History of Trauma and Relationship with Alexithymia, Temperament and Character Dimensions in Male Alcohol Dependent Inpatients

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ÖZET

Yatarak tedavi gören erkek alkol bağımlılarında travma öyküsü ile aleksitimi, mizaç ve karakter boyutlarının ilişkisi

Amaç: Bu çalışmanın amacı yatarak tedavi gören erkek alkol bağımlılarında travma öyküsünün aleksitimi ve kişilik boyutları ile ilişkisini değerlendirmektir.

Yöntem: Çalışmaya katılanlar ardışık yatan 156 erkek alkol bağımlısı idi. Yatan hastalara, Toronto Aleksitimi Ölçeği (TAS-20), Mizaç ve Karakter Envanteri (MKE) ve Travmatik Yaşantılar Tarama Ölçeği (TYTÖ) uygulandı.

Bulgular: Yatarak tedavi gören alkol bağımlılarının %49.4'ü (n=77) DSM-IV tanımlamasına göre travma öyküsü olan grup olarak değerlendirilirken, bu oran TYTÖ'ye göre %92 idi. Bekar ve aleksitimik olma oranları travma öyküsü olan grupta yüksek iken, düzenli alkol kullanma yaşı düşüktü. Şu anki yaş, çalışma durumu ve eğitim süresi açısından gruplar arasında anlamlı fark yoktu. Duyguları tanımlamada güçlük, aleksitimi toplam puanı ve kişilik boyutlarından yenilik arayışı, zarardan kaçınma ve kendi kendini aşma ortalama puanları travmatik grupta daha yüksek iken, kendi kendini yönetme (KY) ve iş birliği yapma (İY) bu grupta daha düşüktü. "Forward" Lojistik Regresyon modelinde düşük KY puanı travma öyküsünün (DSM-IV'e göre) belirleyicisi iken, "Stepwise" Linear Regresyon modelinde düşük İY puanı travma tipi sayısı (TYTÖ'ye göre) için belirleyici olmuştur.

Sonuç: Yatarak tedavi gören erkek alkol bağımlılarında aleksitimi, mizaç ve karakterin tümü travma öyküsü ile ilişkili olabilir. Her ne kadar nedensel ilişki belirgin olmasa da, düşük KY'nin travma öyküsü varlığının ve düşük İY'nin travmanın şiddetinin belirleyicisi olması, yaşam boyu travma öyküsünün daha yüksek olumsuz kişilik özellikleri olasılığı ile ilişkili olduğunu düşündürmektedir.

Anahtar kelimeler: Alkol bağımlılığı, aleksitimi, karakter, mizaç, travma

ABSTRACT

History of trauma and relationship with alexithymia, temperament and character dimensions in male alcohol dependent inpatients

Objective: To evaluate the relationship of trauma history with alexithymia and personality dimensions in male alcohol dependent inpatients.

Method: Participants were 156 consecutively admitted male alcohol dependents. Patients were investigated with the Toronto Alexithymia Scale (TAS-20), the Temperament and Character Inventory (TCI) and the Traumatic Experiences Checklist (TEC).

Results: Among alcohol dependent inpatients, 49.4% (n=77) were considered as the group having trauma history according to definition of DSM-IV, although this rate was 92% according to TEC. Rate of being single and alexithymic were higher, whereas age for regular alcohol use was lower in traumatic group. Current age, employment status, and duration of education did not differ between groups. Mean scores of difficulty in identifying feelings, alexithymia total score and personality dimensions of novelty seeking, harm avoidance and self-transcendence were higher in traumatic group whereas self-directedness (S) and cooperativeness (C) were lower in this group. Lower S score was determinant for trauma history (according to the DSM-IV) in Forward Logistic Regression model, whereas lower C was determinant for number of trauma types (according to the TEC) in Stepwise Linear Regression model.

Conclusions: Alexithymia, temperament and character may all be related with trauma history in male alcohol dependent inpatients. Finding low S score which predicts the presence of trauma history and low C score which predicts the severity of trauma suggest that lifetime trauma experience is related with higher probability of negative personality characteristics, although causal relationship is not clear.

