

The Relationship between Dissociative Experiences and the Success of Treatment through Abstinence from Opioid-Use Disorders

Mohsen Kianpoor,*¹ Ahmad Ghanizadeh,² Hedieh Badiei³

1. Department of Psychiatry, Zahedan University of Medical Sciences, Zahedan, Iran
2. Department of Psychiatry, Shiraz University of Medical Sciences, Shiraz, Iran
3. Psychiatrist, Shiraz, Iran

Article information	Abstract
<p>Article history: Received: 22 Dec 2011 Accepted: 5 Jan 2012 Available online: 24 Oct 2012 ZJRMS 2012; 14(10): 56-60</p> <p>Keywords: Dissociative phenomenon Addiction Abstinence</p> <p>*Corresponding author at: Department of Psychiatry, Zahedan University of Medical Sciences E-mail: m_kianpoor@gmail.com</p>	<p>Background: Dissociation is a defense mechanism by which people under stress detach their thoughts, emotions and behaviors from the normal stream of consciousness in order to protect themselves against the threats imposed on their ego. The phenomenon of dissociation is associated with a group of psychiatric disorders, including substance use disorders (SUDs), and leads individuals to incline towards drugs. This study examines the relationship between the dissociation symptoms prior to abstinence treatment and the abstinence success.</p> <p>Materials and Methods: 128 opioid dependent males were selected randomly and examined using Dissociative Experience Scale (DES) questionnaire and a self-administered questionnaire. After two months, the subjects were divided, in terms of abstinence success, into three groups of rehabilitated (successfully-rehabilitated), recurrence, and non-referral groups. The three groups were compared to each other with regard to the DES mean score, demographic characteristics, drug use history, self-destruction, and self-mutilation history, using statistical methods of χ^2, <i>t</i>-test, and one-way ANOVA.</p> <p>Results: The results showed that 39% of the subjects obtained a dissociation score of 15 and above in DES scale. There was a significant negative correlation between the dissociation score and abstinence success ($p=0.001$). There was no significant relationship between the DES score and demographic factors such as education level, residential location, and marital status. Moreover, the treatment follow-up of individuals showed that there was no significant relationship among the three groups in terms of age and education level.</p> <p>Conclusion: The extent of dissociative phenomena in drug dependent individuals who decide to discontinue drug abuse is effective in the sense of treatment outcome. Hence, the individuals are recommended to be examined for dissociative symptoms prior to drug treatment, and receive the proper treatment.</p> <p>Copyright © 2012 Zahedan University of Medical Sciences. All rights reserved.</p>

Introduction

Similar to other substance use disorders, addiction to opiates is a chronic and recurring disorder in which the individual continues the obsessive-coercive behavior of drug procurement and use in spite of having enough knowledge of negative consequences of substance use [1]. The world's yearly opiates use is estimated to be almost 0.4% [2]. In various studies in Iran, the prevalence of this disorder is approximated to be 2.5-3% [3]. Due to the chronic and recurring feature of this disorder, as well as due to the variety of environmental, mental and social factors involved in its etiology, treatment by abstinence is difficult for opium use disorder and has been accompanied by few successes [2]. Among psychological factors related to substance use disorder, dissociation has been focus of attention since years ago [4-6].

Dissociation is a term used for a group of behaviors and experiences that are symptoms of functional alterations in one's memory, perception and identity. It includes experiences common to daily life, such as absorption, to

more severe and bizarre cases, such as "dissociative identity disorder" that was previously called "multiple personality disorder" [7]. According to the fourth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM IV-TR) [8], dissociation is "a disruption of the usually integrated functions of consciousness, memory, identity or perception of the environment". This phenomenon is seen in form of symptoms such as amnesia, depersonalization, derealization, dissociative fugue, identity alteration, and trance and possession state [9]. Besides dissociative disorders, the dissociative phenomenon is connected with a number of psychiatric disorders such as Post Traumatic Stress Disorder (PTSD), anxiety disorders, somatoform disorders, personality disorders, child abuse, and substance use disorders [5-14]. Those suffering substance use disorders need to be examined in terms of dissociative symptoms, because a majority of dissociative experiences are reported by alcohol, marijuana, cocaine, opium, and other substances

[5, 6]. Following a study by Ross et al., 39% of people receiving treatment for drug abuse had dissociative disorder based on DSM-III-R diagnostic criteria [14]. In another study, 30% of those attending the drug treatment program obtained a score of 15 and above in DES scale [15]. The study of Kianpoor et al. also illustrated that 74% of prisoners suffering substance use disorder obtained DES scores of above 30, compared to the 43% of prisoners lacking such disorder [6]. The so-mentioned studies also indicate that psychological stresses and other traumatic events are prevalent in the personal history of drug abusers and they probably use dissociative phenomenon as a defense mechanism for maintaining their mental integrity against these traumas. Dunn et al. showed that drug abusers employ dissociation as a defense mechanism against stress [5].

