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The Effectiveness of the Schema Therapy on Depression and Relapse in Heroin-Dependent Individuals

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Abstract

Objective: The purpose of this study was to determine the effectiveness of schema therapy on depression and relapse in heroin-dependent men.

Method: This research was a semi-experimental study with pretest-posttest design with control group. To do this research, among people who refered to Tehran Addiction Treatment Clinic in October to February 2017, 40 referees were selected and randomly assigned to experimental (20) and control groups (20). In this study, the experimental group received the Yang Scheme Program for 10 sessions of 90 minutes, while the control group was on the waiting list for the treatment. Participants completed the Beck Depression Inventory and a urine test to measure the existing substance in the pre-test and post-test phases. Analysis of covariance was used to analyze the data.

Results: The results showed that in the post-test stage, schema therapy could significantly reduce depression and the relaps rate in heroin- dependent men compared to control group.

Conclusion: Schema therapy has therapeutic benefits for heroin addicts as a leading method in the field of cognitive-behavioral therapy and also is effective in reducing the relaps problem.

Keywords: Schema Therapy, Depression, Addiction Relaps.

Introduction

Addiction is a recurring and chronic mental illness that leads to severe motivational disorders and a lack of behavioral control. About 3.4 billion people in the world use drugs and more than 12% of deaths are related to addiction (Jupp & Dalley, 2014). Drug abuse, including opioids, is also one of the major public health problems. This can destructivly affect the individual and social personality (Mokri, Ekhtiari, Ganjgahi & Naderi, 2008). Some of the drug abuse problems at individual level are reduced motivation, disorder in thinking and cognitive functions, and mood disorders including depression, physical problems, delinquency, academic failure, and problems in interpersonal relationships (Zargar, Kakavand, Jalali & Salavati, 2011). Recent studies on the prevalence of drug abuse, especially opioids, indicate that drug abuse in Iran is a growing problem (Zargar, et al., 2011).

Addiction relaps refers to reusing drugs based on a regular pattern after giving up the drugs and detoxification, which leads to more dependence on the drugs in the future (Norouzi, Binazadeh, Naderi & Safaeian, 2005). Psychological factors are among the important issues that researchers argue in preventing drug recurrence. Medical researchers' attention to the role of psychological complexity on physical disorders is increasing every day (Javanmard & Goli, 2019). Several studies suggest that there are many personality factors in drug use tendency (Cramer, 2003; Nickel & Egle, 2006). One of the important factors related to drug addiction is the role of Early Maladaptive Schemas (EMSs). According to Yang Early Maladaptive Schemas

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are deep cognitive structures that include opinions about oneself, others, and the environment which is due to the lack of satisfaction of basic needs, especially emotional needs in childhood. These schemas distort information about the relationship between the individual and the environment and activate the auto-negative thoughts and ultimately lead to abnormal cognitive attitudes and processes. Early Maladaptive Schemas are patterns or deep introspectives which consist of memories, emotions, body feelings and cognitions that are tied to the destructive aspects of childhood experiences and repeat throughout their life in some forms of patterns in organized way (Nazari, et al. 2015).

Broomt (2007), examining 121 outpatient referees being treated by methadone, found that early maladaptive schemas are related to the severity of addiction. Shaghaghi et al. (2011) also found that addicts suffer from high degree of early maladaptive schemas. Oveissi (2012), in a research aiming at comparing early maladaptive schemas in addicts and non-addicted men of Zahedan showed that individuals dependent on drugs had a higher score in the areas of shear schemas, self-regulation, impaired function and vigilance schemas, and their difference with the nonaddicted individuals was significant. Mood disorders and, at the top of them, depression is one of the most common abnormalities associated with drug abuse (Hasin, et al., 2002).

Depression may be a sign of helplessness in addicts which is considered as an obstacle to effective behavior in combating addiction or enjoying available coping resources in drug abuse (Dolan, et al., 2008). The prevalence of major depressive disorder in these individuals is about 50 to 60 percent, and partial depression is approximately 10 percent (Ilgen et al., 2008).

