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Effect of Empowerment Based Intervention Program on Promoting Lifestyle among Methamphetamine Addict and Their Families Compare with Non-Addicts

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Abstract: The purpose of this study was assessing the effect of empowerment based intervention program on promoting lifestyle among addicted individuals, their families and non-addicted individuals.This study was a randomized control Trial which had three groups in study as followed: 1) 95 undertreated Methamphetamine addicted individuals as one intervention group,2) 95 persons who have an addict in their family as second intervention group and 3) 95 undertreated methamphetamine addicted as control group. Sampling method was random sampling among addicted individuals referred to Institute of Mental Health affiliated to Tehran University of Medical Sciences. A questionnaire was used to assess lifestyle and health promotion life behaviors. Data analysis performed using One-Way ANOVA and covariate. The results revealed that there were no significant differences before intervention regarding age, sex and level of education among three groups but after the intervention there were significant related to lifestyle domains ($p<0.001$). Furthermore, regarding to assess interaction effects among variables and covariate test showed that the mean score of three groups after intervention and the program had significant effect after controlling the age, sex and level of education variables among intervention groups($p<0.001$). It seems that this kind of intervention and strategies can promote lifestyle modification among addicted individuals and their families.

Key words: Addiction · Empowerment intervention program · Amphetamine · Lifestyle · Family

INTRODUCTION

Drug abuse is a thoughtful public health problem that affects individual, family and society in large [1]. Methamphetamine is a very addictive stimulating drug, which affects brain and has the ability to induce feelings of pleasure, increase energy and elevate. Abusers may are become addicted quickly and they need higher doses more often [2]. These kinds of drugs have poisoning effect on physical and psychosocial systems [3]. Its adverse health effects include; irregular heartbeat, increased blood pressure and a variety of psychological problems. Long-term effects may include severe mental disorders, memory loss and severe dental problems [1].

Drug addiction is considered as one of the most health, social, economical and political problem over the world [1]. In our country Iran, due to specific geographical, social and cultural situations, provided vulnerable situation for drug addiction among youth. Eleven million individuals, or a member of the family are struggling with their addiction behavior [4, 5]. In this condition, the magnitude of addiction health, social, economical and political problems is very devastating,

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if the intervention is not considered to in halt the burden. According to this finding, making and individual not being use Methamphetamine, is very easy through lifestyle modification. This shows that, lifestyle modification can help addicted individuals and their families towards normal life style condition [3].

The lifestyle domains those studied before includes mental behavior, dietary condition, social relationship, spirituality, physical health, physical exercise, sleep condition and having enough rest were assessed in 12 different studies conducted among addicted individuals in different country. The most important of their findings; Methamphetamine was affects mental and physical heath of an addicted individuals [4]. However, family environment was revealed weak relation and cohesion in contributing Methamphetamine addiction [2,4, 5].

In this regards, to compensate of these mentioned effects, could be attending in NA groups in order to decrease lonely and enhancing social relationships [1]. Beside this, responsible family is, an essential base, to play important roles in addicted individuals treatment [4, 5]. As the survey conducted in Iran (2003), Amphetamine use and alcohol consumption were related to less spirituality of an individual [2]. Hence, strengthen of spirituality of an individual is important to prevent Amphetamine use and alcohol consumption. In another way life satisfaction and following healthy lifestyle is a predictor condition of decreasing thoughts of suicide. Additionally, having positive lifestyle and satisfactory life condition, had significant relation with decreasing risky behaviors [6]. Also, according to the finding of study conducted in Australia (2012), Nutritional counseling, is important for addicted individuals [7], because drug abuse has correlation with malnutrition; and nutritional risk factors and mal-nourishment are prevalent among addicted individuals and they are seafaring from the problem [7]. On the other hand, physical exercise habit was assessed among addicts individuals and the results were shown that regular physical activity can be helpful in long time to treat addiction. Because, physical exercise can omit drugs dependency; but it needs an accurate planning with their social and occupational life program [8]. According to many research findings, the prevalence of Methamphetamine addiction is increasing in Iran, hence, this study was conducted to assess the effect of empowerment based intervention program on promoting lifestyle among methamphetamine addict individuals, their families and non-addicts individuals.