Using substances to reduce suffering from painful feelings and thoughts has been mentioned by the substance users as the main reason for continuing substance use. Since dissociation is also a defense mechanism against the external threats imposed on ego and unbearable conflicts and feelings, it seems that drug use is in fact a kind of "chemical dissociation" through which assists the patient by enhancement and continuation of employing dissociation as the main defense mechanism [4]. Najavits and Walsh showed that the high-dissociation group rather believed that drug use was more effective in solving their psychological problems and soothed them [16].

Somer et al. showed that people receiving abstinence treatment that had higher dissociation scores had also experienced, in their suffering period and prior to treatment, more dissociative symptoms due to more drugs use. They showed that such individuals used drugs for experiencing more dissociative symptoms. Somer showed that those having lowered scored in terms of "Dissociative Experience Scale" (DES), experienced a more prolonged drug-free period [17].

The present study was designed to examine the relationship between the amount of dissociative symptoms prior to treatment of opioid-use disorder and sustaining in the treatment program or recurrence of symptoms in a group of addicts who self-referred to drug rehabilitation centers of Shiraz Welfare Organization.

Materials and Methods

This descriptive study was conducted on males referring to two drug rehabilitation centers of Shiraz Welfare Organization in order to examine the relationship between dissociative phenomena and two-month rehabilitation success after taking measures for treatment. Sampling was performed using simple sampling method and through sequential referrals. After obtaining their consent, diagnostic interview and psychiatric assessment were administered on all of the individuals. The selection criterion was the presence of drug dependence measures based on DSM-IV TR. Those with a history of hospitalization due to major psychiatric disorders, or those who were diagnosed in a clinical interview as

suffering from one of such disorders, or those obtaining Mini Mental State Examination (MMSE) score of 20 or less were excluded from the research. Thus, 128 people were included in the study and all were examined using personal information and DES questionnaires. Personal information questionnaire contained basic information with regard to age, marital status, job, education level, and residential location, and also included questions about suicide and self-mutilation. In order to examine the dissociative symptoms, 28-item DES questionnaire was used. This tool was designed in mid-80s by Bernstein and Putnam and is currently used in many studies. In 1986, Bernstein and Putnam reported its reliability as 84% and its construct validity as appropriate [18]. DES is a self-report questionnaire that preliminarily examines memory loss, depersonalization and derealization and absorption.

Individuals choose one of the options of 0 (never) to 100 (always), which shows the percentage of times when they experience dissociative symptoms. The mean score of the 28 questions constitute the total score. It is noteworthy that in the questionnaire it is emphasized that the individuals should not be under the influence of drugs. Studies have shown that a score greater than 15 requires more investigations in terms of dissociative disorder. A score of greater than 30 represents a high probability of dissociative disorders and PTSD, and a score greater than 40 indicates a high probability of dissociative identity disorder [19]. In order to use the questionnaire, it was firstly translated into Persian and then was proofread by three English teaching professors. After the approval by the professors, the questionnaire achieved final approval from three psychiatric professors. In order to determine the reliability of the questionnaire, test-retest reliability was administered for 20 students in three weeks. In this sense, the questionnaire was approved by a reliability of 96%. The Cronbach's alpha test was also used to measure the internal reliability of the DES questionnaire and a value of 96% was obtained.

Two months after the detoxification stage, the subjects were followed up for symptoms of drug deprivation or use through history taking, physical examination and morphine test in repeated visits. At the end of the two-month period, the DES was re-administered to them. The results obtained after correcting the questionnaires were statistically analyzed using SPSS-11, and *t*-test, one-way analysis of variance, and χ^2 were used for interpreting the information.

Results

The subjects were all male with average age of 32 years with the youngest being 18 years old and the oldest 52 years old. 86.7% of the subjects were residents of cities and the remaining lived in villages. 45.3% of the subjects were single, and only 22.7% were unemployed. The average time of drug use among these individuals was 5.37 years with the shortest period being 4 months and the longest being 24 years. Thirty eight individuals, 29.7%, had a history of suicide and almost the same rate, 30.5%, reported self-mutilation.

In general, the results of the preliminary DES test showed that the acquired DES scores of the referred men had no significant relationship with demographic factors including education level, residential location, and marital status. However, the results from Spearman's nonparametric measure of correlation showed a negative and weak, yet significant relationship between the age and DES scores before entering the treatment program ($p=0.013$).

