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The Effectiveness of Matrix Treatment in Psychological Well-Being of Stimulants Substance Abusers

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Abstract: This research was conducted to investigate effectiveness of matrix treatment in the Psychological Well-Being of Stimulants substance abusers. The Static population is composed of all dependent people on stimulant who visited the rehab clinics of Kermanshah. The 3 rehab centers were first randomly chosen by using cluster sampling method and then pre-test was given to 30 individuals. Individuals were randomly placed in two test (n = 15) and control (n = 15) groups by using matching method based on obtained score in Psychological Well-Being scale. Rif's short form Psychological Well-Being questionnaire was used for the collection of data. Data were analyzed by using SPSS software, version 20 and the Covariance test, Shapiro Wilk test and Levene test, Muchly, Bonferroni post hoc test and Repeated measures. The results showed that the total Mean of Psychological Well-Being in the test group in post-test stage was higher than pre-test stage. Also the results of covariance analysis showed that there is a Meaningful difference between test and control groups in post-test and in test group at $p<0.001$ level. Given the obtained result, it can be concluded that matrix treatment has been effective in promotion of Psychological Well-Being of the people with dependency on stimulants. The psychologists and consultants working in drug abuse centers are recommended to make use of matrix treatment to enhance Psychological Well-Being of the patients.

Key words: Psychological Well-Being, matrix treatment, stimulant, enhance, Iran

INTRODUCTION

Today drug use disorders and its complications are one of the most important problems of public health throughout the world (Milan *et al*., 2014). Methamphetamine or ice which is a totally industrial substance abuse has started for about a decade in our country and its use has increasingly grown in recent years. The price of this substance is decreasing and its use is increasing (Ekhteyari, 2009). Ice is a stimulant. Stimulants are the substances which increase the activity of the central nervous system and cause heart beat and blood pressure to increase. As a result, awareness becomes easy, the individual feels self-confident and energetic and thinking and acting speed up (Davey, 2014). Studies show that industrial substance use, especially psychotropic substances, has a direct relationship with wrong attitudes among teenagers and the youth. Wrong information exchange among peer groups and the opportunistic propaganda of drug market have created this wrong notion that stimulants are not addictive. But sometimes even using ice once makes the brain to tolerate it and this causes methamphetamine to be a highly addictive drug.

Addiction to drugs as well as to stimulants and industrial substances transforms the individual's behavior and moods and is considered as one of the most significant psychological-social harms which can easily destroy the individual, familial, social and cultural foundations of life. It can also jeopardize the individual's dynamism, working skills, motivation and interests and the financial and spiritual resources of individuals and societies could be spent for the rehabilitation of these people. Drug abuse, dependency and addiction are a complicated disorder which is accompanied with biological, psychological, social and spiritual causes and consequences (Almdni, 2012).

Tajeri conducted a research in which they specified the impact of training cognitive-behavioral on the attitude, depression and general moods of ice addicts.

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According to the data and findings, there is a Meaningful statistical difference between the two test and control groups with regard to the research variables. That is, in the follow up stage the group which received cognitive-behavioral treatment as compared to the control group who did not receive any treatment showed change of attitude, depression and general moods and thus confirmed the research hypotheses. The results showed that training cognitive-behavioral skills brings about change in attitude, depression reduction and general moods improvement.

Farahani *et al*. (2013) conducted a research to determine the impact of cognitive-behavioral group treatment on irrational beliefs and lifestyle of the individuals depended on amphetamine. The results of implementing cognitive-behavioral group treatment in the test group showed that the score difference between the cognitive-behavioral group treatments against the proof group was Meaningful in reducing irrational beliefs and promotion of lifestyle.

Torkman and Khaksari in a research on the effectiveness of matrix treatment in lifestyle improvement of patients with stimulant (ice) abuse came to the conclusion that this method acts as an effective intervention which promotes the lifestyle and self-sufficiency of the patients.

Undoubtedly the individuals who are apt to addiction are subject to addiction more than others. Although the studies conducted in this area are quite useful with regard to prevention, the main question this study is concerned with is whether matrix treatment method is effective in promotion of Psychological Well-Being of the people with dependency on stimulants.

