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The Effect of Empowerment on the Reinforcement of Positive Emotions in Methamphetamine Addicts

[1]Mehrdad Eftekhar Ardebili, [2]Mohammad Eshagh Afkari,
[3]Faranak Ghasemi, [4]Maryam Dastoorpour and [5]Afsaneh Ghasem

[1]Mental Health Research center,iran University of Medical Sciences, Tehran, Iran
[2]Specialist in Internal Medicine, Shiraz University of Medical Sciences, Shiraz, Iran
[3]Department of Education and Promotion, School of Public Health,
Tehran University of Medical Sciences, Tehran, Iran
[4]Department of Epidemiology and Biostatistics, School of Public Health,
Kerman University of Medical Sciences, Kerman, Iran
[5]Department of Health Education and promotion, School of Public Health,
Tehran University of Medical Sciences, Tehran, Iran

Abstract: As a vulnerable group of the society, in addition to physical consequences, addicts have to face psychological and emotional problems as well. With long-term consequences of drug abuse including psychological dysfunction, crime involvement. This study aimed to assess the effect of empowerment on reinforcement of positive emotions in a group of Methamphetamine addicts. This clinical trial was conducted at the Psychiatric Health Institute of Tehran University of Medical Sciences and affiliated centers between February and August 2012 on 285 glass addicts after detoxification and during group therapy. The subjects were randomly selected from the list of those in the quitting process and divided into case and control groups. The case group consisted of two sub-groups of 1) educating the quitting addict, 2). The control group consisted of quitting addicts who did not receive any intervention. In this study. The data collection tools included a demographics check-list and Watson's perceived emotions questionnaire. The SPSS-15 software was used for descriptive (mean and standard deviation) and analytical statistics (chi-square and covariance). The results of the study showed that mean scores of perceived emotion changed significantly ($P<0.001$) when compared to before training (based on subjects, level of training, age group, gender)The findings of this study showed that recognition of positive and negative perceived emotions helps quitting addicts to successfully continue their efforts with no relapse. Therefore, a more effective treatment program can be designed with recognition of mental-psychological factors and offering educational programs with the help of psychologists and psychiatrists.

Key words: Empowerment · Perceived emotions · Methamphetamine · Addiction

INTRODUCTION

Addicts, as a vulnerable group in the society, have to deal with numerous mental, psychological and emotional problems besides physical consequences. Among addictive drugs, amphetamine, as a central nervous system stimulant, is being increasingly used by the youth, who are meant to be the country's future asset and is turning into a huge social problem.With the long-term consequences of amphetamine abuse including psychological dysfunction, crime involvement, marital problems, divorce and job instability, it seems fostering emotional-social dimensions in addicts has been overlooked [1]. The abilities associated with perceived

Corresponding Author: Mehrdad Eftekhar Ardebili, Department of Health Education and Health Promorion, School of Public Health, Tehran University of Medical Sciences, Tehran, Iran, 5th Floor, School of Public Health, Poursina Ave, Tehran 1417613191, Iran.
Tel: +98 (21) 88989128, Fax: + 98(21) 88989128.

positive emotions must be practically heightened in people and those not able to control their emotions are more at risk of being influenced by environmental factors. These emotions directly influence psychological-mental health of individuals [2, 3]. Thus, the role of emotions in the explanation of social-emotional factors needs to be pondered upon. There are many theories on the mechanisms of addictive behavior, but there are no practical studies on these mechanisms in addicts. Thus, theories, concepts and structures of these mechanisms could be a framework for understanding and research into addiction behaviors, including emotions and excitements. Raising the following questions in this area can manifest the importance of applying these concepts like emotions in relation to quitting addiction: Can emotional concepts be used to provide a suitable and stimulating environment for quitting and turning to normal life? If so, can these people truly understand their emotional states? And do they know how and when to express their feelings and control their moods? It seems, through specific issues, these abilities help effective and successful control of emotions in quitting addicts. In fact, inability to cope with and manage emotions plays an important role in relapse to substance abuse [4]. When a person in under pressure by his peers to use drugs, effective management of emotion, as an element of perceived emotions, reduces the risk of relapse and re-use of drugs. Hence, when the person is at high risk of re-use, he uses the strategy of coping with emotions and better manages to control the unwanted peer pressure and consequently resists re-use of drugs [5].

