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TEMPERAMENT, CHARACTER AND PSYCHIATRIC DISORDERS IN STIMULANT AND OPIATE ADDICTS

Forough Riahi[1], Ashraf Tashakori[2], Ali Nazari Nezhad[3]*, Mohamad Sadegh Nazari[4]

[1]Assistant Professor, Department of Psychiatry, Golestan Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

[2]Associate Professor, Department of Psychiatry, Golestan Hospital, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

[3]Student of General Medicine, Department of Medicine, Student Research Committee, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

[4]Student of Tehran Dental Branch, Islamic Azad University, Tehran, Iran.

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***Corresponding Author**
Ali Nazari Nezhad
Student of General Medicine, Department of Medicine, Student Research Committee, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran

ABSTRACT

Objectives: Temperament, character and psychiatric disorders in stimulant and opiate addicts were the aim of this research. **Method:** In this descriptive- post event research, 60 persons were thought out by two questionnaires (30 opiate addicts and 30 stimulant addicts): TCI questionnaire and SCL-90-R questionnaire. **Results:** Opiate and stimulant addicts had difference in some aspects (subscale harm avoidance; reward dependence; co- operation; self- transcendence; somatization; aggressiveness; paranoia; psychosis) and in some aspects, no difference between them was observed (subscale novelty seeking; persistence; self-directiveness; obsessive- compulsive; interpersonal sensitivity; depression; anxiety; phobia), and also there was a significant positive correlation between novelty seeking and anxiety; harm avoidance and somatization; reward dependence and somatization; self- transcendence and anxiety; self- transcendence and aggressiveness; self-transcendence and psychosis. There was a significant negative correlation between harm avoidance and aggressiveness; harm avoidance and psychosis; co- operation and phobia. **Conclusions:** Findings showed that the violence of psychiatric disorders in stimulant addicts is more. As this research is the first study in the ground work of scrutiny of addicts'

personality traits, for this reason, comparison of this data with available findings in the research literature is impossible and must only analyze them in the framework of the study.

KEYWORDS: temperament and character; psychiatric disorders; stimulant substances; opiate substances.

INTRODUCTION

Today, governments pay considerable costs to fight against the drug abuse because as an individual and social problem it is associated with many negative consequences in medical, social, psychological and economic areas. The importance of developing effective strategies such as prevention and treatment has been considered for years. But, in spite of the growing efforts carried out toward the prevention and treatment of drug abuse, still increasing statistics are published by the World Health Organization and the American Psychiatric Association on the prevalence of drug abuse and its related problems.[1]

Opiates are drugs that reduce the physical sensations and the ability to respond to incentives by slowing down the activities of the central nervous system and include opium and its derivatives (Codeine, Heroin and Morphine) and methadone. Unlike opiates, stimulants are the drugs that increase the overall awareness and arousal and include amphetamines (Benzedrine, Dexedrine and Methedrine), Cocaine, Nicotine and Caffeine.[1] United Nation Office for Drug Control (UNODCP) has estimated the number of drug abusers within the age of 15-65 of the population around the world as 200 million people or 5% of the world's population among which 16 million people or 0.4% of the population is opiates abusers. In Iran, the number of opiate abusers is about 1.8 to 3.3 million people that according to some statistics 20% of people within the age of 15-65 have faced this problem. Accordingly, Iran has the highest proportion of opiate addicts in the world.[2]

Clinical findings indicate that personality traits, lifestyle, social relations, attitudes, beliefs, feelings, interests, emotions and behaviors formed during the growth of the individual have a fundamental role in the formation of drug dependence[3] Based on the research results personality traits are one of the variables that play a role in the onset and spread of drug addiction.[4-9]

Several studies indicate psychiatric disorders in opiate addicts (10-13). In a study on the prevalence of mental disorders among the drug and alcohol abusers is reported as follows:

mood disorders 26.4%, anxiety disorders 28.3%, schizophrenia 6.8%, antisocial personality 17.8% and other mental disorders 53.1% (14). Therefore based on the above-mentioned content, and given the studies conducted in Iran and abroad about these variables, no study is conducted to analyze these variables in stimulant addicts and especially its comparison with opiate addicts and thus the present study attempts to compare temperament and character and psychiatric disorders in stimulant and opiate addicts.