Key words: Alcohol dependence, alexithymia, character, temperament, trauma

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INTRODUCTION

According to the most recent definition of DSM-IV-TR, a Criterion A1 traumatic event is ''an event that involves actual or threatened death or serious injury, or other threat to one's personal integrity'' and includes ''learning about the unexpected or violent death, serious harm, or threat of death or injury experienced by a family member or other close associate'' (1). Exposure to both childhood and adulthood traumatic events has been linked to the development of psychopathology, including PTSD (2,3), substance use disorders (4-6) alcohol use disorders (7,8) and personality disorders (5).

Individuals who have experienced a psychological trauma but do not meet diagnostic criteria for PTSD often suffer similar functional impairment, health problems and increased health- care utilization as those with PTSD (9,10). Some argue that such findings support a continuous view of post-traumatic psychiatric sequelae, where any PTSD symptoms are viewed as a stress response to trauma along a continuum, with full PTSD being the most severe response (11). Although the course of treatment for alcohol dependent patients with PTSD has been well studied, little is known about trauma exposed alcohol dependent patients regardless the development of PTSD. Because these individuals are highly prevalent among alcohol dependent patients in treatment settings, it is important to determine trauma history and related factors with trauma in this population (10). Definitions of traumatic events and methods by which exposure to traumatic events has been established have varied markedly across studies. For example, 'life events' traumatized a higher proportion of individuals than 'traumatic events' in alcohol dependents (12). Nevertheless, individuals who have experienced a psychological trauma that do not meet the definition in DSM-IV-TR for traumatic events may also have higher severity of psychiatric symptoms dimensionally but not necessarily have a disorder.

Although prevalence varies in studies, experiencing a lifetime traumatic event is common among patients with substance use disorders (13,14). As many as 89% of substance use disorder patients report having experienced a traumatic event in their lifetime (15) and substance use is 1.5–5.5 times more prevalent in individuals with trauma histories than without (10). In a recent study, patients with alcohol-dependence were more severely affected by psychological trauma than opiate dependents (12). Particularly childhood maltreatment has been linked to alcohol abuse and dependence among an adult population (16,17). In the literature, a relatively large body of studies has reported that child maltreatment increases an individual's risk for alcohol abuse, although current evidence is not sufficient to support this relationship among male adults who had been victims of childhood maltreatment (17,18). The high rate of trauma history in substance dependents may be a function of the fact that alcohol and other substances are used by trauma survivors to self-medicate psychological distress symptoms (8,19-21). Nevertheless, despite these high rates of comorbidity and suggested causal relationship, in clinical practice history of trauma among alcohol dependents seeking treatment is rarely addressed despite the importance of the issue (12).

The results of previous studies confirm that childhood trauma may have long-lasting and enduring effects on adult psychological functioning, as exposed individuals continually react more strongly to small stressors occurring in the natural flow of everyday life (22). Several studies found that particularly childhood trauma may have an enduring influence on the development of adult personality characteristics (23,24-26). One personality characteristic that is consistently associated with childhood trauma is neuroticism—a personality trait reflecting instability, vulnerability to stress, or anxiety proneness (24,25). The Temperament and Character Inventory (TCI) is a self-administered dimensional questionnaire constructed to assess the 7 basic dimensions of personality in 2 major components of personality: temperament and character (27). The psychobiological model assumes interactions between temperament and character scales. These interactions elicit secondary emotions and are important in the development of personality (28). Individual differences in personality structure and development have a strong influence on the risk of all forms of psychopathology,

including alcohol abuse (29). Researches suggest that particularly novelty seeking (NS) represents a vulnerability factor for substance abuse in general (30,31), whereas low scores on self-directedness (S) is related with early onset alcoholism (32). A study documented that emotional and physical abuse were risk factors for increasing personality disorder symptomatology. In this study only harm avoidance (HA) dimension was the strongest and most consistent risk factor for development of personality dysfunction (33). Also among borderline personality disordered patients with trauma history, higher levels of HA predicted the severity of PTSD symptoms (complex PTSD) (34). Finally, significant relationship between early trauma and adult personality as exposure to emotional trauma predicted levels of S and cooperativeness (C) dimensions of the TCI among soldiers (35).

