Examining the Effectiveness of Training Problem-solving Skills on Happiness Degree in Addicts to Methamphetamine

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Abstract

One of the most important complaints of addicts in withdrawal period is their malady and boredom. This study aims to examine the effectiveness of problem-solving skills on happiness of addicts to methamphetamine in Tehran city. With use of a semi-experimental design and multistage cluster sampling method, 36 addicts were randomly to put in the experimental and control group. Both groups filled Oxford Happiness Questionnaire in the pre-test and 3-month follow up. The participants of the experimental group learned problem-solving skills. Covariance and variance analysis with repeated measurement of Bonn-Ferny test were conducted to analyze the data. Eta square (0.28) confirmed increases in happiness level of addicts receiving problem-solving skills. Therefore, it can be concluded that the experimental intervention has made changes in the experimental group that 0.28 of them results from the experimental action, and with 0.99 assurance there is significant difference between the studied groups in the three measurement or intervention stages. It can be concluded that training problem-solving skills is effective for increasing happiness level of addicts to methamphetamine.

Keywords: problem-solving skills, happiness, methamphetamine

Introduction

Psychological effects of methamphetamine abuse including dizziness, immediate euphoria, awareness increase, gabbling and boasting with anxiety. After 60 to 90minites, it causes anxiety. Conscious awareness and psychological attention increases but brings about depression (Julain, 2008). Jenenr and McKettin (2004) state that near to 49.1 of those addicted to methamphetamine receive diagnosis of mental health problems. Addiction therapy is one of the known cases in the world. A 24-year longitudinal study showed that 0.28 of addicts died in this period, 0.29 of them quitted it, 0.23 continued the substance abuse, and 0.18 fell in prisons. Another study also showed that only 10 to 20% of addicts quit the abuse (Lader and Naber, 1999; quoted by Nabdel, 2005). The most serious sign of substance withdrawal is depression which is accompanied by suicidal thought and behavior and low level of happiness (Sadock and Sadock, 2007).

There is a negative relationship between addiction and problem-solving. Data indicate that addicts have lower degrees of problem-solving (Parker et al, 2008). Problem-solving deficiencies are related to various defects in cognitive functions including addiction, depression, marital conflicts, and weakness in parental skills (Block & Hersen, 1999). Samimi (2008) believes that problem-solving skills by relying on logical principles makes us successful in facing difficulties, decrease stress and brings us happiness. Training problem-solving skills has significant positive effect on increasing therapy success of addicted adolescents (Frank et al, 1993) and treating depression caused by substance abuse in addicts under-treatment with methadone (Rosen et al,

2011). Virdine et al (2011) studied the effectiveness of motivation and problem-solving (MAPS) therapy on addicts in withdrawal state and concluded that this kind of therapy increases persistence of substance assistance and reduces possibility of risky behaviors. Another study also found that problem-solving skills can reduce psychiatric symptoms like depression in substance abusers since it gradually reduces depression and improves the patients' cognitions, and in addition, teaches them impressive ways for confronting problems (Doherwend, 1998).

Happiness and exhilaration has a very important role in health and dynamics of the society since on the one hand, is effective for reducing depression and anxiety, and on the other hand, besides enforcing security feelings, improving immune system of body and promote psychological and physical health, it facilitates decision-making process and creates a sense of cooperation while it increases the individual's life satisfaction feeling. Negative affects can be commonly observed especially at the withdrawal state of stimulant substances in addicts which is one of the main reasons of addicts' failure for preserving long-term abstinenceof substances (Tajeri, Ahadi and Jomehri, 2011). Unhappy or depressed people evaluate their skills with a more district caution (Ackerman and Derubies, 1991). In contrast, happy people assess their skills higher than the reality, remember positive events more than negative ones, and make plans more quickly since they enjoy important strategies like searching for information related to health (Argyle, 2004). Level of positive affect is largely dependent on the situation we are, especially for extrovert people. Because positive affect compared to negative affect changes more easily via situation change, it can be inferred that increase in positive affect will occur more easily and quickly with decrease of negative affects (Eysenck, 1998; Translated by Firouz bakht, 1996).