Studies have also shown that, in fact, when positive emotions are formed, communicational skills are developed and the person decides to give up and never to return. In other words, difficulty in recognizing positive emotions and failure to establish emotional relationships are the key features in substance abuse [6]. The ability to understand emotions prepares individuals to develop resistance and immunity against impulses ahead. In a study on 400 patients quitting glass and opioids, inability to control anger was the most predominant emotional pattern [7]. Therefore, given the importance of reinforcing positive emotions in addicts, especially glass addicts, due to high risk of relapse compared to other substances, the aim of this study was to reinforce positive emotions through empowering glass addicts and their family to use these emotions to enable them, at the time of quitting, to experience less hardship and reduce the risk of relapse.

MATERIALS AND METHODS

Population Under Study and Sampling: After having the approval of the ethics committee of Tehran University of Medical Sciences and completing the necessary preliminaries, this clinical trial was conducted on addicts who attended the Psychiatric Health Institute of Tehran University of Medical Sciences and affiliated centers over 12 months, from Feb 2012 to Feb 2013, to quit glass. In this study, 285 glass addicts who were quitting, , were enrolled in this study after the detoxification stage and during group therapy. The participants were randomly selected from the list of quitting addicts and divided into case and control groups. The case group consisted of two sub-groups of 1) educating the quitting addict, 2) educating addict's family members (for single addicts: father or mother, sister or brother and for married ones: spouses or children). The control group consisted of the quitting addicts with no interventions. The data collection tools included a demographics check-list and Watson's perceived emotions questionnaire. In this study, the 5 AS teaching method (effectively used in many educational interventions) was used. This is an approach that contains a self-programmed interactive system with participants. In other words, patients are in fully active and spontaneously formed groups. In each session of the groups, 5 steps are taken including evaluation, receiving scientific advice, setting goals, receiving practical help. It should be reiterated that the study inclusion criteria were met by those attempting to quit glass and intended to take part in the study.

Data Collection Tools: The following tools were used for data collection: 1) A demographics check-list including questions on age, gender (male/female), education level (high school dropout, associate diploma, university degree and higher), marital status (married/single), 2) Watson's perceived emotions questionnaire [8], which includes 20 questions in two parts from positive to negative emotions, with a 5-point Likert scale from "not at all" to "completely". The attainable score in each sub-section ranges from 10 to 50, with higher scores indicating a better emotional state in the past 24 hours. Watson *et al*. reported Cronbach's alpha coefficient of 94% for positive emotions and 91% for negative emotions. Based on the opinions of consulting professors, the questionnaire was divided into 5 areas of creativity, vitality, enthusiasm, nervousness, guilt and authority.

Having obtained verbal and written consent of all participants, pre-test was carried out for both case and control groups.

Intervention: The case groups were divided into groups of 10 subjects each and they separately attended four educational sessions, each lasting for 45-minute. The details of next week's programs were given to subjects after each session. Information pamphlets were also issued to participants. The sufficiency of educational notes was confirmed by the scientific faculty members and consultants of the thesis. These notes contained an introduction to addiction, risk factors, signs and symptoms of the disease, diagnosis, treatment and prevention. Given that in adult education, the aim is to provide the opportunity for achieving their needs, the educator must create an atmosphere of trust in which they can raise issues of concern. The educational intervention was carried out using the 5 AS method and an educational package. The strategy of the study was to gain support of other related experts like psychologists for directing specialized discussion sessions. The control group did not receive any relevant training during this period. Two months after the training course, post-test was taken from both case and control groups. Also, after completion of the second stage, necessary training for controlling the disease was provided for the control group and educational notes were issued to them, as well.

Data Analysis: In this study, the independent variable was the effect of training and dependent variable was perceived emotions. The collected data were analyzed using descriptive statistics (mean and standard deviation) and analytical statistics (chi-square and covariance) with SPSS-15 software.

Ethical Considerations: This study has the approval of Tehran University of Medical Sciences' Ethics Committee.