So far, various treatments have been made on patients with addictive disorders, but each of these methods has been incompletely effective and was followed by drugs recurrence. The therapy schema developed by Yang et al is a modern and integrated therapy which is mainly based on the development of concepts and methods of classical cognitive-behavioral therapy. The therapeutic schema combines the principles of cognitive-behavioral schools, Gestalt's attachment, object relations, constructivism, and psychoanalysis in the form of a valuable therapeutic and conceptual model (Yang, et al., 2010). The therapeutic schema can be a selective treatment for many psychological disorders, especially for mood disorder and for patients with long-standing behavioral problems, such as personality disorders. Additionally, it is a good option not only to treat offenders but also to prevent recurrence among drug users (Yang, et al., 2003). In this way, therapists agree with patients through cognitive, emotional, behavioral, and interpersonal strategies in combating schemas. In this method, therapists, in combating with schemas by cognitive, emotional, behavioral, and interpersonal strategies, adhere with patients and make face with the reasons and necessities of change in an empathetic way (Yang, et al., 2003). Various studies have shown that schema therapy can reduce the severity of maladaptive schemas (Jahangiri et al., 2015; Tajik zadeh et al., 2015; Jafri et al., 2013). In addition, previous studies show the relationship between schema therapy and depression in that Schema therapy cause a significant decrease in depression (Lee et al., 2015; Ti Tow, 2015; Reiner et al., 2012; Hewberz, 2011; Ashuri, 2015; Zerepoosh et al., 2012; Montazeri et al., 2012). For example, Lee et al.'s (2015) studies suggest that early maladaptive schemas have a positive correlation with depression and the existence of early maladaptive schemas increases the individual's vulnerability to mental disorders. Using the schema-based approach, which is a modern therapist for chronic disorders including drug addiction, the present study attempts to examine the effectiveness of this approach on depression and prevent recurrence in these patients. Therefore, considering that schema therapy is an effective and useful treatment for chronic diseases,

it will help therapists in the treatment of drug-dependent people; as a result, the importance and necessity of this research will be explained. Therefore, the present study aimed to investigate the effect of schema therapy on decreasing the rate of depression and relapse in heroin-dependent men.

Methods

The research design is semi-experimental. In this research, a pre-test, post-test design with control group was used. The statistical population consists of all heroin addicted men who referred to Tehran Addiction Treatment Clinic during September to January 2017 and completed detoxification in this clinic. Among the addiction treatment clinics in Tehran, the Sun Population Clinic and a sample of 90 people, selected through random sampling in an accessible population, were selected. Then, using a clinical interview based on the Diagnostic and Statistical Manual of Mental Disorders, the fifth edition (DSM.5) and Young's Schema Questionnaire, 40 people were randomly selected at the first step and then were assigned to experimental and control groups randomly (20 for each). The criteria for entering were receiving a diagnosis of heroin dependence with the addiction relaps by a psychiatrist, tendency to participate in therapy sessions, not having other serious psychiatric disorders (such as schizophrenia, obsessive-compulsive disorder, and personality disorders), not having a neurological disorder, lack of mental retardation, using no alcohol, having at least secondary education level, minimum age of 18 and maximum of 54, and not consuming anti-craving or detoxifying medications. The therapeutic protocol of the sessions was based on Yang et al.'s principles of Schema Therapy (2003) which was implimented by a trained clinical psychologist. The therapeutic schema combines the principles and foundations of cognitive-behavioral schools, Gestalt's attachment, object relations, constructivism, and psychoanalysis in the form of a valuable therapeutic and conceptual model. In this model, the tracks of the schemas are followed with emphasis on the patient's interpersonal relationships since his childhood to the present. By using this model, patients can see their personality problems as inconsistent and as a result, get more motivation to get rid of the problems. Therapists are linked to patients through cognitive, emotional, behavioral and interpersonal strategies and make them face with reasons and necessities of change in a sympathetic way (Yang et al., 2003). The experimental group received the schema therapy for ten 90 minute sessions, while the control group was on the waiting list for the treatment. The details of the intervention in the Schematic Group during the sessions were as follows: at the first session, after getting acquainted with the procedure and creating a good relationship, the importance and purpose of expressive schema therapy and the problems of clients were formulated in the form of a schema therapy approach and a pre-test was conducted. At the second session, the objective evidence confirming or rejecting schemas was examined based on evidence of present and previous periods of their lifes and the aspects of existing schemas with healthy schemas were discussed. In the third session, cognitive techniques such as schema validation test, a new definition of the evidence supporting the existing schema, and the assessment of the benefits and disadvantages of coping styles were taught. At the fourth session, the concept of healthy adult was strengthened in the patient's mind, their unsatisfied emotional need was recognized, and strategies of pouring out the blocked emotions were taught. In the fifth session, a healthy relationship and imaginary conversation were trained. At the sixth session, experimental techniques such as mental imagery of difficult situations and coping with the most problematic ones were taught. In the seventh session, therapeutic relationships, relationships with important people in life and role play were introduced. At the eighth session the healthy behavior practices through