Enjoying problem-solving abilities help individuals to have higher self-esteem and valuable feeling. However, when they lack these skills or apply ineffective strategies for solving their problems, they may develop maladjustment with the surrounding environments and their psychological health may be threatened. Learning problem-solving skills give provides individuals with an opportunity to cope with their problems successfully. The most important features of cognitive therapies is their effort for cognitive restructuring, and problem-solving skills is one of the strategies sued in cognitive therapy. These therapies try to help individuals become successful in their lives via recognizing steps of problem-solving and applying appropriate knowledge and skills. Among critical models in this field, cognitive-behavior therapy can be mentioned that through cognitive therapy with psychological teachings to patients makes a way for their behavioral changes (Tajeri et al, 2012), and one of these learning materials is problem-solving skills. In most individuals who begin to substance abuse, level of consumption as well as its related problems increase afterf a while. When an individual face a problem, at the first stage he/she seeks its related concepts or schemes in his/her mind. If he/she is skillful in problem-solving can use his/her present knowledge about that task for defining and understanding the problem and therefore, the seeking the memory is inevitable. The method of tool-target analysis has been designed for opening those kinds of complex problems in which some actins to make distance with the target state may be needed. Through designing s series of (small, targets) steps, this method helps the problem-solver to move toward the solution.

Low degrees of happiness is related to development of psychological disorders and social harms in addicts. Therefore, design can be applied for reducing psychological disorders, social harms and prevention. Providing an opportunity for addicts to realize their own pathology and enabling them for making a brighter horizon for themselves will inevitably improve their happiness degree as well as total functions. In this regard, the present study tries to find if teaching problem-solving skill is effective for improving level of happiness in addicts to methamphetamine.

Methodology

Study design: this study is an applied semi-experimental study (Sarmad, 2009) with a pre-test and post-test and a control group

Statistical population and sampling method: the statistical population included all under-treatment addicts of Tehran city in 2015. Multistage cluster sampling method was used to increase the internal validity. First, among all addiction treatment centers of Tehran city under supervision of '' Professional Association of addiction treatment centers'' of three geographical districts, two centers were selected. Then, among 600 addicts who constituted the statistical population, 36 individuals were selected randomly from each center. So, the sampling unit was a treatment center.

Tools

Oxford Happiness Questionnaire is the improved version of Oxford Happiness Inventory (Argyle et al, 1989) which is designed by Hills and Argyle (2002) and assesses the following psychological constructs with 29 items: self-image, life satisfaction, mentally preparation, eagerness, aesthetic feeling, self-efficacy and hope. The subject is asked to indicate the degree to which he/she agree with each of the statements on 6-point Likert's scale (from Stringy disagree to Strongly agree). Reliability of this questionnaire via re-test method with a 4-weeks interval was computed 0.78 (p<0.001). Cronbach's alpha for the total index of OHI was 0.84 and 0.87 in the retest stage which is a desirable. This total index of OHQ had a high correlation with all 5 factors (N, E, O, A, C) of NEO personality questionnaire. In addition, factor analysis extracted 7 factors from OHQ which expanded 0.33 of variance of questions. Besides, second order factor analysis showed that OHQ can be considered as an one-dimensional construct for measuring happiness degree (Hadi nezhad, 2006).

Problem-solving package

The training period of problem-solving skills included 5 sessions (each one lasted for 90 minutes) and it fallowed two goals:

1) Creating insight toward happiness in an expanded context, like daily problems; and

2) Helping individuals (participants) finding a structural approach for a) recognizing and defining problems, and b) solving these problems.