Alexithymia is defined as inability to distinguish one's own feelings from the accompanying bodily sensations, inability to express feelings, and an externally orientated cognitive style reflecting an absence of inner thoughts and fantasies (36). Many studies have indicated relatively high prevalence rates of alexithymia (ranging from 42–79%) in alcohol-related disorders (37-39). Recent studies have reported an association between alexithymia with primitive and immature ego defense styles, which implies a relatively primitive way of dealing with emotional problems (40,41). Alexithymic patients might be emotionally and cognitively restricted, unable to differentiate their feelings, verbalize them and solve the problem (42). In a recent study among alcohol dependents, high harm avoidance (HA) and self-transcendence (ST) and low self-directedness (S) were related with alexithymia suggesting that alexithymia can be explained by specific dimensions within Cloninger's psychobiological model of personality in this population (43). Latest study on this subject suggested that although alexithymia is affected by the personality, state-dependent mood and anxiety may mediate the relationship between alexithymia and personality (44). Finally, among alcohol dependents, the number of childhood trauma the individual experienced was related with alexithymia in adulthood, particularly "difficulty in identifying feelings-DIF" factor of TAS-20. Also this study suggested that childhood emotional abuse might be a risk factor for alexithymia among inpatient substance dependents (42).

The aim of this study was to evaluate the relationship of trauma history with alexithymia and personality dimensions among alcohol dependent inpatients.

METHODS

Settings and sample

The study was conducted in Bakirkoy State Hospital for Psychiatric and Neurological Diseases, Alcohol and Drug Research, Treatment and Training Center (AMATEM) in Istanbul, between January 2007 and January 2008. AMATEM is a specialized center for substance use disorders with 85 inpatient beds, and accepts patients from all over Turkey. The Ethical Committee of the hospital approved the study. Each patient's written informed consents was obtained after the study protocol was thoroughly explained.

One hundred and eighty consecutively admitted alcohol-dependent inpatients without history of any other substance abuse were considered for participation in the study. All participants fit the DSM-IV diagnostic criteria for alcohol dependence. Excluding criteria were illiteracy, mental retardation or cognitive impairment and comorbid psychotic disorder. Five patients were excluded due to illiteracy and three patients due to cognitive deficits. Although none of the patients refused to participate in the study, 16 patients were excluded because they did not completed the scales, did not give the forms back or left the treatment program prematurely, i.e. before filling the forms. A total of 156 alcohol-dependent inpatients participated in the study. Interviews with the study group were conducted after detoxification period, i.e. 4-6 weeks after the last day of alcohol use.

Measurements

All patients were assessed by using a semi-structured socio-demographic form. The diagnosis of alcohol or

drug dependence in each participating patient based on the clinical examination, a screening interview based on the Structured Clinical Interview for DSM-IV (SCID-I) (45), Turkish version (46), conducted by a trained interviewer (CE).

Toronto Alexithymia Scale. Alexithymia was assessed with the Turkish version of the 20-item Toronto Alexithymia Scale (TAS-20) (47,48). The first factor (difficulty in identifying feelings; DIF) is for assessing the ability to identify feelings and to distinguish them from the somatic sensations that accompany emotional arousal. Factor 2 (difficulty in describing feelings; DDF) is for assessing the ability to describe feelings to other people. Factor 3 (externally oriented thinking; EOT) is for assessing externally oriented thinking. The total scores of the TAS-20 were dichotomized as a score of ≥61, which indicated alexithymia, and a score of <61, which indicated non-alexithymia. The approved form has been validated in a Turkish population study (49).