RESULTS

The results of the study showed that mean scores of perceived emotion changed significantly ($P<0.001$) when compared to before training (based on subjects, level of training, age group, gender) (Tables 1, 2, 3 and 4). In other words, after educational intervention, mean scores of different areas of perceived positive emotions, based on various dimensions, changed significantly. Analysis of different areas of perceived emotions before intervention, using one-way analysis of variance, showed that the groups' means in the areas of guilt and nervousness did not have a homogenous distribution and were in three different groups (levels). Statistically, the difference between the mean scores was significant ($P<0.001$). However, after the intervention, the mean scores of areas of perceived emotions in trial groups improved [1, 2] and the difference between the means was again significant

Table 1: Mean and standard deviation scores for perceived emotional areas before and after the educational intervention versus intervention groups

	Group 3 (control drug)				Test group 2 (addicted family member)				Group1 (drugabuse)				Sum			
	SD	Mean	SD	Before	SD	Mean	SD	Before	SD	Mean	SD	Before	SD	Mean	SD	Before
The gamut of emotions	After	After	Before	Mean	After	After	Before	Mean	After	After	Before	Mean	After	After	Before	Mean
Being a vibrant	1.66	5.57	1.59	5.52	1.19	8.91	1.40	5.90	1.57	7.50	1.92	5.88	2.02	7.33	1.65	5.77
Being angry	7.50	19.60	7.35	19.31	2.26	0.39	4.31	24.04	3.52	26.07	5.66	20.81	6.57	25.25	6.21	21.38
Be creative	1.85	8.84	1.82	8.75	2.20	12.41	1.69	8.25	1.74	10.98	2.04	8.48	2.43	10.74	1.86	8.49
Powerful and capable of	1.35	5.87	1.36	5.83	1.12	6.51	1.33	5.66	1.31	6.20	1.19	5.71	1.29	6.19	1.29	5.73
Being interested in	0.825	6.00	1.09	5.57	1.34	9.01	1.01	5.88	1.00	7.54	1.11	5.66	1.63	7.51	1.08	5.70
Guilt	2.77	7.28	2.57	7.08	0.833	7.28	1.67	8.35	1.39	8.57	1.93	7.41	1.94	7.71	2.15	7.61

Table 2: Mean and standard deviation scores for perceived emotional areas before and after the educational intervention based on education level

The gamut of emotions	Degree Bachelorand above				Degree Bachelor Diploma				Diploma and Associate				Sum			
	SD	Mean	SD	Before	SD	Mean	SD	Before	SD	Mean	SD	Before	SD	Mean	SD	Before
The gamut of emotions	After	After	Before	Mean	After	After	Before	Mean	After	After	Before	Mean	After	After	Before	Mean
Being a vibrant	1.93	7.73	1.63	5.80	1.93	7.85	1.49	5.66	1.99	6.76	1.77	5.82	2.02	7.33	1.65	5.77
Being angry	6.04	26.39	5.21	21.79	4.92	27.57	5.36	23.10	7.14	23.11	6.93	0.25	6.57	25.25	6.21	21.38
Be creative	2.60	11.09	1.82	8.19	2.50	11.26	1.71	8.32	2.17	10.21	1.94	8.78	2.43	10.74	1.86	8.49
Powerful and capable of	1.25	6.13	1.40	5.63	1.36	6.36	1.31	5.63	1.26	6.12	1.22	5.86	1.29	6.19	1.29	5.73
Being interested in	1.76	7.91	1.01	5.75	1.69	8.18	1.16	5.75	1.24	6.86	1.07	5.67	1.63	7.51	1.08	5.70
Guilt	1.81	1.54	2.09	7.72	1.39	7.59	2.00	8.09	2.28	7.89	2.23	7.24	1.94	7.71	2.15	7.61

Table 3: Mean and standard deviation scores for perceived emotional areas before and after the intervention in terms of age groups

		34 yearsand above				34-18 years				Under 18 years				Sum			
The gamut of emotions	P valiu	SD After	Mean After	SD Before	Before Mean	SD After	Mean After	SD Before	Before Mean	SD After	Mean After	SD Before	Before Mean	SD After	Mean After	SD Before	Before Mean
Being a vibrant	P< 0.001	1.98	7.22	1.72	5.81	1.92	6.63	1.75	5.65	1.59	8.61	1.42	5.92	2.02	7.33	1.65	5.77
Being angry	p<0.001	5.88	25.22	5.96	21.24	6.76	23.24	6.48	20.25	5.51	23.44	5.51	28.64	6.27	25.25	6.21	21.38
Be creative	0.003	2.44	10.51	1.83	8.44	2.18	10.06	2.01	8.58	2.27	11.12	1.62	8.41	2.43	10.74	1.86	8.49
Powerful and capable of	P<0.001	1.34	6.11	1.34	5.63	1.26	6.07	1.27	5.79	1.25	6.48	1.30	5.74	1.29	6.19	1.29	5.73
Being interested	P<0.001	1.58	7.39	1.05	5.58	1.28	6.89	1.108	5.65	1.59	8.70	1.04	7.51	1.63	7.51	1.08	5.70
Guilt	P<0.001	1.87	7.88	2.11	7.50	2.27	7.88	2.20	7.31	1.25	7.25	2.00	8.24	1.94	7.71	2.15	7.61