MATHERIALS AND METHODS

This study was conducted in Institute of Mental Health affiliated to Tehran University of Medical Sciences in 2012; and it was ethically approved by Deputy of Research and ethics. Additionally, it was approved by Iranian Registry of Clinical Trials (10604) and ethical points of Tehran University of medical Sciences (17090). Eligible, study participants were selected randomly and participants those were not fulfill the inclusion criteria of the study were rejected. The rejection criteria of participants were illiteracy, having duration of addiction more than 10 years, addicted, but not utilized amphetamine more than 3 months. The participants were divided into three groups as follows: 1) 95 undertreated Methamphetamine addicted individuals as intervention group,2) 95 persons which have an addicted in their family member as second intervention group and 3) 95 undertreated Methamphetamine addicted as control group. From ethics point of view no participant was obliged to participate in the study and they were given full right to resin from the participation whenever they want during the course of the study. The study was randomized controlled trial (RCT), Pretests were conducted and completed at study baseline for all three groups. The main aim of this interventional program was, for the modification of lifestyle and to assess its various dimensions in methamphetamine addicts. Subsequently, interventional program was carried out as detailed below for two interventional groups. After that, two intervention groups divided in ten participant groups and then educational program was executed for four sessions, which lasts forty five minutes. Educational strategies were based on lecture, problem solving and query and answer. Based on adult education strategy, 5AS educational methods (Assess, Advise, Agree, Assist and Arrange) were applied. This approach was based on planned and active interaction system with participants in groups. In each session some steps as assessment, comprehension scientific recommendation, goal setting and receipt practical help were provided. Furthermore, a booklet about lifestyle modification has been given to intervention groups. Contents of the booklet was about introduction to addiction disease, risk factors, symptoms of the disease, diagnosis, treatment and prevention of addiction with changing incorrect habits and lifestyle modification. None of these activities were not applied for control group. They were received the current program providing

the institute. Finally after two months later post test was carried out for all three groups. At the end of the study, regarding to research ethics educational booklet was given to control group. The instrument of current study included Socio demographics data consisted of 4 items such as age, gender, level of education and marital status. Additionally, Health-Promoting Lifestyle Profile II (HPLP) developed by Walker et al (1987) which was consisted 52-item instruments with six dimensions which comprise the HPLP subscales of self-actualization, health responsibility, exercise, nutrition, interpersonal support and stress management. The alpha reliability coefficient for the total scale was0.92; and for the subscales ranged from 0.7 to 0.9 [9]. Socio-demographic data were compared within groups at baseline. That means socio- demographic data were compared between groups using independent samples t-tests and the stages of the study were measured by One-Way ANOVA and covariate. Results were considered at the significant convention $p<0.05$ level.

RESULTS AND DISCUSSION

Table 1 represents descriptive statistics of lifestyle dimensions and gender of pre-test and post-test among participants. Groups analysis of variance (ANCOVA) was conducted to explore the impact of gender on lifestyle (nutrition, social relations, physical health, mental health, spiritual health, physical exercise, sleep& rest conditions) and all were statistically significant before and after intervention (Table 2), except nutritional lifestyle ($p=0.07$). Table 2 shows descriptive statistics of lifestyle

Table 1: Comparison between lifestyle domains and gender among Participants

Lifestyle dimensions		Male Mean± SD	Female Mean± SD	Total Mean± SD	ANOVA	p-value
Nutrition	Pre	21.49±7.11	23.00±6.81	22.48±7.09	4.16	0.04*
	Post	24.78±7.28	24.17±6.77	24.13±7.15	9.76	0.002*
Social relations	Pre	20.99±6.36	22.76±5.77	22.07±6.40	0.85	0.35
	Post	23.43±5.88	23.90±6.06	23.19±5.84	14.35	<0.001**
Physical health	Pre	15.94±4.85	17.09±4.44	16.75±4.62	3.12	0.78
	Post	18.10±4.79	18.12±4.75	17.73±4.68	13.56	<0.001**
Mental health	Pre	27.02±7.98	28.16±6.41	28.07±7.91	3.57	0.06
	Post	29.71±6.82	29.87±7.49	29.14±6.70	8.79	0.03*
Spiritual health	Pre	14.07±4.76	16.84±3.78	15.62±3.85	1.48	0.22
	Post	16.24±4.13	17.21±4.60	16.46±4.00	18.84	<0.001**
Physical exercise	Pre	16.54±6.40	16.19±4.83	17.60±6.24	3.37	0.67
	Post	18.41±4.87	17.64±5.89	17.59±4.96	13.79	<0.001**
Sleep& Rest	Pre	2.25±0.88	2.59±1.04	2.41±0.91	1.07	0.3
	Post	2.47±0.85	2.69±0.91	2.52±0.92	15.73	<0.001**