role play and doing homeworks related to the new behavioral patterns were taught. In the ninth session, the benefits and disadvantages of healthy and unhealthy behaviors were examined and strategies to overcome the barriers to change behavior were trained. At the tenth session, the contents of the previous sessions were briefly reviewed and the learned strategies were practiced and then the post-test was conducted. Two months after the completion of sessions, both groups were tested and their relapse rate was determined.

Ethical statement

Informed consent forms were given to the clients and all necessary information, including the aims, confidentiality, and non-disclosure of participants' information, and etc. were given to the subjects. It was explained that if clients are reluctant to continue, they can stop taking part in the study at any time. It was also explained that after the completion of the study, the results would be revealed to participants. Meanwhile, free training sessions for the control group were planned.

Research instruments

Yang Schema Questionnaire - Short Form (Yang, 1990; Yang et al., 2003):

Young's Questionnaire is a self-reporting measurement to assess schemas. This questionnaire has 75 items and specifies 15 Schemas in 5 scopes. The short form is used in research because it takes less time to be filled up. Several studies have emphasized the psychometric properties of this questionnaire (Stopa et al., 2001; Welburn et al., 2002). In Iran, Yousefi and Shirbaghi (2010) confirmed the psychometric features of the Persian version of this questionnaire. They used Cronbach alpha coefficient and two-half method to calculate its reliability and the the results of analysis as a whole reported 99% and 86% in total, 87% and 84% in girls, and 84% and 81% in boys respectively.

Beck et al's Depression Inventory (1996): This questionnaire contains 21 statements. Each group of phrases (including 4 sentences) measures one aspect of the symptoms of depression which are ranked in terms of severity. The score is between 0 (for lack of that sign) to 3 (for the most severe condition). The total score of this questionnaire varies from 0 to 63 and, consequantly, represents the mildest to the most severe degree of feeling of the sign. Beck et al. (1988) reported a coefficient of internal consistency of 0.72 to 0.92 and Cronbach's alpha of 0.81. Mousavi et al. (2006) reported the validity and reliability of this questionnaire as 0.72 and 0.87, respectively. In this study, Cronbach's alpha coefficient was 0.92.

Measure of relapse rate

In this study, the nonadiction to heroin in the referees was considered as the sign of their non-recurrence. For this purpose, the subject was asked to do a urine test as well as a clinical interview to recognize his return (relapse) or non-return (non-relapse). Another method is using an opioid antagonist (such as naltrexone) that the symptoms of the person after taking the medication indicate whether the subject under experiment has returned to the drug or not.

Results

The descriptive results of the present study, including mean and standard deviation, are shown in Table 1.

As Table 1 shows ,the mean and standard deviation of depression scores in the experimental group in the pre-test were 39.34 and ,5.7 and in the post-test were 23.78 and 2.3 respectively .The mean and standard deviation of the scores in the control group in the pre-test were 40.1 and 63.5 and in the post-test were 39.67 and ,6.54 respectively.

To test the hypothesis of this research ,according to the type of research design that is pre-test ,post-test with control group, the covariance analysis method was used (Delaware, 2006). The summary of the analysis is presented in Table 2. It should be

Table 1. Mean and standard deviation of depression scores in the experimental and control groups in pre-test and post-test

variables	Group		Mean	SD
Depression	Experimental	Pre-test	39.34	5.17
		Post-test	22.78	2.30
	Control	Pre-test	40.10	5.63
		Post-test	39.76	6.54

noted that the preassumptions of using covariance analysis were also examined and confirmed. For example, the values of the Shapirowic test statistic to assess the assumption of the normal distribution of variables indicated that the distribution of variables was normal in the experimental and control groups (P=0.99). Another important assumption of covariance analysis is homogeneity of variance. This assumption was examined by the use of the Levine test. Taking into account that the significant level of depression was not meaningful, the assumption of homogeneity of variance was confirmed (P=0.08). Also, the existence of homogeneity of regression slopes was confirmed (P=0.4) and it was shown that there is a linear relationship between the variables under study.

