

Short Communication

CHILDHOOD ABUSE AND NEGLECT AS A RISK FACTOR FOR ALEXITHYMIA IN ADULT MALE SUBSTANCE DEPENDENT INPATIENTS†

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Abstract—The prevalence of childhood abuse and neglect (CAN) histories and their associations with alexithymia among male substance-dependent inpatients were studied. Participants were 159 consecutively admitted male substance dependents (115 alcohol and 44 other drugs). Substance dependence was diagnosed by means of the Structured Clinical Interview for DSM-IV (SCID-I), Turkish version. Patients were investigated with the Toronto Alexithymia Scale (TAS-20) and Childhood Abuse and Neglect Questionnaire. Among substance-dependent patients, 57.0% had at least one type of CAN and 45.3% were considered as alexithymic since they had a score greater than 60 on the TAS-20. Rate of unemployment, low educational status, emotional abuse and history of suicide attempts were higher in alexithymic substance dependent patients. Those who had histories of two or more types of childhood abuse or neglect had also higher mean score on TAS-20, particularly on the item "difficulty in identifying feelings-DIF." Also, the number of childhood trauma types was positively correlated with TAS-20 and DIF and the "difficulty in describing feelings-DDF" items of TAS-20. History of childhood emotional abuse was the only determinant for alexithymia. Childhood emotional abuse might be a risk factor for alexithymia among inpatient substance dependents.

Keywords—alexithymia, childhood abuse, childhood neglect, substance abuse

Childhood trauma is considered to be an important risk factor for psychiatric disorders in later life (Bernstein, Stein

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& Handelsman 1998). Victims of childhood abuse or neglect (CAN) have a greater likelihood than nonvictims of being diagnosed with substance use disorders, depression, post-traumatic stress disorder (PTSD), and personality disorders (Brems et al. 2004; Bernstein, Stein & Handelsman 1998; Dunn, Ryan & Dunn 1994). Although prevalence varies in studies, CAN is common among substance-dependent patients (Brems et al. 2004; Simpson & Miller 2002; Westermeyer, Wahmanholm & Thuras 2001; Triffleman et al. 1995; Windle et al. 1995; Dunn, Ryan & Dunn 1994).

CAN increases the likelihood of substance abuse and also complicates the clinical picture of substance abuse by adding psychological and behavioral distress (Brems et al. 2004). For example, among substance dependents with a history of CAN, comorbidity of other psychiatric disorders is also common (Medrano et al. 2002; Ellason et al. 1996). Also more severe psychopathology (Brems et al. 2004; Brems & Namyniuk 2002), greater severity of the substance use disorder (Dube et al. 2002; Westermeyer, Wahmanholm & Thuras 2001; Easton, Swan & Sinha 2000), more problems associated with use of substances (Brems et al. 2004; Brems & Namyniuk 2002; Simpson & Miller 2002), and poorer treatment outcomes (Easton, Swan & Sinha 2000; Palmer, Palmer & Williamson 1995) were reported among substance dependents with a history of CAN than those without such a history.

Alexithymia is defined as the inability to distinguish one's feelings from the accompanying bodily sensations, the inability to express feelings, and an externally orientated cognitive style reflecting an absence of inner thoughts and fantasies (Taylor, Bagby & Parker 1997). It is thought to be a stable personality trait and a predisposing risk factor for a variety of psychiatric disorders (Taylor, Bagby & Parker 1997). Many studies have indicated relatively high prevalence rates of alexithymia in substance-related disorders (Cecero & Holmstrom 1997; Haviland et al. 1994). Recent studies have reported an association between alexithymia and primitive and immature ego defense styles, which implies a relatively primitive way of dealing with emotional problems (Kooiman et al. 1998; Parker, Taylor & Bagby 1998). Some authors have raised the hypothesis that, due to their cognitive limitations in identifying and elaborating emotions, alexithymic subjects may be overwhelmed by uncontrollable sensations and may resort to addictive behaviors in order to self-regulate these disruptive emotions (Taylor, Bagby & Parker 1997). At least two studies have shown that alexithymia predicted poor outcomes in

alcohol-dependent inpatients (Loas et al. 1997; Ziolkowski, Gruss & Rybakowski 1995).