Table 4: Mean (SD) scores before and after the intervention in perceived emotional areas by gender

	Female				Male				Sum			
The gamut of emotions	SD After	Mean After	SD Before	Before Mean	SD After	Mean After	SD Before	Before Mean	SD After	Mean After	SD Before	Before Mean
Being a vibrant	1.71	8.04	1.64	5.93	2.07	6.91	1.66	5.67	2.02	7.33	1.65	5.77
Being angry	5.77	27.18	6.103	22.00	76/6	24.13	6.26	21.03	6.57	25.25	6.21	21.38
Be creative	2.30	11.48	1.79	8.50	2.40	10.31	1.09	8.49	2.43	10.74	1.86	8.49
Powerful and capable of	1.07	6.28	1.20	5.80	1.406	6.14	1.34	5.69	1.29	6.19	1.29	5.73
Being interested in	1.63	8.06	0.997	5.84	1.55	7.20	1.12	5.62	1.63	7.51	1.08	5.70
Guilt	1.81	7.80	1.99	7.79	2.02	7.66	2.24	7.51	1.94	7.71	2.15	7.61

(P<0.001), indicating training was effective. For a more accurate assessment of training on the score of guilt and nervousness, covariance test was used and the results showed that even after controlling confounding factors of gender, education level and age groups, intervention significantly affected these groups (P<0.001) (Table 1). With regards to the effect of the education level on various areas of perceived emotions before intervention, one-way analysis of variance showed no significant difference between mean scores (P>0.05) but the difference was significant after the intervention, indicating that training was effective (P<0.001) (Table 2). Regarding the effect of age groups on various areas of perceived emotions before training, one-way analysis of variance showed that the difference between mean scores of the three age groups (under 18, 18-34, over 34) was not significant but this difference became significant after training (P<0.001) (Table 3). As can be seen in Table 4, the difference between mean scores based on the effect of gender on perceived emotions areas before intervention, according to one-way variance analysis, was insignificant (P>0.05); however, the difference between males and females became significant after the intervention (P<0.001) (Table 4).

DISCUSSION

The aim of this study was to reinforce positive emotions through empowering glass addicts and their families. In line with a study conducted in the U.S. on 1257 detoxified amphetamine addicts with mental and psychological problems such as depression, lack of positive emotions and nervousness, in this study, the mean score of various perceived emotions areas was quite low before training [9]. Studies have shown that educating perceived emotions causes a significant increase in the ability to recognize and manage emotions and decrease anger [10]. According to another study, those who have better understanding of their own and others' emotions, skillfully handle interactions with others and have better social skills and relationships, indicating that understanding emotions has a role in better social functioning [11]. In fact, drug abuse leads to psychological dependence on that drug and affects personal and social performance of the individual. Based on the classic learning hypothesis, reinforcing positive perceived emotions is a suitable method for preventing risky behaviors toward re-use and relapse because it has a positive and significant relationship with mental health. Conversely, negative emotions damage well-being of the individual and the society. Thus, training and enhancement of positive perceived emotions help to promote health and lead to the process of quitting with no relapse[5]. In this study, after training, the mean score of positive perceived emotions areas (including enthusiasm in positive behaviors) improved. Moreover, the mean score of negative emotions such as nervousness and guilt reduced. Reinforcing perceived emotions is achieved through control of impulses and awareness of one's mental status. In a study on the mental and psychological problems of addiction, lack of self-awareness of addicts about impulses, depression, guilt and especially lack of positive emotions was widespread [12], which concurs with this study before

educational intervention. Behavioral and psychological –mental therapies are not specific to one type of drug [13]. In a study on addiction to marijuana, it was concluded that to enhance positive emotions, it is very important to receive specialized and intensive educational programs and managed services, which reduce the tendency to relapse [14]. Hjorthoj *et al*., (2009) in their study found that perceived emotions vary among amphetamine addicts and with equal conditions, play a deterministic role in amphetamine abuse and quitting [15], which is in line with this study before training. Further studies in this area are required to better elucidate the role of positive and negative perceived emotions in addiction, quitting, re-use and relapse. Results obtained from the analysis of different factors indicate that positive and negative enhancement reflects different structures and concepts received from others' opinions and views are necessary to fully understand the motivation for participation in amphetamine addiction [1]. This finding concurs with the results of this study which showed that an intensive educational program offered by a support team including a psychologist and a physician had a positive effect on perceived emotions in addicts and encouraged persistence with quitting. An effective treatment for addiction is often a combination of various methods including using different techniques like psychotherapy, medical therapy and behavior therapy. These methods have a synergistic effect on quitting and prevention from relapse [16].

