



Original Article

Comparative study of alexithymia and anger dimensions in two groups with dependency to opioids and stimulants with the healthy counterparts

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Abstract

Introduction: The studies performed in the field of addiction emphasize that in addition to medical interventions, addiction treatment will not be possible without paying attention to the psychological factors. So, the present study has compared alexithymia and the anger dimensions in two groups with dependency to opioids and stimulants with the healthy counterparts.

Materials and Methods: In this causal-comparative study in 2016, 120 cases were assessed. 80 cases of Delshodegan Center in Tehran placed in two groups with dependency to opioids (n=40) and stimulants (n=40) and non-dependent ones (n=40) were placed in matched groups in terms of demographic characteristics. Data collected through Toronto Alexithymia Scale and the Spielberger State-Trait Anger Expression Inventory (STAXI) and analyzed by multivariate analysis of variance (MANOVA).

Results: There were significant differences among the three groups of healthy, dependent to stimulants and opioids in alexithymia ($P<0.01$, $F=8.17$) and anger ($P<0.01$, $F=7.20$). Amongst them, opioid addicts report high levels of alexithymia and anger.

Conclusion: There is difference among the three groups of healthy people, dependents to stimulants and opioids in terms of alexithymia and anger rates. Meanwhile, it seems that the opioid addicts have more anger and alexithymia compared to healthy and dependents to stimulants.

Keywords: Addiction, Alexithymia, Anger, Opioid, Stimulant

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Introduction

In today's societies, dependence to substances is considered as one of the most important public health problems in the societies and many people suffer from this problem during

their life. So that annually, many of these people lose their lives due to the direct and indirect consequences of substance use (1) and impose great costs on themselves and the society. Substance use and its unpleasant

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consequences are from the most important challenges of different societies and one of the most serious social harms that have attracted the attention of psychological health professionals in the international level (2). Two groups of the most commonly abused substances among the young are narcotics and stimulants that each of them has numerous effects and consequences on the individual as well as the society (3). In a definition for addiction, it has been considered as a health problem of chronic and progressive conditions that is specified by features such as compulsive, uncontrollable and exploratory (searching) behaviors for substances and continuous substance use and it continues despite its harmful social, psychological, physical, family, and economic outcomes (4). However this disease is known as the most important and widespread preventable health risk and concern in the world (5), no certain treatment has been yet found for it and even after the addict quits substance use for a long term, he/she cannot be hoped not to start it again. According to the presented reports, the most people referring to the medical centers for treating substance abuse has experienced recurrence of substance use after their discharge (6). Therefore, today, the studies performed in this field emphasize the point that in addition to medical interventions, addiction will not be possible without considering psychological factors (7).

Hence, numerous researches have been carried out on the psychological aspects of these patients and many studies are published in this context every year (8). By investigating the background of the study performed in this field, we can realize that two psychological functions ignored in this group of individuals are alexithymia and investigation of anger dimensions. Alexithymia refers to the disorder and inability in recognizing and verbal describing the experienced excitements that is associated with a defect in the symbolic thinking related to expressing feelings, desires, and wills (9). People with alexithymia magnify the normal physical stimuli and in the treatment measures, they seek for treating their body symptoms. Hence, lack of insight and understanding of their psychological and emotional aspects makes them capable of following maladaptive practices to solve their emotional distresses (11). Therefore, it is possible that addiction be considered as one of these maladaptive practices in these people.

Anger is another psychological factor that can be posed concerning addiction. Anger is one of the emotions seen in the addict population in maladaptive forms (11). Anger is a complex emotional experience with psychological-physiological components. From a perspective, it can be divided into two aspects of state anger and trait anger. State anger refers to transitional emotional physical conditions that activate the psychological anger feelings and the automatic nervous system at a certain moment or a short period. However, the trait anger refers to a relatively stable personality feature that shows preparation and tendency to experience the anger (12). By considering the importance of these aspects on the psychological health of humans, and regarding the lack of studies performed in this field, the current study comparatively investigates alexithymia and dimensions of anger in two groups of substance and stimulant addicts with the healthy counterparts.

Materials and Methods

The current study was from the kind of causal-comparative (post-event) plans. The statistical society of this research included all substance and stimulant addicts referring to Delshodegan Center in Tehran City in 2016. The study's samples were also selected through considering the research background in convenience method and they included 120 people grouped into three categories of substance addicts (40), stimulant addicts (40), and non-addicted persons (40). The study's inclusion criteria in substance addicts included addiction to substances in the age range of 20-45 years, educational range of guidance school to B.A, lack of history of chronic diseases, lack of history of psychological diseases, and at least two years of addiction. The study's inclusion criteria for the stimulant addicts were the age range of 20-45 years, lack of dependence to substances, being treated with stimulants, absence of physical and psychological problems, and having at least guidance school degree. As well, the inclusion criteria for the healthy people included lack of addiction to substances or stimulants and lack of the history of using them, the age range of 20-45 years, educational range of guidance school to B.A. degree, and lack of the history of psychological disease. The exclusion criteria were treatment withdrawal, treatment lapse and dismissal of treatment. The cases were put in matched group in terms of demographic features such as age,

gender, and education level and the study's data were collected by means of Toronto Alexithymia Scale and Spielberger's State-Trait Anger Expression Inventory (STAXI) and they were analyzed using multivariate analysis of variance (MANOVA).