METHOD

This research is a descriptive retrospective study. The research population includes the male addicts referring to drug rehabilitation camps around the city of Ahvaz in 2015. The research population includes 60 subjects (30 stimulant and 30 opiate addicts). Sampling method is based on convenience sampling. Samples were matched based on age and education. First the necessary coordination is made with drug treatment clinics affiliated with Jundishapur University and welfare centers authorities. To evaluate the type of drug used and matching the subjects in in terms of the intended variables their profiles that are kept in the clinic are studied. In this study of Cloninger's Temperament and Character Inventory (TCI- 125) and SCL-90-R questionnaire are used. The temperament and character inventory was prepared in 1987 based on bio- social character model by Cloninger. The questionnaire is developed to measure personality traits and characteristics that are available in the person either through inheritance (nature) or through the environment (nature). The questionnaire contains seven measures: 1) novelty-seeking, 2) harm avoidance, 3) reward dependence, 4) perseverance, 5) self-direction, 6) cooperation and 7) self- transcendence. Four first scales measure the dimensions of temperament and the other three dimensions measure the dimensions of character[15] In a study with a sample of 1212 people the internal correlation of the scale using Cronbach's alpha coefficient is 72% for novelty seeking, 80% for harm avoidance, 73% for reward dependence, 55% for perseverance, 77% for cooperation, 84% for self-direction and 72% for self- transcendence. Validity coefficients (n=100) of the TCI scales are: 75% for novelty seeking, 72% for harm avoidance, 87% for reward dependence, 90% for perseverance, 76% for cooperation, 66% for self-direction and 86% for self-transcendence.[16]

SCL-90-R questionnaire includes 90 questions for evaluating the psychological symptoms reported by the respondent and it is planned to show the psychological aspects of physical and psychological patients. The test basic form was introduced by Derogatis, Lipman & Covi

(1973) and is revised based on clinical experience and psychometric analysis and the final form is prepared.[17] The mental state tests evaluate based on 8 dimensions of somatization (Som), obsessive-compulsive disorder (Obs), interpersonal sensitivity (Sen), depression (Dep), anxiety (Anx), hostility (Hos), phobia (Pho) , paranoid ideation (Par) and psychosis (Psy). And it contains three variables of Global Severity Index (GSI) that presents person's mental level without focusing on that specific disorder which is the mean of 90 test items, Positive Symptom Total (PST) that presents the number of ninety items that demonstrate a minimum level of disorder and it is obtained by counting the questions that have a non-zero score. Positive Symptom Distress Index (PSDI) is obtained by dividing the sum of the scores by PST and it is a measure of discomfort. In the main test norms, the highest Cronbach's alpha is associated with depression (0.90) and its lowest value is associated with psychosis (0.77). Reliability analysis by retest indicates the coefficients 0.78 to 0.90.[17]

Among the ethical considerations in this study is that the subjects are given a choice to fill the forms which means that if someone wishes not to fill out the questionnaire, her choice is respected and he is not forced to do so, and the subjects could use a special code instead on mentioning their names in the questionnaire. The participants are told that their information will remain confidential and no one will have access to them and their research data is analyzed in group. To analyze the data, SPSS software version 18 is used. According to the research hypothesis MANOVA, T- Test and correlation tests are used.

RESULTS

Subjects consisted of 30 opiate and 30 stimulant addicts that the stimulant addicts' age is 29.30±5.18 and opiate addicts' age is 30.46±5.68. The highest percentage of opiate and stimulant addicts' education is associated with diploma with 46.7 and 43.3%. The highest percentage of opiate and stimulant addicts' marital status is associated with singles with 53.3 and 60%. The highest percentage of opiate and stimulant addicts' employment status is associated with part-time with 40 and 46.7%. The highest percentage of stimulant addicts' employment type is associated with employees with 33.3%. Also the highest percentage of opiate addicts' employment type is associated with unemployed people with 33.3%. The highest percentage of opiate addicts' drug is associated with opium with 46.7%. Also all addicts take crystal. The history of taking opiate drugs is 5.76± 3.51years and that of the stimulant addicts is 2.83± 1.53.

Multivariate analysis of variance test is used to assess the difference between the two groups of opiate and stimulant addicts in terms of temperament and character in the subscales of novelty seeking, harm-avoidance, persistence, reward-seeking, cooperation, self-transcendence and self-direction. There are significant differences in terms of harm-avoidance, reward-seeking, cooperation and self-transcendence. This means that harm-avoidance, reward-seeking and cooperation are higher in the opiate addicts and self-transcendence is higher in simulant addicts (Table 1).