Temperament and Character Inventory. Dimensions of temperament were (1) harm avoidance (HA); (2) novelty seeking (NS); (3) reward dependence (RD); (4) persistence (P). Dimensions of character were (1) self-directedness (SD); (2) cooperativeness (C); (3) self-transcendence (ST) (50). The reliability and validity of the Turkish version of the TCI were supported by its psychometric properties and construct validity (51).

Traumatic Experiences Checklist (TEC): The TEC is a questionnaire including 29 types of traumatic experiences (52). Trauma area subscores are calculated for emotional neglect, emotional abuse, sexual approach, sexual abuse, and physical abuse/bodily threat (range 0-21). These subscores take into account qualitative characteristics of the trauma, including age of onset, duration, degree of closeness of the abuser, and related degree of distress. For each of the traumas, participants also indicated how much support they have received afterward (0=none, 1=some, 2=good). Good validity and reliability is reported with Cronbach's alpha scores of 0.86 and 0.90 and test-retest reliability of r=0.91 (53).

Statistical Methods

The statistical package SPSS 11.5 for Windows was used for all analyses. Categorical variables were compared by chi-square statistics. We used independent t test to compare the groups on continuous variables and we used Mann-Whitney U test when these variables were not normally distributed. Correlation analyses (Pearson, bivariate) between the number of trauma type and alexithymia and personality dimensions were performed. Taken the presence of trauma history as a dependent variable, Forward Logistic Regression model was performed. Taken the number of trauma types experienced as a dependent variable, Stepwise Linear Regression model was performed. For all statistical analysis p values were two-tailed and differences were considered significant at $p<0.05$.

Table 1: Types of trauma according to the DSM-IV definition of trauma

	Frequency (n)	%
Natural disaster (flood, earthquake, hurricane, etc)	23	14.7
Physical assault (attack, bitten, etc)	3	1.9
Attacked with weapon (shot, stab, threat with weapon, etc)	4	2.6
Serious accident at home, work or somewhere else	3	1.9
Accident with transport (car, train, ship, airplane)	15	9.6
To be in a battle or war area (soldier or civilian)	8	5.1
Severe pain caused by another person	2	1.3
Prisoner (kidnapped, war prisoner, etc)	1	0.6
Fire	1	0.6
Sudden and violence death incident (homicide, suicide)	11	7.1
Serious wound or fracture the patient caused to another person	2	1.3
Hijack	2	1.3
Unexpected and sudden death of a close person	1	0.6
Any other very stressful event or experience	1	0.6
Total	77	49.4

RESULTS

Among alcohol dependent inpatients 77 (49.4%) were considered as the group with trauma history according to the DSM-IV-TR definition. These individuals had experienced stressful life events that met the DSM-IV-TR Criterion A1 definition of a traumatic stressor (Table 1).

Rate of being single and alexithymic were higher in the group with a trauma history than the group without a trauma history. Odds Ratio (95% Confidence Interval) for trauma history was 2.65 (1.30-5.41) times higher in alexithymic group than non-alexithymic group. Current age, employment status, age of regular alcohol use and duration of education did not differ between groups (Table 2). In alexithymic patiens, mean number of trauma type experienced (5.02±3.07) was higher than non-alexithymic patiens (3.94±3.43) (z=-2.43, p=0.015).

Types of the trauma experiences were also evaluated with TEC. According to this checklist, 144 (92.3%) had experienced at least one stressful event, which may not have met the DSM-IV-TR Criterion. Mean number of trauma type experienced was 4.26±3.35 (range, 0-17). Frequency of trauma types, age at the time of trauma and degree of influence were shown on Table 3 (Table 3). Individuals who had experienced stressful life events that met the DSM-IV-TR Criterion A1 definition of a traumatic stressor (traumatic group) had higher mean TEC score (5.38±3.57) than individuals who had not met this criterion (non-traumatic group) (3.18±2.74) (t=-4.32, p<0.001).