Research instruments

A) *Toronto Alexithymia Scale*: It is a 20-question test that measures three sub-scales of difficulty in identifying emotions (including 7 items), difficulty in describing emotions (including 5 items), and externally oriented thinking (including 8 items) in the five-point Likert Scale from one (totally disagree) to five (completely agree). A total score is also calculated from the sum of scores of three sub-scales for alexithymia (13). The psychometric properties of Toronto Alexithymia Scale-20 have been investigated and confirmed in many studies (14). In this regard, Besharat prepared Toronto Alexithymia Scale-20 and reported Cronbach's alpha coefficients for the total alexithymia and the three subscales of difficulty in identifying emotions, difficulty in describing emotions, and externally oriented thinking 0.85, 0.82, 0.75, and 0.72, respectively that shows a good internal consistency of the scale (15).

B) *Spielberger's State-Trait Anger Expression Inventory (STAXI)*: This inventory has been made by Spielberher et al. in order to assess the two dimensions of anger, i.e. trait anger and state anger and it is a pencil and paper scale prepared for the age range of 16-35 years with 57 items, 6 scales, and 5 sub-scales. The

inventory's items have been set in three parts: the first part under the title of "I'm now feeling", the second part under the title of "I usually feel", and the third part under the title of "How I usually react or behave when I am angry" assess the incidence and control of anger. In the performed studies, Cronbach's alpha coefficients have been calculated 0.73-0.84 and the concurrent validity coefficients have been calculated 0.31-0.71 for this questionnaire. The reliability coefficients of subscales of the state-trait anger expression inventory were investigated by using Cronbach's alpha coefficients by Khodayari Fard (16). In order to observe ethical points, the purpose and the nature of the study were completely explained for the studied persons; and in order for the privacy of the obtained data, they were asked not to mention their names and family names.

Results

The results obtained from the data analysis in descriptive part indicated that the average age of the cases in the substance addicts group was 43.07, in the stimulants addicts it was 42.05, and it was 42.67 in the healthy counterparts without the history of substance abuse; most individuals in all three groups were single, unemployed, and with under-diploma educational degree (Table 1). Also in Table 2, the mean and standard deviation of all three groups are shown in the alexithymia and anger dimensions variables.

Table 1. Demographic features of the groups separated by age, education level, marital status, and employment

Healthy counterparts	Addicted to stimulants	Addicted to substances	Variables and groups	
42.67±7.497	42.05±9.35	43.07±9.06	Age (year)	
72.5%	70%	57.5%	Under-diploma	Education level
20%	19.5%	27.5%	diploma	
7.5%	10.5%	15%	B.A. degree	
22.5%	32.5%	17.5%	Married	Marital status
77.5%	67.5%	82.5%	Single	
57.5%	37.5%	22.5%	Employed	Employment status
42.5%	62.5%	77.5%	Unemployed	

Table 2. Mean and standard deviation of alexithymia and anger scores separated by each group

Healthy counterparts	Addicted to stimulants	Addicted to substances	Groups variables
Mean (standard deviation)	Mean (standard deviation)	Mean (standard deviation)	
60.56 (10.50)	69.56 (10.36)	69.20 (11.43)	Alexithymia
117.16 (13.12)	128.30 (17.36)	132.95 (21.45)	Anger

In order to investigate alexithymia and anger in the three groups of substance addicts, stimulant addicts, and healthy counterparts, regarding the correlation of the study's variables, the multivariate analysis of variance (MANOVA) was used.

The main hypotheses of MANOVA showed that in M box test ($P>0.01$; $F: 1.49$), the matrix of covariance of dependent variables in all groups are the same. Lone's test also indicated that the hypothesis of the similar variances is

confirmed both in the alexithymia dimension and in anger scale in all three groups. Moreover, regarding the significance of the results of Wilks' Lambda multivariate test ($P<0.01$; $F: 4.35$), it can be realized that in the mentioned dimensions, there is a significant difference among the three tested groups. Hence, in order to achieve this goal, the multivariate analysis of variance (MANOVA) and Bonferroni post-hoc test have been used; the results are presented in Tables 3 and 4.

Table 3. MANOVA of comparison of alexithymia and anger dimensions in two groups of substance and stimulant addicts with the healthy counterparts

Statistical power	Chi Eta Phi	Significance level	F	Mean squares	Degrees of freedom	Sum squares	Variable
0.92	0.12	0.01	8.17	1074.90	2	2149.81	Alexithymia
0.92	0.11	0.01	7.20	2176.50	2	4353.01	Anger

According to the results of MANOVA test, there is a significant difference between alexithymia ($P<0.01$; $F=8.17$) and the sum of squares ($P<0.01$; $F=7.20$) among the substance and stimulant addicts and the healthy

counterparts. Bonferroni post-hoc test was used in order to find out that the significant difference exists between which groups in terms of dependent variables; the results are presented in Table 4.

