase the ability of a person to adapt to the prison environment and thereby reduce the stress and anxiety of a person (Zurhold, 2005). Therefore, acceptance and commitment treatment from multiple dimensions can be effective in reducing the stress and anxiety of prisoners. In other words, the prisoner feels that he has no choice but to adopt an acceptance and commitment approach, so adopting this approach is, in the long run, a part of the body of one's personality. In this regard, Kiani et al. (2012) state that acceptance and commitment therapy based on acceptance, increased awareness, presence at a moment, non-biased observation, and refraining empirical avoidance can affect the person's behavior.

The present study showed that the acceptance process, increased awareness and presence at the moment did not reduce depression of the prisoner. This finding, which is interesting and remarkable, is not consistent with the results of Khaledian's researches, Kamarzain and Jalalian, 2014; Lotfi Kashani, Mojtabayi, and Ali Mehdi; 2014; Rajabi and Yazdkhasti, 2014; Paddock et al., 2014; Et al., 2014; González-Menéndez et al., 2014. For example, in this regard, Khalidian et al. (2014) and Lotfi Kashani et al. (2014), in their study "the effectiveness of cognitive-behavioral group therapy on reducing depression in addicted individuals", concluded that cognitive-behavioral group therapy is effective in decreasing the depression of addicts. In the explanation of this finding, one can refer to the statistical population of the present study, the present study was carried out in the prison environment, while the majority of previous studies in this field are related to the Addiction Treatment Clinics, the conditions of prison environment are such that the addicted person is in isolation due to being away from the family, away from the community and because of lack of social protection, and because of being in detention is depressed. On the other

hand, it should be considered that having a negative affect and a depressed mood, as a potent internal stimulant, can provide temptation or substance use. In addition, most patients complain of this and express that they are taking drugs to fight or eliminate the frustrating and hopeless state of mind after withdrawal. In addition to drug-induced depression, there is a depression disorder after drug withdrawal (Sadock, & Sadock, 2008). In other words, drug addicts recover the symptoms of depression due to drug withdrawal. This finding challenges the results of past researches, so that reducing depression in past studies may be a temporary decline and a temporary joy in the success of drug withdrawal. While, if past studies examine the extent of

Depression with follow-up methods, people are more likely to show symptoms of depression. In this regard, Heinberg, & Becker (2002) argue that drug withdrawal is associated with a reduction in depression in the individual. However, this decline is not necessarily considerable. In other words, it can be said that during the treatment a person acquires self-awareness and this self-awareness leads to the individual's thinking about his criminal past, and can be aware of the cruelty that affects himself and the family. This awareness comes with results from feelings of depression and regret and feelings of guilt (Kayani et al., 2012).

Finally, according to the results of this study, it is suggested to psychologists of prisons, along with acceptance and commitment therapy, use combining methods such as integrated monotheistic treatment and cognitive-behavioral approach to obtain better results and improve depression after acceptance therapy. Also, psychologists and therapists should investigate the effects of treatment on addicts in different ways at different times. Because the results showed that some psychological processes did not stabilize during treatment and could be reduced or increased over time. Assigning this treatment to male prisoners and the city of Tabriz can limit the generalization of these findings to women and other communities. On the other hand, the lack of educational facilities and the lack of full control over the confounding variables in prison were among the other limitations of the research.

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