Mean scores of difficulty in identifying feelings (DIF), alexithymia, NS, HA and ST were higher in traumatic group, whereas S and C were lower in the traumatic group (Table 4). Number of trauma was positively correlated with DIF of TAS-20 (r=0.23, p<0.01) and negatively correlated with cooperativeness (r=-0.32, p<0.001). Other than these, TAS factors and personality dimensions did not show significant correlation with the number of trauma type experienced. Among those with trauma history (n=77), number of trauma type was not related with alexithymia or personality dimensions (not shown).

Lower S score was determinant for any trauma history in Forward Logistic Regression model. When the alexithymic (n=47, 30.1%) and non-alexithymic groups were evaluated separately, S still was related with the presence of trauma, whereas there was no related personality dimension with the presence of the trauma in the alexithymic group (Table 5). Lower C scores predicted the number of trauma in Stepwise Linear Regression model. When the alexithymic and non-alexithymic groups were evaluated separately, C was still related with the number of the trauma experienced in the non-alexithymic group, whereas NS was related with the number of the trauma experienced in the alexithymic group (Table 6). Age, alexithymia

Table 2: Sociodemographic variables

	No Trauma History		Trauma History				
	N=79	%	N=77	%	χ2	sd	P
Age (mean±SD)	45.60±9.97		42.79±7.94		t=1.94		0.054
Duration of education (mean±SD)	10.04±4.01		9.14±3.77		t=1.43		0.153
Age at regular alcohol use (mean±SD)	26.38±9.70		24.78±6.53		t=1.21		0.228
Marital status					6.78	2	0.034
Married	55	69.6	39	50.6			
Divorced, Widowed, Separated	7	8.9	7	9.1			
Single	17	21.5	31	40.3			
Employment status					2.04	3	0.565
Unemployed	29	36.7	22	28.6			
Employed	27	34.2	30	39.0			
Part time	8	10.1	12	15.6			
Retired	15	19.0	13	16.9			
Alexithymia[a]	16	20.3	31	40.3	7.41	1	0.006

[a]Odds Ratio (95% Confidence Interval) for presence of any trauma: 2.65 (1.30-5.41)

Table 3: Types of the trauma experienced, frequency of trauma types, age at the time of trauma and degree of influence

Type of the trauma experienced	n	%	Age at the time of trauma (Mean±SD)	Degree of influence (Mean±SD)
1. Having to look after your parents and/or brothers and sisters when you were a child	25	16.0	12.64-2.83	3.32-1.31
2. Family problems (e.g., parent with alcohol or psychiatric problems, poverty).	53	34.0	10.06-5.42	3.77-1.09
3. Loss of a family member (brother, sister, parent) when you were a CHILD.	40	25.6	12.33-4.38	4.08-1.19
4. Loss of a family member (child or partner) when you were an ADULT.	19	12.2	26.32-15.54	3.53-1.68
5. Serious bodily injury (e.g., loss of a limb, mutilation, burns).	22	14.1	23.18-15.09	3.68-1.13
6. Threat to life from illness, an operation, or an accident.	57	36.5	27.46-12.31	3.61-1.24
7. Divorce of your parents	16	10.3	14.50-8.41	3.69-1.49
8. Your own divorce	47	30.1	34.87-8.20	3.75-1.38
9. Threat to life from another person (e.g., during a crime).	18	11.5	34.94-13.92	3.50-1.58
10. Intense pain (e.g., from an injury or surgery).	52	33.3	30.25-10.65	3.25-1.31
11. War-time experiences (e.g., imprisonment, loss of relatives, deprivation, injury)	12	7.7	24.58-5.78	3.75-1.60
12. Second generation war-victim (war-time experiences of parents or close relatives)	3	1.9	23.33-14.74	3.33-2.08
13. Witnessing others undergoing trauma	30	19.2	26.23-9.10	3.50-1.20
14. Emotional neglect (e.g., being left alone, insufficient affection) by your parents, brothers or sisters	65	41.7	16.74-11.74	3.49-1.05
15. Emotional neglect by more distant members of your family (e.g., uncles, aunts, nephews, nieces, grandparents)	34	21.8	17.47-12.61	3.21-1.10
16. Emotional neglect by non-family members (e.g., neighbors, friends, step-parents, teachers).	29	18.6	21.66-12.89	3.04-1.15
17. Emotional abuse (e.g., being belittled, teased, called names, threatened verbally, or unjustly punished) by your parents, brothers or sisters	28	17.9	16.79-14.39	3.25-1.14
18. Emotional abuse by more distant members of your family	17	10.9	18.53-12.76	3.06-1.25
19. Emotional abuse by non-family members	20	12.8	18.65-12.70	3.40-1.23
20. Physical abuse (e.g., being hit, tortured, or wounded) by your parents, brothers, or sisters	21	13.5	9.76-5.57	3.95-1.07
21. Physical abuse by more distant members of your family	6	3.8	15.67-12.72	4.17-1.17
22. Physical abuse by non-family members.	20	12.8	13.30-9.70	3.25-1.52
23. Bizarre punishment	20	12.8	-	-
24. Sexual harassment (acts of a sexual nature that DO NOT involve physical contact) by your parents, brothers, or sisters	1	0.6	5	2
25. Sexual harassment by more distant members of your family	1	0.6	15	4
26. Sexual harassment by non-family members	5	3.2	18-13.66	3.20-1.48
27. Sexual abuse (unwanted sexual acts involving physical contact) by your parents, brothers, or sisters	0	0.0	-	-
28. Sexual abuse by more distant members of your family	1	0.6	15	1
29. Sexual abuse by non-family members	3	1.9	10.67-3.79	4.33-1.16
No trauma history	12	7.7		