Associations between childhood abuse and alexithymia are not well understood. A few studies have assessed alexithymia among adults who reported histories of childhood physical or sexual abuse (Kooiman et al. 2004; Scher & Twaite 1999; Berenbaum 1996; Zlotnick et al. 1996). Among psychotherapy patients, Berenbaum (1996) found a strong association between history of childhood abuse and the "difficulty in identifying feelings-DIF" item of the Toronto Alexithymia Scale (TAS-20). In a study conducted among female psychiatric inpatients, the association between a history of childhood sexual abuse and alexithymia was not found to be significant (Zlotnick et al. 1996). In another study among substance-abusing outpatients (Scher & Twaite 1999), a history of sexual abuse was relatively strongly associated with alexithymia. Finally, Kooiman and colleagues (2004) 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. Moreover, they demonstrated that optimal parenting by one parent may protect against the development of alexithymia when there is abuse by the other.

There are also studies demonstrating that, rather than a causal relationship existing between childhood abuse and alexithymia, alexithymia could mediate the associations between a history of childhood abuse and psychiatric symptoms in adulthood. For example, family conflict, lack of family cohesion, and childhood physical and emotional abuse and neglect were not directly associated with disordered eating among undergraduate female volunteers, whereas this association was mediated by alexithymia and depression (Mazzeo & Espelage 2002). Also, Paivio and McCulloch (2004) found an association between a history of childhood maltreatment and self-injurious behaviors among college women and they suggested that alexithymia mediates this relationship.

There is a growing literature that explores the similarities between emotional numbing in PTSD and alexithymia (Badura 2003). It is suggested that in traumatized persons, alexithymia may be better conceptualized as the emotional numbing aspect of PTSD rather than as a distinct construct. Other findings support the possibility that alexithymia might be construed as avoidance-based coping in trauma survivors. There is also research (Zlotnick, Matia & Zimmerman 2001) showing that alexithymia is strongly correlated with PTSD and borderline personality disorder, which may indicate that alexithymia is actually a different way of describing symptoms of these psychiatric disorders.

All of these few studies on the history of childhood abuse and development of alexithymia searched for childhood sexual or physical abuse, but none investigated childhood emotional abuse or neglect. A previous study found a strong association between history of sexual abuse

and alexithymia in substance-abusing outpatients (Scher & Twaite 1999). Also, since both CAN and alexithymia are found in high rates among substance-dependent patients, it is important to evaluate the relationship between alexithymia and all types of CAN in this population. This relationship and the contribution of different childhood abuse types to this relationship might differ in relation to the study populations. In the present study, prevalence of CAN history and associations with alexithymia among male substance-dependent inpatients were studied.

METHODS

Setting and Subjects

The study was conducted in Bakirkoy State Hospital for Psychiatric and Neurological Disorders, Alcohol and Drug Research, Treatment and Training Center (AMATEM) in Istanbul between March 2003 and October 2003. Patients are admitted to AMATEM on their own volition, except for those diagnosed with delirium tremens. The detoxification processes of alcohol- and other drug-dependent inpatients are carried out in different parts of AMATEM. After these detoxification processes, both groups of patients are included in a 28-day residential rehabilitation program. The subjects consisted of consecutively admitted substance-dependent male inpatients (115 alcohol dependent and 44 other drug dependent) according to DSM-IV criteria. Interviews with the study group were conducted after detoxification, when both alcohol- and drug-dependent patients are taken into a single treatment program (four to six weeks after the last day of substance use). A clinician performed clinical interviews in order to determine whether withdrawal symptoms had disappeared. Exclusion criteria were age being under 18, intellectual disability or cognitive impairments that would prevent a healthy interview, illiteracy and comorbid psychotic disorder. Eleven patients were not included in the study according to exclusion criteria. The Ethical Committee of the institution approved the study. Patients' written informed consent was obtained after the study protocol was thoroughly explained. Four of the patients refused to participate in the study.

In the drug-dependent group ($n = 44$), 20 (45.5%) patients were cannabis dependent, 12 (27.3%) were opiate-dependent, seven (15.9%) were inhalant-dependent, and five (11.4%) were dependent on other drugs (sedative/hypnotics, cocaine and stimulants). The mean age of the alcohol dependents ($n = 115$) was 41.3 ($SD = 8.9$, range = 18-61), whereas the mean age of the drug dependents ($n = 44$) was 25.6 ($SD = 7.2$, range = 15-46).