Table 1: The average difference test between the opiate and simulant addicts in temperament and character subscales by MANOVA test

Variable	Subscale	State / Group	Sample size	Mean	SD	F	df	P
Temperament character	Novelty seeking	Opiate	30	8/03	1/42	1/851	1	0/179
		Stimulant	30	7/56	1/22			
	harm-avoidance	Opiate	30	7/50	2/52	48/388	1	0/001*
		Stimulant	30	3/96	1/15			
	Perseverance	Opiate	30	1/76	1/10	0/017	1	0/897
		Stimulant	30	1/73	0/86			
	reward-seeking	Opiate	30	4/13	0/93	14/465	1	0/001*
		Stimulant	30	3/30	0/74			
	Cooperation	Opiate	30	9/13	1/16	9/093	1	0/004*
		Stimulant	30	8/10	1/47			
	Self-transcendenc	Opiate	30	8/63	1/97	7/109	1	0/01*
		Stimulant	30	9/93	1/79			
	Self-orientation	Opiate	30	1/73	0/73	2/071	1	0/155
		Stimulant	30	2/00	0/69			

* = p<0/01

Univariate analysis of variance is used to assess the difference between the two groups of the opiate and stimulant addicts in terms of PSDI. The results indicate the significance of the test (P =0.001, F (1.209)). The results showed that the severity of psychiatric disorders in stimulant addicts hi higher than opiate addicts (Table 2).

Table 2: The average difference test between the opiate and simulant addicts in severity of psychiatric disorders by T-Test

Variable	State / Group	Sample size	Mean	SD	F	Df	P
PSDI	Opiate	30	1/34	0/121	1/209	58	0/001*
	Stimulant	30	1/70	0/207			

* = p<0/01

Pearson correlation test is used to examine the relationship between the subscales of temperament and SCL-90 test intensity scales of (GSI, PST, PSDI). The results show that there is a significant positive correlation between self-transcendence and GSI, novelty seeking and PST, harm avoidance and PST, award seeking and PST, harm avoidance and PSDI and reward-seeking and PSDI(Table 3).

Table 3: correlation between temperament and character and scales of intensity with Pearson test

Variable	State / Group	GSI	PST	PSDI
novelty seeking	**Coefficient**	0/231	0/368	-0/081
	Level	0/076	0/004*	0/537
	Sample	60	60	60
harm avoidance	**Coefficient**	-0/212	0/446	-0/469
	Level	0/103	0/001*	0/001*
	Sample	60	60	60
Perseverance	**Coefficient**	0/168	0/194	0/016
	Level	0/201	0/137	0/902
	Sample	60	60	60
award seeking	**Coefficient**	-0/006	0/460	-0/300
	Level	0/963	0/001*	0/02**
	Sample size	60	60	60
Cooperation	**Coefficient**	-0/230	0/148	-0/219
	Level	0/077	0/258	0/093
	Sample	60	60	60
Self-transcendence	**Coefficient**	0/269	-0/028	0/200
	Level	0/038**	0/831	0/125
	Sample	60	60	60
Self- direction	**Coefficient**	-0/018	-0/134	0/040
	Level	0/891	0/308	0/761
	Sample size	60	60	60

*= P<0/01 **= P<0/05

Multivariate analysis of variance is used to assess the difference between the two groups of opiate and simulant addicts and in terms of psychiatric disorders in subscales of hypochondriasis, obsession, interpersonal sensitivity, depression, anxiety, aggression, phobias, paranoia and psychosis. As Table 4 shows there is a significant difference between

hypochondriasis, aggression, paranoia and psychosis. Hypochondriasis is higher in opiate addicts and aggression, paranoia and psychosis are higher in stimulant addicts (Table 4).

Table 4: The average difference test between the opiate and simulant addicts in temperament and character subscales by MANOVA test

Variable	State / Group	Sample size	Mean	SD	F	df	P
Hypochondriasis	Opiate	30	55/09	9/90	20/846	1	0/001*
	Stimulant	30	44/90	7/18			
obsession	Opiate	30	49/46	9/89	0/167	1	0/685
	Stimulant	30	50/53	10/24			
interpersonal sensitivity	Opiate	30	49/23	8/60	0/350	1	0/556
	Stimulant	30	50/76	11/32			
Depression	Opiate	30	63/82	2/69	0/095	1	0/759
	Stimulant	30	64/05	3/08			
Anxiety	Opiate	30	61/73	3/33	0/422	1	0/518
	Stimulant	30	62/26	3/01			
Aggression	Opiate	30	45/54	7/16	14/647	1	0/001*
	Stimulant	30	54/45	10/53			
Phobia	Opiate	30	50/44	10/49	0/118	1	0/732
	Stimulant	30	49/55	9/63			
Paranoia	Opiate	30	47/35	4/69	4/454	1	0/039**
	Stimulant	30	52/64	12/91			
Psychosis	Opiate	30	43/14	5/15	53/076	1	0/001*
	Stimulant	30	56/85	8/92			