factors, and dimensions of TCI were independent variables in both of these models when the whole sample was evaluated. When the alexithymic and non-alexithymic groups were evaluated separately, age and dimensions of TCI were independent variables in these models.

DISCUSSION

In line with previous results, we found that the majority of patients with alcohol dependency (49.4%) have been exposed to at least one trauma in their life time, according to the DSM-IV-TR Criterion A1 definition of a traumatic stressor. This is important because these patients may have additional psychiatric disorders or higher severity of psychiatric symptoms. Results also showed that, consistent with previous studies, rates of traumas that do not necessarily met the DSM-IV-TR Criterion A1 definition of a traumatic stressor was as much as 92.3% (10,15).

Table 4: Scale scores among alcohol dependent men according to the trauma status

	No Trauma (n=79)		Trauma (n=77)			
Scale scores	**mean**	**sd**	**mean**	**sd**	**t**	**P**
DIF	17.59	5.74	20.25	5.58	-2.92	0.004
DDF	14.13	3.68	15.07	3.79	-1.56	0.122
EOT	21.45	3.58	22.03	3.55	-1.01	0.316
TAS-20	53.17	9.79	57.34	10.00	-2.62	0.010
Novelty Seeking	17.75	4.00	19.66	4.71	-2.74	0.007
Harm Avoidance	17.30	6.20	19.62	5.40	-2.49	0.014
Reward Dependence	13.42	2.66	12.66	2.58	1.80	0.074
Persistence	4.80	1.64	5.12	1.66	-1.21	0.229
Self-Directedness	24.75	6.60	21.57	5.90	3.17	0.002
Cooperativeness	28.11	5.20	25.96	6.36	2.32	0.022
Self-Transcendence	18.47	5.64	20.27	5.17	-2.08	0.039

DIF: difficulty in identifying feelings, DDF: difficulty in describing feelings,
EOT: externally oriented thinking, TAS-20: Toronto Alexithymia Scale

Table 5: Determinants of any trauma history in Forward Wald Logistic Regression models

	B	S.E.	Wald	df	P	Exp(B)	95.0% CI
Self-directedness*	-0.079	0.027	8.566	1	0.003	0.924	0.88-0.97
Self-directedness**	-0.075	0.032	5.375	1	0.020	0.927	0.87-0.99

Age, alexithymia factors, and dimensions of Temperament and Character Inventory were independent variables. CI: Confidence Interval *Total sample, **Non-alexithymic group. There was no predictor detected in alexithymic group