In order to investigate the relationship between DES scores of the subjects before rehabilitation and drug use period, Spearman's nonparametric measure of correlation was used as well. Results showed that the correlation between DES scores before the rehabilitation and drug use period was statistically significant ($p=0.003$), in a manner that the DES score increased as the period of drug use increased.

Based on the two-month follow-up results, the subjects were divided into three groups:

a) Drug users, consisting of 43 persons whose drug use was proved by morphine test or family reports. Also in this group are those individuals who had positive test results during the follow-up yet withdrew from the study group before the end of the two-month period and stopped the follow-up.

b) Rehabilitated group, consisting of 54 persons who, based on the repetitive diagnostic checks and family reports, had gave up the drug use.

c) non-referral group, consisting of 31 persons who, despite the negative results of diagnostic checks, left the study immediately after detoxification or prior to the end of the two-month period.

The *t*-test for comparing the DES mean score, both before and after drug use treatment, for individuals who did not leave the study, either those who used or ceased using drugs, showed that although this measure had illustrated a reduction from 9.67 to 8.27, its reduction had not been statistically significant (Table 1).

In order to compare the groups in terms of the preliminary DES scores, one-way ANOVA was used. The results showed a significant difference among the three groups (Table 2). Results from Tukey's post hoc test showed there was a significant difference between the drug user group and the rehabilitated group, as well as between the rehabilitated group and non-referral group, in terms of DES score. Such difference was not significant between the drug user group and the non-referral group.

The results of one-way ANOVA for comparison of the follow-up outcome of the subjects with respect to demographic variables of age and educational level illustrated that the three groups were not significantly different in the sense of age and educational level. Concerning the residential location (urban or rural), marital status, and employment status, the value of χ^2 did not show any significant difference among the three groups.

There was not any significance difference among the three groups in terms of the number of people in each group with a background of suicide or self-mutilation, as well (Table 3). In overall, those with a history of suicide

or self-mutilation obtained higher scores in the DES test. The mean score of individuals with a suicide experience (21.1) was significantly different from the mean score of those lacking such experience (12). A significant difference was also present in comparing the mean score of individuals with self-mutilation experience (22.39) with those lacking such experience (11.33).

Table 1. Frequency and percentage of DES score before and after rehabilitation based on DES/cut-off point: 15

Dissociation score	Before rehabilitation N(%)	After rehabilitation N(%)
Less than 15	78(60.9)	51(72.8)
Equal to or greater than 15	50(39.1)	19(72.2)
Total	128(100)	70(100)

Table 2. Mean and standard deviation for DES score before rehabilitation in each of the three groups

Follow-up result	N	Mean±SD	<i>p</i> -Value
Drug user group	43	17.75±19.14	< 0.001
Rehabilitated group	54	11.46±8.82	
Non-referral group	31	18.89±17.21	
Total	128	14.70±15.95	

Table 3. Comparison of the frequency and percentage of the subjects with a history of suicide and self-mutilation in each of the three groups

		With a background N(%)	Without any background N(%)	Total N(%)	<i>p</i> - Value
Suicide	drug user group	9(23.7)	34(37.8)	43(33.6)	0.298
	rehabilitated group	18(47.4)	36(40)	54(42.2)	
	non-referral group	11(28.9)	20(22.2)	31(24.2)	
	total	38(100)	90(100)	128(100)	
Self- mutilation	drug user group	12(30.8)	31(34.8)	43(33.6)	0.782
	rehabilitated group	17(43.6)	37(41.6)	54(42.2)	
	non-referral group	10(25.6)	21(23.6)	31(24.2)	
	total	39(100)	89(100)	128(100)	

Discussion

In the present study, 128 addicted men referring to drug rehabilitation centers of Shiraz Welfare Organization were examined in order to determine the relationship between dissociative symptoms and drug rehabilitation success 2 months after attempt to cease drug use. Subjects were 18-51 years old and had a drug use history of 4-24 months.

In this research, 39.1% of the subjects had a score of 15 and above in terms of DES. This shows that dissociative phenomena are prevalent among the drug abusers. These results are in line with the studies of Dunn and Paolo, who showed that 41.5% of drug abusers had a score of 15 and above, and Benishek and Wichowski, who showed that 30% of such people had a score of 15 and above in terms of DES [15]. These results are also confirmed by other studies that have compared the mean score of DES in people suffering from substance use disorder with the

control group, and have shown a direct relationship between substance use disorder and emergence of dissociative symptoms [16, 19-21]. Nevertheless, it is noteworthy that studies such as the one performed by Schafer et al. on alcoholic patients in Hamburg, which showed that there was not any relationship between addiction and DES score, should make us more cautious in interpreting the results [22, 23].