MARTIALS AND METHODS

The present study is of experimental type with pre-test, post-test plan and with control and follow up groups. The Static population is composed of all dependent people on stimulants who visited the rehab clinics of Kermanshah. 3 rehab centers were first randomly chosen by using cluster sampling method and then pre-test was given to 30 individuals. Individuals were randomly placed in two test (n = 15) and control (n = 15) groups by using matching method based on obtained score in Psychological Well-Being scale.

Tool

Rif's psychological well-being questionnaire: The Rif designed this scale in 1980. The main form consisted of 120 questions but later in the study 84-question, 54-question and 18-question forms were also suggested. In this research the 18-question form was utilized. In this scale the reply to each question is specified in a six-degree range (from quite disagree to quite agree). The validity and reliability of this scale has been reported in different researches. Daironak has found the internal matching as suitable and estimated the Chronbach's alpha at 0.77-0.90. The correlative scale of Psychological Well-Being with Rosenberg's scale of life satisfaction, happiness questionnaire and self-esteem questionnaire was obtained as 0.47, 0.58 and 0.56, respectively. The reliability coefficient obtained from Zanjani Tabasi's research (2004) with internal matching for whole Psychological Well-Being test amounted to 0.94 and for secondary tests amounted to 0.63 and 0.89.

The obtained correlation coefficient based on retest for the whole test amounted to 0.76 and in secondary tests amounted to 0.67-0.73 which is Meaningful at level of 0.001. The Chronbach's alpha of the questionnaire in this research was amounted to 0.83 (Kennedy *et al*., 2012).

Matrix treatment method: The content of group treatment sessions with cognitive-behavioral method (matrix) can be summarized as below:

First session: Familiarizing the members with one another and with the group's leader; specifying the group rules; specifying the time, place and duration of the meetings; discussing the importance of non-medication treatments of addiction, especially group treatment.

Second session: Paying attention to the patients' viewpoints about addiction; introducing the cognitive-behavioral model; providing logic for homework.

Third session: Clarification and prioritizing the goals; paying attention to the patient's ambivalence with regard to quitting; identification of and tackling the thoughts relating to drugs.

Fourth session: Understanding the patient's experience of desire to use; clarifying the nature of desire as a natural short-term and transient experience and studying the ominous triangle of use-obsession-use behavior; identification of the signs and stimulators of desire to use.

Fifth session: Training and exercising techniques of controlling the desire to use.

Sixth session: Assessing the availability of drugs and necessary steps to reduce it; studying strategies for discontinuing relations with drug suppliers; practicing skills or avoiding drugs; overviewing the distinction between inactive, aggressive and courageous responding.

Seventh session: Examining homework; discussing members' communicational methods; training skills for avoiding drugs; practical practice in the group.

Eighth session: Practicing health decisions and working on irrational beliefs; substituting rational beliefs with irrational ones and offering tasks that strengthen them.

Ninth session: Predicting future risky situations; compiling a general coping program.

Tenth session: Introducing the basic steps of problem solving within the meeting.

Eleventh session: Designing an objective supporting program for the patients; revision and support of the patient's efforts in implementing the program.

Twelfth session: Reviewing the program and the treatment's objectives; getting feedback from the patients concerning their improvement and the successful and unsuccessful aspects of the treatment.

Prior to conducting the interventions, the individuals were provided with sufficient explanations and consent forms approved by ethics committee of medical science university of Kermanshah were filled in and submitted by the patients. Also, this research was registered in the site of Iranian clinical trials (www.irct.ir) with the code IRCT2015120825425N1.

Two months after the training, questionnaires were carried out again. Data were analyzed by using SPSS software, version 20 and the Covariance test, Shapiro Wilk test and Levene test, Muchly, Bonferroni post hoc test and Repeated measures.

NOTE: In order to comply with the ethical principle of justice in study, after our study Matrix treatment was also held for the control group.

RESULTS AND DISCUSSION

Covariance analysis was used to evaluate data normality and covariance and homogeneity of pretest scores between the two groups. In order to examine the normality data, the Shapiro Wilk test was used. The Levine test was used to evaluate homogeneity of variance within groups. According to the data in Table 1 and 2, the findings were not significant (α = 0.05 level). Assumptions were inferred about normality and homogeneity of data covariance and regression slope and the use of covariance were permitted for evaluation of assumptions with homogeneity of covariance.