CONCLUSION

The findings of this study showed that recognition of positive and negative perceived emotions helps quitting addicts to successfully continue their efforts with no relapse. Therefore, a more effective treatment program can be designed with recognition of mental-psychological factors and offering educational programs with the help of psychologists and psychiatrists. Addicts who began to quit could not respond to our questions with attention and focus at first due to the complications of addiction and withdrawal. There have been very few studies on glass addiction in the world and fewer in Iran. Thus, evidence is lacking in the introduction and discussion sections. This study showed that education on perceived emotions significantly increased the ability to identify positive and negative emotions and hence to manage these emotions. Therefore, it is suggested that drug users who wish to quit receive education on perceived emotions.

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REFERENCES

1. Newton, T.F., *et al*., 2009. Theories of addiction: methamphetamine users' explanations for continuing drug use and relapse. The American Journal on Addictions, 18(4): 294-300.
2. Grekin, E.R. and K.J. Sher, Alcohol dependence symptoms among college freshmen: Prevalence, stability and person-environment interactions. Experimental and Clinical Psychopharmacology, 14(3): 329.
3. Parker, J.D., *et al*., 2008. Problem gambling in adolescence: Relationships with internet misuse, gaming abuse and emotional intelligence. Personality and Individual Differences, 45(2): 174-180.
4. Bar-On, R., 1997. The emotional quotient inventory (EQ-i). Technical manual. Toronto, Canada: Multi-Health Systems.
5. Albertson, T.E., R.W. Derlet and B.E. Van Hoozen, Methamphetamine and the expanding complications of amphetamines. Western Journal of Medicine, 170(4): 214.
6. Parker, J.D., G.J. Taylor and R.M. Bagby, 2001. The relationship between emotional intelligence and alexithymia. Personality and Individual Differences, 30(1): 107-115.
7. Sheridan, J., *et al*., 2006. Injury associated with methamphetamine use: A review of the literature. Harm Reduction Journal, 3(1): 14.
8. Tellegen, A., D. Watson and L. Clark, 1988. Development and validation of brief measures of positive and negative affect: The PANAS scales. Journal of Personality and Social Psychology, 54(6): 1063-1070.
9. Pilowsky, D.J., *et al*., 2011. Co-occurring amphetamine use and associated medical and psychiatric comorbidity among opioid-dependent adults: results from the Clinical Trials Network. Substance Abuse and Rehabilitation, 2: 133.
10. Mayer, J.D., D.R. Caruso and P. Salovey, 1999. Emotional intelligence meets traditional standards for an intelligence. Intelligence, 27(4): 267-298.

11. Denham, S.A., *et al*., 2003. Preschool emotional competence: Pathway to social competence? Child Development, 74(1): 238-256.
12. Carpentier, P., *et al*., 2010. Influence of attention deficit hyperactivity disorder and conduct disorder on opioid dependence severity and psychiatric comorbidity in chronic methadone-maintained patients. European Addiction Research, 17(1): 10-20.
13. Drake, R.E., *et al*., 2004. A review of treatments for people with severe mental illnesses and co-occurring substance use disorders. Psychiatric Rehabilitation Journal, 27(4): 360-374.
14. DiClemente, C.C. and M.M. Velasquez, 2002. Motivational interviewing and the stages of change. Motivational interviewing: Preparing People for Change, 2: 201-216.
15. Hjorthøj, C., A. Fohlmann and M. Nordentoft, 2009. Reprint of" Treatment of cannabis use disorders in people with schizophrenia spectrum disorders--a systematic review". Addictive Behaviors, 34(10): 846.
16. Janellopis, E. and I. Matytsina, 2006. Mental health and alcohol, drugs and tobacco: a review of the comorbidity between mental disorders and the use of alcohol, tobacco and illicit drugs. Drug and Alcohol Review, 25(6): 515-536.