Measures

All the patients were assessed by using a semistructured sociodemographic form. The diagnosis of alcohol or drug dependence in each participating patient was based on the clinical examination: a screening interview based on the

TABLE 1
Sociodemographic Characteristics

	Alexithymic		Not Alexithymic		χ^2	df	p
	n = 72	%	n = 87	%			
Age (mean \pm SD)	36.4 \pm 10.4		37.3 \pm 11.5		t = 0.55		NS
Marital Status					4.77	2	NS
Married	31	43.1	50	57.5			
Divorced, Widower	20	27.8	13	14.9			
Single	21	29.2	24	27.6			
Employment					7.99	3	0.046*
Unemployed	32	44.4	21	24.1			
Employed	23	31.9	36	41.4			
Part time	7	9.7	16	18.4			
Retired, student	10	13.9	14	16.1			
Educational status					8.36	3	0.039*
Elementary School	35	48.6	27	31.0			
High school (6-8 grades)	14	19.4	13	14.9			
High school (9-12 grades)	17	23.6	31	35.6			
University	6	8.3	16	18.4			

*Statistically meaningful at the $p < 0.05$ level; NS: Nonsignificant ($p > 0.05$)

Structured Clinical Interview for DSM-IV (SCID-I) (First, Spitzer & Williams 1997), Turkish version (Corapcioglu et al. 1999), conducted by a trained interviewer (CE).

The Childhood Abuse and Neglect Questionnaire (CANQ), which contains 11 questions, was used. CANQ is semistructured questionnaire developed by Yargic and colleagues (1994) and used in many recent studies (Evren & Evren 2005; Evren, Kural & Cakmak 2006), although there is no published psychometrics for the questionnaire. The questionnaire includes questions about physical abuse, emotional abuse, sexual abuse, incest, neglect, history of suicide attempt and self-mutilative behavior. After each question, if abuse or neglect experiences were affirmed in a dichotomous way, permission was asked to proceed with further detailed questioning. Also, subjects were asked for an explanation at the end of each question, related to that specific question. If detailed questions (e.g., who was the abuser, age of both the victim and the abuser at the time of the abuse, and severity and frequency of the abuse) and explanations did not fit the definitions of abuse or neglect, the "yes" answer of the subject was not accepted. Physical abuse cases included injuries such as bruises, welts, burns, abrasions, lacerations, wounds, cuts, bone and skull fractures, and other evidence of physical injury. Sexual abuse cases varied from those involving relatively nonspecific charges of "assault and battery with intent to gratify sexual desires" to more specific ones of "fondling or touching in an obscene manner," sodomy, incest, and so forth. For emotional abuse, the definition of Walker and colleagues (1988) was used, which defines it as a verbal threatening or humiliating a young

person severe enough to put his/her emotional or mental health in hazard. Neglect cases reflected a judgment that the parents' deficiencies in childcare were beyond those found acceptable by community and professional standards at the time. The question about neglect included an explanation in parenthesis, i.e., (Physical neglect includes extreme failure to provide adequate food, clothing, shelter and medical attention. Emotional neglect includes extreme failure of love and closeness from caretakers to the child). The question asked by the clinician about self-mutilation included types of self-mutilation in parenthesis, i.e., (cutting, burning, hitting oneself, inserting sharp objects into body orifices, and pulling out body hair). If the answer to this question was yes, the interviewer would ask for a detailed explanation and also would examine the patient.

The Toronto Alexithymia Scale (TAS-20) (20-item version) (Bagby, Parker & Taylor 1994; Bagby, Taylor & Parker 1994) was used to screen for the prevalence of alexithymia. The Turkish version of the TAS-20 has been validated in a Turkish population study (Kose et al. 2005). Each TAS-20 item was rated on a five-point (1-5) Likert scale, with total scores ranging from 20 to 100. Three dimensions of TAS-20 are: (1) difficulty in identifying feelings (DIF); (2) difficulty in describing feelings (DDF); and (3) externally orientated thinking (EOT). The total scores of the TAS-20 were categorized according to the recommendations of Kose and colleagues (2005); thus a score of 61 or more indicated alexithymia and less than 61 no alexithymia. Cronbach's alpha was 0.77 in the present study.