Problem-solving sessions

First session: the instructor made some examples to help participants understand the casual relationship between facing life problems and experiencing tension and stress. Activities included: greeting of the participants, motivation them, explaining the importance for active and regulate participation in the sessions, stating the group goals, the approach, encouraging involvement, and justifying and rationalizing problem-solving skills. Oxford Happiness Questionnaire was applied in this session.

Second session: summary of the former session and investigating and scoring the homework, general explanation about problem-solving Describing the fists stage of problem-solving (getting problem-solving attitude). After a positive approach and assurance of the problem acceptance, the second stage (exact definition of the problem) was explained by offering several examples. The participants prepared a list of their problems which could include difficulties in various fields related to addiction like unhappiness caused by it, its impact on others (e.g. spouse and children), professional, psychological and physical issues. Gathering information investigating, the problem list, selecting one of the problem to be solved based on its urgency, and doing the brain storm activity all were performed in this session.

Third session: examining each of the suggested solutions in the brain storm activity, explaining and justifying the participant about the useful solution. In this stage, they set accessible

goals for solving their problems. They learned how to make a balance between their (social, economic, education, and support) sources and their barriers (e.g. addiction-caused isolation, perfectionism, personality problems) and to set goals which were specific, measurable, accessible, related to the problem, finally, and time-affordable. In addition, the participants learned how to adjust potential solutions, and perceived that their access to more than one possible different solutions would increase the possibility of finding a more effective and efficient solution.

Forth session: reviewing the exercises of the former sessions, effects of selected solution for solving problems.

In this session, in order to select the best solution, degree of potential success of each solution, and their effects on life environment were discussed

Fifth session: the effects of performing the selected solution were examined. If they were useful, the problem solving cycle was finished, nevertheless, it would be continued till the elimination of the stress in the situation. It was explained that after selection of the solution(s), the stages to reach that solution should be determined, several programs should be designed, and the time and list of activities going to be performed should be recognized stage by stage. The post-test via OHQ was conducted.

To perform the package of problem-solving skills training, the time and place of holding the sessions were determined by the participant cooperation. During the training period no participant was absent and all of them filled OHQ. Information gathered from the individuals and shared in the sessions were completely confidential and the participants signed a written consensus. Performance of training problem-solving skills was done in several stages. Below a summary of the stages is mentioned.

• Oxford Happiness Questionnaire was performed on all the 600 under-treatment addicts and those whose scores were lower than average were recognized.

• 36 addicts with lower-than-average scores in OHQ were selected and assigned randomly in the experimental and control group.

• The subjects of the experimental group received 5 sessions of training problem-solving skills (each one lasted for 120 minutes)

• Bothe the experimental and control group participated in the post-test

• In order to follow up the effect of training problem-solving skills (follow up of the intervention effect consistency), the addicts of the experimental control filled OHQ again after two months.

Data analysis

The data were analyses via SPSS software. Statistical indexes (e.g. mean and standard deviation) were used for descriptive comparison of the studied variables. Additionally, covariance and variance analysis with repeated measurement and Bonn Ferny test were conducted to compare the difference between addicts of the experimental and control groups in terms of happiness degree.

Results

Table 1: The mean and standard deviation of happiness scores in interventions stages of the experimental and control groups

Variable	Pre-test				Post-test				Follow-up			
	Experimental		Control		Experimental		Control		Experimental		Control	
	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q
Happiness	30.85	4.02	34.72	3.37	39.39	2.78	32.31	3.55	41.40	3.53	34.35	3.22

Given the data of Table 1, happiness scores in the experimental group have reached to 41.40 while it is 34.35 in the control group.

Table 2: Kolmogorov-Smirnov test for examining normality of scores distribution in post-test of happiness

Variable	Experimental	Parameter	Fd	Sig.
Happiness	Experimental	0.223	17	0.3
	Control	0.18	17	0.11

As it can be observed in Table 2, since significance level is larger than 0.05, scores distribution of both groups is normal.