According to Table 3, the results show significance (α = 0.05) and therefore it can be concluded that matrix treatment was effective in psychological well-being of substance abusers.

According to Table 4, results of Muchly test were not significant, so we can conclude that assumption of sphericity test is established result and result of intergroup tests can be used without degrees of freedom's modification.

Table 1: Results of Shapiro Wilk test for evaluation of normality of data

		Shapiro wilk test		
Variables	Group	Sig.	df	F
Growth and development	Test group	0.271	15	0.499
	Control group	0.126	15	0.642
Satisfaction	Test group	0.180	15	0.572
	Control group	0.091	15	0.589
Autonomy	Test group	0.214	15	0.601
	Control group	0.152	15	0.573
Spirituality	Test group	0.130	15	0.457
	Control group	0.650	15	0.625
Communication	Test group	0.061	15	0.542
	Control group	0.093	15	0.428
Joy	Test group	0.420	15	0.357
	Control group	0.401	15	0415
Total of psychological well-being	Test group	0.071	15	0.927
	Control group	0.091	15	0.889

Table 2: Result of Levene's test for homogeneity of intergroup variance of data

	Leven's test			
Variables	F	df1	df2	Sig
Growth and development	1.864	1	28	0.219
Satisfaction	3.731	1	28	0.708
autonomy	4.359	1	28	0.181
Spirituality	3.279	1	28	0.650
Communication	2.364	1	28	0.156
Joy	3.207	1	28	0.778
Total of psychological well-being	4.980	1	28	0.101

Table 3: Results of covariance analysis in evaluation of matrix treatment in psychological well-being of substance abusers

Index sources variation	Type III sum of squares	df	Mean square	F	Sig.	Partial eta squared
Groupeffect						
Growth and development	298.512	1-28	298.512	284.630	0.021	0.546
Satisfaction	187.089	1-28	187.089	293.820	0.031	0.627
Autonomy	102.723	1-28	102.723	201.573	0.001	0.462
Spirituality	371.153	1-28	371.153	156.146	0.001	0.483
Communication	146.603	1-28	146.603	216.071	0.010	0.505
Joy	130.503	1-28	130.503	109.556	0.001	0.357
Total of psychological well-being	197.817		197.817	154.263		0.489

Table 4: Muchly test to evaluate the assumption of sphericity

Variable intragroup test	Muchly test			
Well-Being	W Muchly	χ^2	df	Sig.
-	0.853	1.732	2	0.531

Table 5: The results of Repeated measures analysis about the sustainability of effectiveness of matrix treatment in psychological well-Being of substance abusers

Index	Sources of changes	Sum of square	df	Mean of square	F
Effect of time	The sphericity assumption	204.293	2	107.924	10.043*
	Green House-gacer	204.293	1.318	96.545	10.043*
	Houin-Flat	204.293	1.369	105.381	10.043*
	Upper band	204.293	1.000	203.293	10.043*
Error	The sphericity assumption	134.710	42	14.208	
	Green House-gacer	134.710	27.521	16.473	
	Houin-Flat	134.710	28.618	18.712	
	Upper band	134.710	21.000	20.625	

$p<0.05^{**}$, $p<0.01^{*}$

Table 5 shows that statistical characteristic value F in the time factor is significant means it can be concluded that the change (increase) in various stages of testing is significant.

The results in Table 6 also in various stages of testing in the experimental group showed a significant difference between the three phases of pre, post and follow-up means. So after two months of treatment effects matrix has established.

Many studies show the effectiveness of matrix treatment in the improvement of the Meaningful behavioral signs of the individuals up to 50% which can confirm it as an appropriate treatment (Farnam, 2013).

In fact many therapists have combined the important features of matrix treatment to create a useful method for changing the behavior of addicts. Using this treatment method, these therapist emphasize on clear objectives for changing the interpretation of addicts' situation. They try to help the patients' distinguish serious problems from imaginary or exaggerated problems. They help them to change their interpretations of past events, current issues and future possibilities. On the other hand, attitude change is considered as a kind of ability to control excitements and their containment. And training Levinson's pattern and matrix treatment can enhance the cognitive ability of individuals in tackling risky situations through combining cognitive and behavioral techniques and provide them with necessary behavioral skills in confrontation with such situations.