TABLE 2
Childhood Abuse and Neglect, Suicide Attempts and Self Destructive Behavior

	Alexithymic		Not Alexithymic		χ^2	df	P
	n = 72	%	n = 87	%			
Physical abuse	27	37.5	23	26.4	2.24	1	NS
Emotional abuse	24	33.3	9	10.3	12.66	1	<0.001*
Neglect	35	48.6	36	41.4	0.83	1	NS
Sexual abuse	6	8.3	7	8.0	0.004	1	NS
Suicide attempt	26	36.1	18	20.7	4.68	1	0.03*
Physical harm					2.32	2	NS
Mutilation	26	36.1	22	25.3			
Hitting	9	12.5	11	12.6			

Odds Ratio (95% Confidence Interval) for emotional abuse = 4.3 (1.9-10.1),

*Statistically meaningful, NS: Nonsignificant ($p > 0.05$)

Statistical Methods

The statistical package SPSS 11.5 for Windows was used for all the analyses. Substance dependents with a TAS-20 score of 61 or more were compared with non-alexithymic substance dependents (TAS-20 score less than 61). Categorical variables were compared by means of the chi-square statistics. Odds ratios and 95% confidence intervals were calculated. Unpaired Student's t test were used to compare the groups on continuously distributed variables. These variables were normally distributed. One-way ANOVA was used for comparison of three groups. Correlation analyses (Pearson, bivariate) between the TAS-20 and its three factors and the number of trauma type were performed. Taking alexithymia (TAS-20 score) as a dependent variable, a backward logistic regression model was performed. For all statistical analysis differences were considered significant at $p < 0.05$.

RESULTS

The mean values in this sample were 57.96 (SD = 11.76) for the TAS-20 score, 21.7 (SD = 6.4) for the DIF, 15.2 (SD = 4.4) for the DDF and 21.1 (SD = 4.5) for the EOT. The means of TAS-20 and three factors of TAS-20 did not differ between alcohol and drug dependent groups ($p > 0.05$). Among alcohol dependents, 43.5% (n = 50) had alexithymia, whereas among drug dependents 50.0% (n = 22) had alexithymia. The alcohol and drug dependent groups did not differ significantly in terms of having alexithymia ($\chi^2 = 0.55$, df = 1, $p = 0.46$) (not shown).

In the total sample, 45.3% of patients (n = 72) had a score greater than 60 on the TAS-20, and were therefore considered as alexithymic. There were no statistical differences between groups in terms of current age and marital status. Rate of being unemployed was higher and educational status was lower in the alexithymic group compared to the non-alexithymic group (Table 1).

Among all substance-dependent patients 57.2% (n = 91) had at least one type of CAN. This rate was 53.0% (n = 61) for alcohol dependents, whereas it was 68.2% (n = 30) for drug dependents. Having a history of at least one type of CAN did not differ between alcohol and drug dependents ($\chi^2 = 2.98$, df = 1, $p = 0.11$). Fifty (31.4%) had a history of childhood physical abuse, 13 (8.2%) had a history of childhood sexual abuse, 33 (20.8%) had a history of emotional abuse and 71 (44.7%) had history of childhood neglect. In the group, 41 (25.8%) had one type of trauma, 28 (17.6%) had two types of trauma, 18 (11.3%) had three types of trauma and 4 (2.5%) had four types of trauma.

There were no significant differences between groups in terms of physical and sexual abuse and neglect, whereas the rate of emotional abuse was higher in the alexithymic group (33.3%) than non-alexithymic group (10.3%) ($p < 0.001$). Alcohol and drug dependents were also evaluated separately. The rate of emotional abuse was higher in the alexithymic group (n = 15, 30.0%) than non-alexithymic group (n = 4, 6.2%) among alcohol dependents ($\chi^2 = 11.65$, df = 1, $p = 0.001$). This rate did not differ between alexithymic group (n = 9, 40.9%) and non-alexithymic group (n = 5, 22.7%) among drug dependents. Among both the alcohol and drug dependents, there were no significant differences between alexithymic and non-alexithymic groups in terms of physical and sexual abuse and neglect ($p > 0.05$). Rate of suicide attempt history was higher in the alexithymic group (36.1%) than non-alexithymic group (20.7%). There was no significant difference between groups in terms of self-destructive behavior (Table 2).

Mean scores of TAS-20 and subscales of TAS-20 according to presence of each childhood abuse and neglect type are shown in Table 3. Mean TAS-20 score and mean scores of DIF and DDF features of TAS-20 were higher in patients with history of emotional abuse. Other than these, there were no significant differences.