*Significant at 0.05 level ** Significant at less than 0.001 level

Table 2: Comparison between lifestyle domains and age groups among Participants

Lifestyle dimensions		<18 Mean± SD	18-34 Mean± SD	>34 Mean± SD	Total Mean± SD	ANOVA	p-value
Nutrition	Pre	20.74±4.73	19.40±5.36	19.92±6.26	22.48±7.09	14.03	<0.001**
	Post	30.25±3.95	25.94±7.26	24.47±7.81	24.13±7.15	113.52	<0.001**
Social relations	Pre	22.01±4.28	18.97±4.87	21.01±6.06	22.07±6.40	2.17	0.11
	Post	28.34±4.24	23.54±6.10	23.75±6.59	23.19±5.84	84.29	<0.001**
Physical health	Pre	16.57±3.96	14.72±3.75	15.23±4.60	16.75±4.62	3.95	0.20
	Post	21.70±3.29	18.45±4.69	17.67±5.14	17.73±4.68	85.63	<0.001**
Mental health	Pre	29.18±5.58	24.52±6.31	25.73±6.15	28.07±7.91	0.43	0.64
	Post	36.42±4.80	29.47±6.97	28.57±7.28	29.14±6.70	100.85	<0.001**
Spiritual health	Pre	18.04±3.63	13.24±3.59	14.29±4.10	15.62±3.85	8.83	<0.001**
	Post	20.99±2.88	16.01±4.01	15.66±3.97	16.46±4.00	120.85	<0.001**
Physical exercise	Pre	17.06±5.52	14.21±4.49	15.35±4.91	17.60±6.24	1.18	0.30
	Post	23.57±5.22	18.00±4.55	17.30±5.01	17.59±4.96	97.93	<0.001**
Sleep& Rest	Pre	2.75±0.94	2.01±0.71	2.16±0.70	2.41±0.91	3.60	0.02*
	Post	3.34±0.75	2.45±0.90	2.39±0.92	2.52±0.92	88.10	<0.001**

*Significant at 0.05 level ** Significant at less than 0.001 level

Table 3: Comparison between lifestyle domains and level of education groups among Participants

Lifestyle dimensions		Under diploma and Diploma Mean± SD	Upper diploma up to BSc degree Mean± SD	BSc & more degree Mean± SD	Total Mean± SD	ANOVA	p-value
Nutrition	Pre	19.37±5.56	22.37±6.34	22.71±7.13	22.48±7.09	5.17	0.60
	Post	25.50±7.52	27.10±6.499	23.68±6.94	24.13±7.15	37.70	<0.001**
Social relations	Pre	19.53±5.38	22.53±4.71	22.58±7.06	22.07±6.40	1.27	0.28
	Post	23.78±6.34	25.57±5.49	22.89±6.02	23.19±5.84	26.95	<0.001**
Physical health	Pre	14.89±3.95	17.00±4.23	16.97±5.45	16.75±4.62	2.40	0.09
	Post	18.37±4.81	19.43±4.54	17.41±4.86	17.73±4.68	25.28	<0.001**
Mental health	Pre	24.73±6.33	29.23±5.68	28.45±8.68	28.07±7.91	0.17	0.83
	Post	29.31±7.10	32.93±6.82	28.74±7.12	29.14±6.70	33.41	<0.001**
Spiritual health	Pre	13.67±3.72	17.43±3.71	15.62±5.01	15.62±3.85	3.55	0.03*
	Post	16.12±4.00	18.66±4.74	15.96±4.19	16.46±4.00	32.60	<0.001**
Physical exercise	Pre	14.30±4.41	17.23±5.09	17.49±5.38	17.60±6.24	0.44	0.64
	Post	17.88±4.64	20.64±6.10	17.85±6.90	17.59±4.96	32.75	<0.001**
Sleep& Rest	Pre	2.05±0.72	2.67±0.84	2.42±0.99	2.41±0.91	1.72	0.18
	Post	2.45±0.92	2.95±0.85	2.45±1.01	2.52±0.92	28.94	<0.001**