Table 6: Determinants of number of trauma in Stepwise Linear Regression model

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**p**
Cooperativeness*	-0.180	0.044	-0.316	-4.102	<0.001
Cooperativeness**	-0.170	0.057	-0.276	-2.965	0.004
Novelty Seeking***	0.322	0.102	0.427	3.172	0.003

*Total sample, F=10.86, p<0.001, df=2, 151, Adjusted R Square= 0.114. Age, alexithymia factors, and dimensions of Temperament and Character Inventory were independent variables. ** Non-alexithymic group, F=8.79, p=0.004, df=1, 107, Adjusted R Square= 0.067. Age and dimensions of Temperament and Character Inventory were independent variables.*** Alexithymic group, F=10.06, p=0.003, df=1, 45, Adjusted R Square= 0.17. Age and dimensions of Temperament and Character Inventory were independent variables.

Although other sociodemographic variables did not differ between traumatic and non-traumatic groups, rate of being single were higher in traumatic group, which suggested that these patients may have less support, and problems with interpersonal relationships. The age of onset for alcohol use was lower in traumatic group, meaning abusing alcohol during adolescence, which is an important period in terms of physiological and psychosocial development. Higher rate of physical, social and psychological problems may be expected among these individuals. Thus, these may cause vulnerability for psychopathologies secondary to traumas that were experienced or may increase the risk of experiencing traumas. Nevertheless, traumas experienced early in life may cause early onset of alcohol use by means of self-medicating symptoms of psychological distress caused by these traumas (8,19-21).

Patients with high NS may be impulsive and have risky life style, which may increase the probability of experiencing trauma in these individuals. Researches also suggest that NS represents a vulnerability factor for substance abuse in general (30,31), is associated with craving scores (54) and a predictor of relapse in

detoxified male alcohol dependents (55). HA dimension was found to be a risk factor for the development of personality dysfunction (33) and predicted the severity of psychiatric reaction to the trauma experienced (34). Studies conducted among different populations usually demonstrated that mainly high HA scores and low S scores are related with both anxiety and depression (56,57). In a previous study, Akvardar et al. found higher HA scores among Turkish alcoholics compared to healthy controls. In this study, it was suggested that individuals with high HA scores might use alcohol to relieve negative emotions (58). Thus, the results of the present study suggest that while NS seems to be a risk factor for experiencing trauma, HA may be both the cause and the consequence of trauma.

Nevertheless, the main finding of the present study was that, other than being lower in traumatic group, the character dimension S was related with the presence of trauma (according to the DSM-IV) and C, with the number of the traumas (according to TEC) experienced. The previous studies suggested that all categories of personality disorders are distinguished by low SD (50), particularly among substance abusers (59). Low SD is defined by poor impulse control or weak ego strength and is described as being irresponsible, purposeless, immature, weak, fragile, blaming, destructive, ineffective, unreliable, helpless, poorly integrated, and low in self-acceptance. Basiaux et al. (60) reported that alcohol dependents were characterized by higher NS and lower SD than nonpsychiatric control subjects. Likewise, most individuals with personality disorders are low in C, which is defined by poor interpersonal functioning and described as being intolerant, narcissistic, hostile or disagreeable, critical, unhelpful, revengeful, and opportunistic (27,61). Thus, our findings suggest that the rates and the severity of personality disorders are higher in the traumatized group. Nevertheless, the prevalence of personality disorders was not assessed in the present study, which is a limitation of the study. Extreme expressions in one or more temperament dimensions combined with an immature character in terms of low or very low expressions of S and C are important indicators of the incidence of a personality disorders (62,63). Low scores on RD is indicative for rare and eccentric individuals (cluster A), high scores on NS is indicative for dramatic and emotional subjects (cluster B), and high scores on HA is indicative for anxious and fearful individuals (cluster C) (62). Thus, finding high NS scores and high HA scores for the traumatized group in the present study suggests that cluster B and C personality disorders might be well represented in this group.