As Table 2 shows ,the results obtained for depression) F 61.90 =(2.40) at P(001.>, one can say that there is statistically significant difference between these two groups at P<.05. In addition, the effect size shows that about 76% of the difference between the two groups in the post-test phase is related to the depression of the schema therapy in the experimental group, and this means that schema therapy training has been used to reduce the depression of heroin-dependent patients.

In the following phase, the participants were again examined for returning or non-returning status. The results presented in Table 3 show the information obtained from the experimental and control groups at the follow-up stage.

To examine the significance of the differences between the groups, these results were analyzed using Chi-square test. As it is shown in Table 3, two people did not participate in the research during the test of drug use and the avoidance and relaps rate of 38 were calculated. The results in Table 4 show that the avoidance rate in the experimental group was 63% and the avoidance rate of control group was 10.5%. To examine the significance of the meaningfulness of difference between avoidance and relapse percentage, Chi-square test was used (31.11); the results presented in table 5 show the meaningful difference (at the significance level of P=.02).

Thus ,it can be concluded that there was a lower return rate in experimental group than control group. In other words, it can be said that the rate of recurrence in the under-schematic therapy group was lower than the group who did not receive the intervention. Therefore, according to the results, schema therapy reduced depression and recurrence rates in heroin-dependent individuals.

Discussion and conclusion

The purpose of this study was to investigate the effect of schema therapy on depression and

Table 2. The results of covariance analysis to evaluate the effectiveness of schema therapy on depression

Dependent variables	Changes resources	Sum of squares	Degree of freedom	Mean Square	F	Sig. level	Effect size	Test power
Depression	Test effect	40.62	1	40.62	8.22	.10	.008	.075
	Group effect	471.31	2	235.65	61.90	.001	.761	.99
	Error	100.10	40	40.86				

Table 3. Frequency and percentage of Relaps of experimental and control groups

Variable	Experimental group	Control group	total
avoidance	12	2	14
	632%	52.10%	31.48%
relaps	7	17	24
	368%	894%	68.52%
total	19	19	38
	.100	100	100

Table 4. the results of Chi-square for relaps rate of treatment groups

variable	Chi-square	degree of freedom	Sig. level
Return (relapse)	31.11	1	.001

recurrence in heroin-dependent patients. The results showed that schema therapy could significantly reduce depression in drug dependent individuals. This conclusion is consistent with previous studies (Lee et al., 2015; Ti Tau, 2015; Riner et al., 2012; Hoyberz, 2011; Ashouri, 1394; Armor et al. 1391; Montazeri et al., 2012).

In explaining the results, it can be stated that Beck considers the negative content of schemas and negative automatic thoughts about oneself, the world, and the important aspect of depression (Ferry, 2006). On the other hand, based on the theory of the schema, individuals process their own data adequately, but they process the incongruent information about themselves worse or less (Mor& Winquist, 2002). As a result, it can be assumed that depressed people remove positive self-referral data from their data processing system and recall the negative data related to themselves better, and this orientation is consistent with individual imparative schemas (Clark et al., 1999). Depression can be attributed to the schemas. Thus, the adjustment of maladaptive schemas of depressed people can lead to a correction of cognitive bias and therefore to treatment of depression. For Yang et al. (2003), since schema therapy emphasizes the deepest level of knowledge, then it seeks to correct the core of the problem and this practice has a high degree of success in reducing symptoms such as anxiety and depression and preventing it from returning.

In a research, Reiner and colleagues (2012) concluded that maladaptive schemas cause depression and using Schema therapy can reduce depression. Schematic approach is an approach that consists of cognitive, behavioral, interpersonal, attachment and empirical approaches in the form of an integrated therapeutic model which by applying four main cognitive, behavioral, relational and experimental techniques for anxious and depressed people, in addition to questioning the maladaptive schemas, which is the main cause of the formation of ineffective and illogical thoughts, emotionally cause to deplet negative buried emotions and excitements such as anger coming from unsatisfactory self-arousal needs and safe attachment to others during childhood. Also, in the cognitive model of drug abuse, Beck and colleagues (1993) argue that some people develop a cognitive vulnerability to drug abuse which, under certain circumstances, certain cognitive beliefs are activated which, in turn, increases the likelihood of drug abuse. Beliefs such as “I cannot create a proper social connection if I do not consume drug”, in difficult situations are activated for the person and increases the amount of tolerance in using drug. On the other hand, the schema-based approach identifies drug dependence as a primary disorder and considers activating early maladaptive schemas and maladaptive avoidance as important factors in increasing the relaps among these people. This approach assumes that the use of narcotics can be the result of direct expression of the deserve scheme’s activity and insufficient self-esteem or activity of selfish schemas, sacrifice schemas, acceptance and obedience (Yang et al., 2003). Drug abuse is thought to be one of the strategies that a person uses to avoid the negative effects of provoked maladaptive schemas. The purpose of the schematic therapy is to modify the individual’s maladaptive schemas by helping