*Significant at 0.05 level ** Significant at less than 0.001 level

Table 4: Comparison between lifestyle domains among three groups of study

Lifestyle dimensions		Addicts (Intervention G.1) Mean± SD	Member of addicts family (Intervention G.2) Mean± SD	Addicts (Control) Mean± SD	Total Mean± SD	ANCOVA	p-value
Nutrition	Pre	17.28±3.14	20.21±4.84	19.85±5.95	22.48±7.09	173.02	**<0.001
	Post	31.89±2.12	30.29±3.30	20.27±5.94	24.13±7.15		
Social relations	Pre	18.25±4.22	21.64±4.74	19.33±5.10	22.07±6.40	226.57	**<0.001
	Post	28.25±3.58	28.62±3.76	19.66±5.18	23.19±5.84		
Physical health	Pre	13.62±3.01	15.98±4.38	14.94±3.77	16.75±4.62	14.94	**<0.001
	Post	21.86±2.66	21.68±3.50	15.34±3.77	17.73±4.68		
Mental health	Pre	23.40±5.27	27.93±6.60	25.05±6.04	28.07±7.91	267.75	**<0.001
	Post	33.95±4.13	36.12±4.97	25.55±5.98	29.14±6.70		
Spiritual health	Pre	12.55±2.78	17.28±4.30	13.53±3.56	15.62±3.85	243.54	**<0.001
	Post	18.34±2.51	20.80±3.10	13.76±3.47	16.46±4.00		
Physical exercise	Pre	12.84±3.43	16.54±4.80	14.55±3.60	17.60±6.24	295.85	**<0.001
	Post	21.29±2.62	23.78±5.60	14.94±3.75	17.59±4.96		
Sleep& rest	Pre	2.11±0.59	2.63±1.32	1.81±0.60	2.41±0.91	150.02	**<0.001
	Post	3.08±0.59	3.32±0.73	1.83±0.61	2.52±0.92		

** Significant at less than 0.001 level

dimensions and age groups of pretest and posttest among participants. Participants were divided into four or three groups according to their age groups (Group 1: 16-30 years; Group 2: 31-45 years; Group 3: 45 years and above). Groups analysis of variance (ANCOVA) was conducted to explore nutrition, sleep and rest dimensions impacts on age groups. Sleep and rest dimensions were not statistically significance. However, nutritional lifestyle was statistically significance. Table 3 descriptive statistics of lifestyle dimensions and level of education among groups at pre-test and post-test. Groups analysis of variance (ANCOVA) was conducted to explore the effect of educational level on lifestyle dimensions. It showed that mean score of spiritual health was not statistically significant with age groups at pre and post tests, but others were significant. Furthermore, ANCOVA result indicates that, after intervention there were significant differences between the mean scores of all lifestyle dimensions between three groups (Group1: 95 undertreated Methamphetamine addicted individuals as one intervention group, group2: 95 persons who have an addict in their family as second intervention group and group3: 95 undertreated methamphetamine addicted as control group) at the study which showed the effectiveness of the empowerment based intervention program (Table 4). It is necessary to notice that all POST HOC was significant in lifestyle dimensions except gender between three groups at less than 0.001 level. Therefore, our findings highlight the necessity of accurate educational intervention planning and implementation