Cloninger's assumption of the importance of low S and C as substantial constituents of personality disorders corresponds with the suggestion of Fonagy et al. (64) that individuals with a personality disorders are characterized by an impaired mentalizing capacity implying an impaired ability to make sense of their own mental states and that of others, causing problematic interpersonal relationships and impairments in the development of the self. Trauma experienced in childhoood have been strongly implicated as a risk factor in the development of personality disorders (65). Rojas and Pappagallo (66) considered sexual and physical abuse to be risk factors that contribute to the development of borderline and antisocial personality disorders. Many other studies have shown that childhood trauma deforms the personality (67). Prolonged torture experiences or early trauma exposure may impair personality formation by enhancing the effects of cognitive, affective and behavioural vulnerabilities (68). In another study, victims of physical abuse demonstrated social, emotional and behavioural maladjustments as a result of their personality impairments (69). Also patients with trauma history may have immature personality traits related with poor response to challenging life events resulting in alcohol use in order to self-medicate negative emotions.

Associations between experiencing trauma and alexithymia are not well understood. A few studies have assessed alexithymia among adults who report history of childhood physical or sexual abuse (40,70-72). Among psychotherapy patients, Berenbaum (70) found a strong association between history of childhood abuse and "difficulty in identifying feelings-DIF" feature of alexythymia. In a study conducted among female psychiatric inpatients, association between history of

childhood sexual abuse and alexithymia was not found to be significant (71). In another study among substance abusing outpatients (72), a history of sexual abuse was relatively strongly associated with alexithymia. Finally, Kooiman et al. (73) found that childhood sexual or physical abuse did not predict alexithymia in psychiatric outpatients and they suggested that other factors in addition to these might also play an important role in the development of inadequate affect regulation. As cogently argued by Zlotnick et al. (74), alexithymia in adulthood may develop when a caretaker fails to teach a child how to differentiate among distinctive emotional states, to regulate arousal, and to respond adaptively to challenging life events. It is therefore possible that emotional neglect and/or maltreatment that occurs during childhood may obstruct the normal development of emotional processing skills, leading to alexithymia and vulnerability to experience trauma in adulthood (75). This is consistent with the Evren et al.'s suggestion that childhood emotional abuse might be a risk factor for alexithymia among inpatient substance dependents (42). One of our main findings was that traumatized patients showed significantly more alexithymic phenomena (particularly DIF subscale of TAS-20). Rate of being alexithymic and mean total score of alexithymia were higher in traumatic group and this differences were related to DIF factor. Similar with the results of the present study, the number of childhood trauma type was positively correlated with DIF among inpatient substance dependents (42). Interestingly, when alexithymic and non-alexithymic groups were evaluated separately, different relatonships were found between trauma and personality in alexithymic group than the whole group.

The present study has several limitations. First of all, because the current study utilized a cross-sectional design, it is not possible to make conclusive statements about the temporal order between the measures of trauma and personality. Second, there is the possibility of reporting bias. Participants may underreport their actual levels of exposure to certain traumatic events because of feelings of shame, fear or discomfort with the subject matter, lack of trust in the interviewer, reticence to share personal information with a stranger (76), or all of the above. Thirth, all the patients were male. Trauma, alcohol use disorder and personality interaction may differ between genders. Thus, gender specific aspects of these relationships needs further inquiry.

Alexithymia, temperament and character may all be related with trauma history in male alcohol dependent inpatients. Finding low S score predicting the presence of trauma history and low C score predicting the severity of trauma suggest that trauma experienced in lifetime is related with higher probability of personality disorders, although causal relationship is not clear. Nevertheless, a previous study found that among alcohol dependent patients, drop-out rates from treatment was higher in patients with low C scores and time to drop-out was shorter in patients with low C and S scores (77). Thus, this suggest that trauma and the number of the trauma experienced regardless of DSM-IV definition, may negatively effect treatment. The results of the present study also suggest that evaluation of trauma (both dimensionaly and categoricaly) is important, since trauma may be an influential factor in determining the manner and extent of psychopathology that is expressed in alcohol dependent inpatients (10,78).

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