the person to adapt to new experiences that do not confirm the original schema and create more adaptive behaviors (Yang, et al., 2003). The pattern of bilateral schema-based therapeutic design (Ball, 1998; Ball & Young, 2000), in supporing this assumption, consider addiction a primary disorder. This disorder also introduces schema activation and adaptive avoidance as factors that predispose the continuation or risk of relaps to people with significant personality problems. Schemas may be the core of pathology and trauma. Hence, modifying schemas can be a way to achieve long-term clinical improvement (Ahmadian Gorji, et al., 2008).

Also, the results of this study showed that the interventional technique of schema therapy reduces relapse in heroin-dependent men. This result is consistent with previous studies (Ghandahari & Dehghani, 2017; Tajik Zadeh, Zare, Naziri & Afshari, 2015; Yang & Mathela, 2002; Alawi & Nikzad, 2014; Thapia, Dandyo, Lennur, Otili, Gerai & Delilah, 2017). In explaining this result, it can be said that heroin is an addictive and psychologically stimulating substance which is associated with a high rate of depression and cognitive-emotional problems (Parnian, Bafndeh, & Shalchi, 2016). One of the emotional problems that plays an important role in vulnerability to addiction is the desire to consume drugs and emotional disturbances related toit which is caused by the problems of setting up excitement in individuals (Tarter, Ridenour, Reynolds, Homer & Vanyukov, 2015). The drug consumer believes that without using drug, he cannot mannage these negative and annoying emotions, and this causes the continuation of drug consumption and the repeated return to it after the periods of giving up and detoxification (Khalilzadeh, Mikaeli & Issazadegan, 2017). Research has shown that there is a direct relationship between the problems of regulating excitement, negative mood and depression and the desire to consume drugs (Khalilzadeh et al., 2017). As a result, therapy methods that teach emotional regulation skills can appear to prevent the vulnerability to addiction and relapse (Tarter et al., 2017). Therefore, in line with explaining the results of this study, one can say that the schematic therapy, by improving the early maladaptive schemas, can modify their misconceptions and beliefs resulting in a lower recurrence rate than the control group. Each of the early maladaptive schemas, in its own way, leads to the starting drug use and the continuious drug use in drug dependent people. These people seem to be taking advantage of the use of drugs as a response to relieve the annoying feeling and to avoid exposing their schematic provocative situations (Yang, 2003). For example, the people who deal with the schemata of defect and shame, failure, being emancipated, emotional exclusion, injury to disease, distress, and mistreatment and other schemas, to avoid confronting the triggers of their particular schema and annoying feelings that emanate from their schema, such as worthlessness and disability, feelings of failure, feelings of emancipation and loneliness, feelings of injury and anxiety, feeling of emotional deprivation and incomprehension, distrust and ... , use drugs as a response to avoidance, surrender and extreme compensation (Yang, 2003). Modifying the early maladaptive schemas and awareness of individuals about the schemas and coping responses and learning how to choose behaviors and more adaptive responses at the time of triggering maladaptive schemas, and replacing them with consuming drugs reduced relapse in the experimental group compared to the control group.

At the end, we can conclude that schema therapy is one of the interventions based on cognitive-behavioral therapy with an emphasis on eliminating cognitive errors and defective cognition that prepare the ground for reducing mood problems, and as Marlat in the prevention of relapse said, reducing emotional and mood problems can also affect the relapse rate of drug dependent individuals. Among the limitations of this study we can refer to the use of only heroin dependent persons, uniqueness to the

male population, and focuing on the treatment seeker samples. These factors can make generalizability more cautious. The research population was also available population which again question its generalizability. Therefore, it is suggested that, taking into account the limitations of the present research, other research be carried out.

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