Table 4. Comparison of the mean scores of alexithymia and anger dimensions in two groups of substance and stimulant addicts and the healthy counterparts

Stimulant addicts compared to the healthy counterparts			Stimulant addicts compared to the substance addicts			Substance addicts compared to the healthy counterparts			Group variable
P	Standard error	Difference of means (I-J)	P	Standard error	Difference of means (I-J)	P	Standard error	Difference of means (I-J)	
0.01	1.08822	-9.12*	0.02	1.08822	0.30	0.01	1.08822	-8.82	Alexithymia
0.01	-10.50	5.4250*	0.34	1.10661	-3.72*	0.01	1.10661	-14.22*	Anger

The results of Bonferroni post-hoc test indicated that the severity of alexithymia and anger among the substance addicts and stimulant addicts is significantly more compared to the healthy counterparts ($P<0.05$) and in the meantime, the substance addicts show high levels of alexithymia and anger.

Discussion

As the results of findings section showed, there were some differences among the three groups of healthy people, substance addicts, and stimulant addicts in two variables of alexithymia and anger. These findings can be considered consistent with the results of some

studies (17-20). In the findings of their study under the title of "investigation of alexithymia and the strategies to cope with psychological stress in methadone-treated addicts", Madani Far and Mehdi Namaei reported that there is a significant difference among the methadone-treated addicts in terms of alexithymia (21). In the study of Bagian Kouleh Marz et al. that was performed on the comparison of alexithymia and emotional control among the under-treatment addicts and the healthy people, the total mean score of alexithymia of the under-treatment people was 25.65 ± 4.48 . The results showed that there is a significant difference between the two groups of addicts and non-addicts in terms of alexithymia and emotional control (22). Since the plan of the present study is post-event and from the kind of causal-comparative studies, we cannot certainly comment on the causal relations and their direction; however, a probable expression for these results can be the point that in fact, alexithymia is not the outcome of addiction, but it is a serious constructive factor turning to use substances. The results obtained from the study background also show that alexithymia is seen in the individual with serious problems in identifying and managing their emotions. In fact, this concept can indicate the lack of an appropriate level of self-awareness and emotional regulation skills in the individual. About the roots of this subject including genetic or acquired and educated roots, more specific studies are required, certainly. Although, what is understandable from the results of the present study is that the people with high levels of alexithymia are more likely to be vulnerable to addiction and this probability is raised equally for both substance addiction and stimulant addiction. Also in the anger dimension, the obtained results indicate that the anger of stimulant and substance addicts is significantly more than the normal people; however, no significant difference is seen among the anger rate of the two groups of addicts. Unlike the alexithymia dimension, it seems that about expressing the anger outcomes, we can speak about a kind of two-way causal relationship. On the other hand, high anger level indicates the psychological weakness in emotional regulation skills or generally the emotional intelligence level of the individuals. In this filed, in some part of their study, Mohammadi Far et al. investigated the anger and hostility rate among the addicts with and without

suicidal ideation. The results of this study showed that the anger and hostility characteristics in suicidal addicts are more than that in the non-suicidal addicts (23). Hence, this is perfectly possible that an individual with weak emotional regulation skills turns to destructive and unhealthy coping strategies like addiction when facing with negative emotions and stressor situations. Indeed, in this study, the qualitative and non-quantitative findings obtained by the researcher showed that many addict cases had have a major weakness in their emotional regulation skills before getting involved in this disease and in fact, they had used addiction as a coping strategy to manage their negative emotions. Hence, this finding is perfectly expectable that the overall levels of negative emotions such as anger is more in these individuals than in the normal people. In other words, it can be said that according to this finding, high levels of anger and weakness in controlling it can be considered as a risk factor for getting involved in addiction. From the limitations of the present study was that this study was only performed among those who referred to one of the addiction treatment centers; hence, expanding it to the other populations and cities of the country requires more researches in this filed. In addition, in this study, the role of demographic variables has not been investigated as adjustment variables; while there may be some differences among the results related to the questions of the study in terms of these variables. Given the study's findings, it is recommended that education and intervention be considered to decrease alexithymia and anger as one of the factors affecting prevention of relapse for the stimulant and substance addicts. Moreover, it is recommended that in future studies, the questions investigated in this study be examined in different populations through considering demographic variables and other types of addiction, especially comparison between the characteristics of industrial and normal substance addicts.

Conclusion

There are significant differences between the three groups of healthy people, stimulant addicts, and opioid addicts in terms of alexithymia and aggression. The severity of alexithymia and aggression among the stimulant addicts and opioid addicts is more than the healthy peers.

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