In this research, the DES score had no significant relationship with demographic factors such as education level, residential location, and marital status. However, age factor showed a negative and significant relationship with the DES score, whereas with an increase in age, the DES score were decreased. There was also a significant relationship between individuals' job and their DES score, and the DES score of the unemployed was significantly higher than that of the employed. Nonetheless, by a study conducted on addict people, Dunn et al. showed that age and education level had no significant relationship with the DES score. However, in a study by Ross et al., the results were similar to the results of the present study.

There, the DES score had a negative relationship with age and had no relationship with income level, educational level, and birth place [14]. These findings indicate that the emergence of dissociative symptoms is more likely related to an individual's psychological factors rather than socioeconomic factors. In this research, the drug use period had a significant relationship with the DES score of addicts before rehabilitation, so that the more the numbers of years of drug use in individuals, the higher their DES score. This finding is in conformity to the study of Wenzel et al. [24]. Wenzel stated that dissociation is probably a chronic complication of prolonged alcohol and drug use. A dissociation due to chronic drug abuse may be related to neurotoxicity or neural adaptive effects resulted from the prolonged contact with drug. On the other hand, the association between the drug use period and the DES score may be due to higher levels of traumatic experiences in addicted individuals. As it was observed in the study of Somer and Avni, not only the dissociative experiences, but also the background and the intensity of the traumatic events in this group are higher than those of normal people, and the two also have a significant relationship with each other. Since dissociation is a defense mechanism against psychological trauma, these researchers and Khantzian have concluded that the addicts probably use drug and alcohol in order to enhance and sustain the defense mechanism of dissociation. Hence, drug use behavior can be viewed as a self-treatment behavior for coping with psychiatric traumatic events [4, 17]. Kianpoor's study also confirms this idea and states that drug use can be a way of controlling the psychological pains through enhancing dissociation, at least for a group of patients suffering from drug use disorders and individuals influenced by unbearable stresses. It is questionable that they had had the habit of drug use for coping with external stresses prior to using it [6]. The drug is probably used when the dissociative defense mechanism can no longer be enough for coping with and adapting to stressful conditions.

The results of this research answered the researcher's main question and showed that the DES score of pre-treatment period is significantly related to the result of follow-up and treatment of substance use disorder. The DES score of the recurrence group and the non-referral group was significantly higher than that of the successfully-rehabilitated group. This finding is in line with Somer's study that showed that treatment prognosis in drug dependent people had a significant relationship with ongoing participation in the treatment program and the extent of dissociative symptoms [17].

This study revealed that there was no difference among the three groups in terms of the ratio of people with a history of suicide and self-mutilation. This finding is indicative of an absence of a relationship between suicide and/or self-mutilation background and drug treatment success. However, based on the findings of this research, the DES score had a significant connection with commitment of suicide and self-mutilation. The DES mean score of individuals with a suicide background was 1.8 times higher than that of people without the background, and the DES mean score of people with a self-mutilation experience was almost twice as high as that of those lacking such experience. This finding conforms to the finding of Maaranen et al. in a study on the relationship between dissociative experiences and suicide in the normal population, and that of Matsumoto et al. in a study about the relationship of self-mutilation and dissociative states in bulimia nervosa patients [24, 25]. In a study on hospitalized addict patients, Karadag et al. showed that the level of suicide commitment was higher for the group that obtained a 30-plus DES scores [26]. In this research, suicide background was assumed as a predictive factor of dissociative disorder. The relationship between suicide commitment and self-mutilation, and DES score may be due to personality characteristics of borderline personality disorder in a remarkable population of addicts. It is shown in many studies, such as that of Goodman et al., that individuals with borderline personality disorder have higher DES scores and higher suicide and self-mutilation experiences than those lacking this personality disorder [27].

Although there were limitations in this research, including short follow-up period, the probability of answering the questions while disregarding the fact that the dissociative states should not be reported during drug use period, and lack of questions addressing the presence or absence of traumatic events, one can assert that, based on the findings of others, there is a high probability of presence of a relationship between dissociative experiences and drug dependence disorder. According to the findings of this research and above-mentioned studies, which confirm the correlation between dissociative symptoms and depression, and drug dependence, treatment outcome- at least in some of such patients- it is suggested that investigation concerning the amount of dissociative symptoms to be performed in diagnostic interventions and treatment of these patients. Investigation in terms of dissociative symptoms can help a better understanding of these patients. Interventions

with this respect can also be useful for better prognostic actions of addiction rehabilitation centers.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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