regarding under treating addicted individuals and their family empowerment about lifestyle. As the previous study witnessed drug abuse is accompanied with loss of appetite, unhealthy nutrition and malnutrition. Beside this, nutritional disorder was prevalent among addicted people [7]. Our study revealed that as nutrition was modifiable lifestyle dimension among three study groups; it seems because of nutrition was one of the most important plans regarding under treating intervention and control groups. This can be implemented by explaining the importance of nutrients and food consumption pattern [10]. Based on current different study's findings and our finding, nutrition management is one of the key factors of lifestyle modifications in under treating addicted individuals in order to bring them in healthy lifestyles behavior. Physical exercise is another domain of lifestyle, which explored under this study. According to, Fontes-Ribeiro's study (2011) regular physical exercise for long lime could omit dependency on amphetamine, but the major points was suggested that physical exercise plan must not interfere in their daily living and occupation plans [8]. In our study, score of exercise domain was low before intervention which was alongside with the above mentioned study [8]. In other hand, mental health is important issue in order to achieve desirable and healthy lifestyle. This dimension is attainable with psychological intervention in the center of psychosocial empowerment [11]. Our study was revealed this point; and also it was shown in Brechant's study [12]. Furthermore, this study represented that, as better mental health could lead to better social relations. Also, the study shows that, under treated addicted individuals could protect themselves from risky behaviors [12]. Current study on planned group strategies was explained that, the same result with our finding [13]. Before intervention, there were lack and weak parts' social support between addicted individuals and family members. However, according to our study finding after intervention there were social support modification between addicted individuals and family members. This result was similar to Zulling' study finding [13]. The intervention on spiritual health also was done based on empowerment approach, also show that, effect on hope of an addicted individuals and reflects important roles of spiritual life on addiction treatment.

These study findings suggest that lifestyles education confirmation based on supportive team work can be beneficial to treat amphetamine addicted individuals. Limitation of the current study were1) lack of concentration on filling questionnaires because of addiction side effects among under treated addicted individuals, 2) shorten of intervention time, 3) limited time to answer the questions and 4) lack of such kind study which can be compare with our study results in Iran.

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REFERENCES

1. Kelly Russell, K., D.M. Dryden, Y. Liang, C. Friesen, K. O'Gorman, T. Durec, T.C. Wild and T.P. Klassen, 2008. Risk factors for methamphetamine use in youth: a systematic review. BMC Pediatrics, 8:48 doi: 10.1186/1471-2431-8-48.
2. Lisa Greenwell, L. and M.L. Brecht, Self-Reported Health Status among Treated Methamphetamine Users. The American Journal of Drug and Alcohol Abuse, 29(1): 75-104.
3. Albertson, T.E., R.W. Derlet and B.E. Van Hoozen, 1999. Methamphetamine and the expanding complications of amphetamines. West J. Med., 170(4): 214-9.
4. Jones, L., 2012. Grant proposal for a psychoeducational support group for families who are affected by substance misuse. Long Beach, California State University,
5. Springer, A.E., R.J. Peters, R. Shegog, D.L. White and S.H. Kelder, 2007.Methamphetamine Use and Sexual Risk Behaviors in U.S. High School Students: Findings from a National Risk Behavior Survey. Prevention Science, 8(2): 103-113.
6. Herman-Stahl, M.A., C.P. Krebs, L.A. Kroutil and D.C. Heller, 2006. Risk and Protective Factors for Nonmedical Use of Prescription Stimulants and Methamphetamine among Adolescents. Journal of Adolescent Health, 39(3): 374-80.
7. Ross, L.J., M. Wilson, M. Banks, F. Rezannah and M. Daglish, 2012. Prevalence of malnutrition and nutritional risk factors in patients undergoing alcohol and drug treatment. Nutrition, 28(7-8): 738-43.
8. Fontes-Ribeiro, C.A., E. Marques, F.C. Pereira, AP, Silva and T.R. Macedo, 2011. May exercise prevent addiction? Curr Neuropharmacol., 9(1): 45-8.
9. Walker, S.N., K.R. Sechrist and N.J. Pender, 1987. The Health-Promoting Lifestyle Profile: development and psychometric characteristics. Nurs. Res., 36(2): 76-81.

10. Zweben, J.E., J.B. Cohen, D. Christian, G.P. Galloway, M. Salinardi, D. Parent and M. Iguchi, 2004. Methamphetamine Treatment Project. Psychiatric symptoms in methamphetamine users. Am J. Addict., 13(2): 181-90.
11. Drug Testing Advisory Board. Substance Abuse and Mental Health Services Administration. 2009
12. Brecht, M.L., A. O'Brien, C. Von Mayrhauser and M.D. Anglin, 2004. Methamphetamine use behaviors and gender differences. Addict Behav., 29 (1): 89-106.
13. Zullig, K.J., R.F. Valois, E.S. Huebner, J.E. Oeltmann and J.W. Drane, 2001. Relationship between perceived life satisfaction and adolescents' substance abuse. Journal of Adolescent Health, 29(4): 279-288.