Table 3: Levin's test for examining variance homogeneity in post-test scores of happiness

Variable	F	Fd1	Fd2	Sig.
Happiness	3.08	1	34	0.37

Table 3 confirms non-significance of Levin's test on both variables. Hence, variances of both groups are equal and congruent.

Table 4: Assumption of regression scope homogeneity

Source of changes	Sum of squares	Freedom degree	Mean of squares	F	Sig.
Happiness	3627.08	2	1813.54	17.56	0.092

According to the results of Table 4, because significance level is larger than 0.01, the computed F is not statistically significant, hence, assumption of regression scope is confirmed because of the insignificant interaction.

Table 5: Results of covariance analysis of scores of training problem-solving skills effects on happiness (N in each group = 18)

Variable	Source of change	Um of squares	Fd	Mean of square	F	Eta square
Happiness	Inter-subjects	3291.12	17	197.68		
	Intra-subjects	5500.36	54	98.73		
	Therapy effect	4276.11	3	1289.32	74.08*	0.28**
	Remained error	953.53	51	16.67		
	total	14021.21	35			

P< 0.01**, P< 0.05*

Since the significance levels are 0.03 and 0.02, respectively, and smaller than α, as well as the fact that the pre-test effect has been controlled by the covariance analysis, effectiveness of training problem-solving skills on happiness is confirmed. Moreover, since eta squares are 0.28 and 0.51 respectively, it can be inferred that the experimental intervention has led to a change in the experimental group which 0.28 and 0.51 have been the total changes caused by the experimental action. So, training problem-solving skills has been successful in increasing happiness.

Discussion and Conclusion

The main aim of this study was to examine the effectiveness of training problem-solving skills on increase of happiness degrees in addicts in under-treatment addicts of Tehran city. This part discusses the outcome of this study and following the analysis and conclusion part, several suggestions based on the study limitation and findings for future research will be offered.

Examination of the first hypothesis showed that addicts of the experimental group after receiving training of problem-solving skills had higher degrees of happiness compared to the control

group. So, it is logical to infer that training problem-solving skills can improve happiness degrees in addicts, and the hypothesis is confirmed. Several scholars have investigates the effectiveness of various interventions on happiness.

Abedi and Mirzayi (2006) point to increase of happiness via training problem-solving skills. This finding is consistent with that of Fava (1998), Bell and D'zurilla (2009), Mynor-Wallis (2011), Rathi and Rastogi (2008), and Elliot et al (2013). Peterson (2000) also found that happiness can improve psychological and physical health, while Seligman (2004) states that training happiness can decrease depression (opposite zone of happiness).

Features of addicts in common life situation (expectations, fears, skills, hopes) influence the degree of mental pressure they feel and general mood (boredom, hopelessness, malady, grief), and the abilities to cope with then. The goal of training problem-solving skills is to teach individuals how to think about their problems. This goal is a way for enforcing reasoning and using personal values for making right decisions about faced problems that finally, lead to gaining problem-solving skills which helps the individual to reduce risk of developing affective disorders, in contrast to those who lack these skills. Training problem-solving skills is an approach that through it, the individual learns to use his/her total cognitive skills to become adjusted with interpersonal problem-making situations. Findings of the current study shows the importance of applying problem-solving skills as a set of learnable skills, in increaseing happiness and reducing depression caused by substance withdrawal.

This study had several limitations that makes it necessary to be cautious while generalizing the finding. They include low level of the subjects' cooperation in practicing the trained exercises and confining only to exercises done in each session, lack of training packages based on scientific studies on problem-solving in under-treatment addicts, dissimilarity of the subjects' demographic characteristics, lack of controlled situation to supervise the process of performing exercises, and self-introducing of the addicts. Finally, it is suggested that future researchers normalize valid test in problem-solving area, prepare training packages for various addiction groups, specifically for stimulant substance abusers, and make more cooperation with addiction treatment centers to offer these training. Having a longer distance for follow-up and comparing training problem-solving skills with training other kinds of skills are also recommended.

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