In general the results of this research is consistent with those of other researches. Based on this research and other researches and considering the theoretical background of this research, the impact of matrix treatment intervention on enhancing the Psychological Well-Being of the people addicted to stimulants (ice) can be confirmed.

Some teenagers who before adolescence have resorted to drugs say that they know no other way to confront the sense of anxiety, impatience, depression, fear of failure and purposelessness. Training skills through Levinson pattern will lead to controlling painful emotions and focuses on the techniques that identify and contain the desire to use. These programs have an excellent model which teaches individuals to tolerate powerful emotions such as depression and anger which relate to Psychological Well-Being. On the other hand, in addition to this treatment, the individual can use self-control and relaxation which are among the cognitive-behavioral programs, to promote Psychological Well-Being which in turn reduces the desire to use.

Table 6: Bonferroni post hoc test about the sustainability of effectiveness of matrix treatment in psychological well-Being of substance abusers

J	I	Mean difference	SD	Sig.
Pre-test	Pre-test	-3.682*	1.117	0.040
	Follow up	-3.772*	1.254	0.015
Posttest	Pre-test	-3.682*	1.129	0.040
	Follow up	-0.091*	0.546	0.526
Follow up	Pre-test	-3.772*	1.263	0.015
	Posttest	-0.091*	0.546	0.526

$p<0.05^{**}$, p 0.01*

The fact deserves attention that in treatment sessions not only irrational and exaggerated beliefs are challenged but the individual is also equipped with behavioral and confrontational skill techniques such as relaxation, problem solving skills and courage. Thus on the one hand, the automatic negative thoughts transform into purposeful thoughts which have more adaptability with reality and therefore their cognitive processing becomes more rational and their exaggerated cognitive errors reduces. And on the other hand, the individuals learn behavioral techniques through organized homework and submitting necessary feedback and use them on his/her normal and natural environment.

Of course it is to be noted that the effectiveness of therapeutic interventions depends on different factors and conditions. The suability and success of programs does not follow "all or none" principle and the suitability

of each program vary according to the implementation conditions, participants' characteristics and the expertise of implementers. Of course the principles governing the programs are relatively identical and programs with more solid theoretical bases have similar structures. However, many programs acquire flexibility when they interact with different situations. Interventions with matrix approach are based on relatively sound foundations; therefore the effectiveness of the discussed interventions are expected.

The psychologists and consultants working in drug abuse centers are recommended to use matrix treatment to promote Psychological Well-Being and to execute their therapeutic techniques within group framework.

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REFERENCES

Almdni, S.A.H., 2012. Resiliency, styles, personality traits in smokers and consumers of narcotics and non-addicted people improved. MSc Thesis, Science and Research, Islamic Azad University, Tehran, Iran.

Davey, G.C., 2014. Psychopathology: Research, Assessment and Treatment in Clinical Psychology. John Wiley & Sons, Hoboken, New Jersey, USA.,.

Ekhteyari, H., 2009. Future horizons of research in the biological treatment of methamphetamine dependence (glass) in Iran. J. Addict., 3: 49-49.

Farahani, D.A., A. Rahmani and T. Tizdst, 2013. The effectiveness of cognitive-behavioral therapy on irrational beliefs an D quality of life of people dependent on amphetamines. J. Subst. Abuse Addict. Res., 7: 119-129.

Farnam, A., 2013. Effectiveness of the matrix model of relapse prevention and coping skills increase in opioid dependent patients. Res. Addict., 7: 25-38.

Kennedy, A.P., R.E. Gross, N. Whitfield, K.P. Drexler and C.D. Kilts, 2012. A controlled trial of the adjunct use of D-cycloserine to facilitate cognitive behavioral therapy outcomes in a cocaine-dependent population. Addict. Behav., 37: 900-907.

Milan, H.B., H. Kmrzin and H. Zareh, 2014. The effectiveness of cognitive-behavioral therapy on improving coping strategies and the symptoms associated with drug addiction. J. Subst. Abuse Addict. Stud., 30: 143-155.