*= p<0/01 **= p<0/05

DISCUSSION

The results of the present study showed that there is significant difference between opiate and stimulant addicts in terms of harm-avoidance, reward-seeking, cooperation and self-transcendence. This means that harm-avoidance and cooperation of opiate addicts is higher than the stimulant addicts and the self-transcendence of stimulant addicts is higher than opiate addicts. It can be seen that there is no significant difference between opiate and stimulant addicts in terms of novelty seeking, persistence and self-direction.

Higher harm-avoidance of opiate addicts than the stimulant addicts can be interpreted that in opiate addicts due to the undamaged understanding of reality, these people are even afraid of being involved in more damage and this can justify higher harm-avoidance of opiate addicts than the stimulant addicts. Higher reward seeking of the opiate addicts than the stimulant can be interpreted that opiate addicts has higher effort to obtained needed drugs in times of need

and this refers to the physiologic dependence nature of opiate drugs. Higher self-transcendence of the stimulant addicts than opiate addicts can be discussed that given that self-transcendence indicates individual differences in judgment and moral functions, and given that psychotic disorders are higher in stimulant addicts than opiate addicts, it is expected that the self-transcendence in opiate addicts is higher than stimulant addicts. More cooperation among opiate addicts than stimulant addicts can be justified that among stimulant addicts features such as coldness, lack of attention to others' sensitivity, the tendency to take distance from others, individualism and being indifferent to others' feelings and rejection because of the paranoia and psychotic disorders lead to lower cooperation.[18-20]

Lack of significant difference in self- direction scale between opiate and stimulant addicts can be interpreted that in this type of drug addicts and even in all addicts the factor that leads these people towards addiction is that consumption is a way to overcome their feelings of helplessness and applying control on one-self and thus it has self-treatment aspects. On the other hand lack of significant difference in perseverance and novelty seeking between opiate addicts and stimulant addicts can be interpreted that people with high perseverance are serious, determined and perfection demanding and all these features can be factors that lead patients to drug abuse.[21-23] Novelty seeking presents high curiosity, impulsive and diversity personality traits. These people usually try to experience different things in life and simply become fed up with their lives quickly. And one of the factors in their drug dependence (regardless of the type of drug) can be considered the two factors. These results are consistent with findings of other researchers.[18-24] The results also showed that psychiatric disorders in stimulant addicts are more than opiate addicts. Long-term use of stimulants can lead to serious declined physical and mental. Stimulant addicts may present symptoms that are not recognizable from acute schizophrenia. These symptoms include delusions of persecution, and auditory and visual hallucinations. Delusions may lead to gratuitous violence.[2] The severity of psychiatric disorders in stimulant addicts compared to the opiate addicts can be attributed to the nature of the physiological stimulant drugs. The results of study showed that there is a significant positive correlation between self-transcendence and GSI, novelty seeking and PST, harm avoidance and PST, award seeking and PST, harm avoidance and PSDI and reward-seeking and PSDI. No good interpretation is found for these results in the resources as well as the present study. The results of the present study indicate that there is a significant difference between opiate and stimulant addicts in terms of hypochondria, aggression, paranoia and psychosis subscales. This means that hypochondriasis has higher

prevalence among opiate addicts and aggression, paranoia and psychosis is more prevalent among the stimulant addicts. There is also no significant difference between the opiate and stimulant addicts in terms of the subscales of obsession, interpersonal sensitivity, depression, anxiety and phobias.

Higher hypochondriasis of opiate addicts than the stimulant addicts may be interpreted that the opiates due to the treatment and relief of pain aspect that have in physical ailments can cause people with higher hypochondriasis tend to the opiates to treat their pain. Paranoia and psychosis of stimulant addicts can be attributed to the nature of stimulants. Also high aggression of stimulant addicts can also be attributed to higher paranoia among them. The lack of significant differences in obsession, interpersonal sensitivity, depression, anxiety and phobias in opium and stimulant addicts can be attributed to the nature of addiction i.e. as a way to escape problems and mental health problems. For example, studies [25, 26] showed that drug addiction has the highest association with anxiety disorders and depression. Also the studies[27] have shown that life will improve quitting the drug abuse. These results are consistent with findings of other researchers.[28-34]

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