Correlations (Pearson) between the number of abuse type and TAS-20 and subscales of TAS-20 showed that there

TABLE 3
Mean Scores of TAS-20 and Subscales of TAS-20

	TAS-DIF		TAS-DDF		TAS-EOT		Total score of TAS-20	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Physical abuse								
No	21.2	6.5	14.9	4.4	20.8	4.5	56.8	11.8
Yes (n = 50, 31.4%)	22.9	6.0	16.0	4.3	21.7	4.4	60.5	11.3
Emotional abuse								
No	21.0	6.5	14.6	4.2	20.8	4.4	56.3	11.5
Yes (n = 33, 20.8%)	24.6*	5.0	17.7**	4.0	22.0	4.8	64.2***	10.8
Neglect								
No	21.0	6.7	14.9	4.3	21.1	4.4	57.0	11.6
Yes (n = 71, 44.7%)	22.6	5.9	15.7	4.5	21.0	4.6	59.2	11.9
Sexual abuse								
No	21.7	6.4	15.2	4.4	21.0	4.3	57.9	11.6
Yes (n = 13, 8.2%)	22.0	6.1	15.4	4.6	21.3	6.3	58.7	14.2

* $p < 0.01$, ** $p < 0.001$, *** $p = 0.001$

were positive correlations between number of abuse types and DIF ($r = 0.19$, $p = 0.015$), DDF ($r = 0.19$, $p = 0.014$) and TAS-20 ($r = 0.21$, $p = 0.01$), whereas no correlation was found with EOT ($r = -0.07$, $p = 0.35$).

Mean scores of TAS-20 and DIF were higher in the group with history of two or more types of abuse than the group without histories of abuse and the group with only one type of abuse. There were no significant differences between groups in terms of DDF and EOT (Table 4).

To assess the relative abilities of the variables to predict alexithymia, a multivariate logistic regression analysis was performed, using presence of alexithymia as the dependent variable. Independent variables were age, childhood emotional abuse, physical abuse, verbal abuse, neglect and sexual abuse. According to this analysis, childhood emotional abuse ($\beta = -1.47$, Wald = 11.53, Odds Ratio = 0.23, 95% Confidence Interval = 0.099–0.538, $p = 0.001$), was the only predictor of alexithymia.

DISCUSSION

These results confirm high rates of CAN among substance-using individuals and highlight the long-term adult affect dysregulation sequelae of childhood emotional abuse as alexithymia in this population. Consistent with previous studies (ranging between 34% and 77%) (Bernstein, Stein & Handelsman 1998; Ellason et al. 1996; Triffleman et al. 1995) and similar to our previous study (56.1%; Evren, Kural & Cakmak 2006), rate of patients reporting at least one type of CAN in the present study was 57.2%. Our low ratio for sexual abuse in the male substance-dependent sample may be indicating a tendency for gender differences in reporting abuse (Windle et al. 1995). Another factor for this might be cultural differences in both the rate of occurrence and the rate

of reporting childhood aversive experiences (Evren, Kural & Cakmak 2006). Nevertheless, this high rate for at least one type of CAN found in the present study might be associated with current levels of psychological distress/symptoms as suggested in previous studies (Medrano et al. 2002).

Prevalence of alexithymia was found to be 45.3% in the present study, which is consistent with both studies done in developed western countries (Ziolkowski, Gruss & Rybakowski 1995) and studies done with Turkish alcohol dependents (Evren et al. 2002). Alexithymic patients might be emotionally and cognitively restricted, unable to differentiate their feelings, verbalize them and solve the problem. Alexithymia was found to be associated with a primitive defense style (Kooiman et al. 1998) and also with anxiety, depression, anger and somatization (Taylor, Bagby & Parker 1997; Kooiman et al. 1998). Haviland and colleagues (1994) suggested that alexithymia could serve as a defense mechanism in alcohol-dependent patients who are in need to deny their painful emotions. Rybakowski and colleagues (1988) noted that alcohol intake might be a way to alleviate stress situations in alexithymic subjects and facilitate their verbal and emotional personal contacts. Among male alcoholics, severity of alexithymia was related to emotional disturbance and interpersonal difficulties (Cecero & Holmstrom 1997).

A role for early developmental factors in the etiology of alexithymia was suggested (Troisi et al. 2001). It has been argued that severe traumatic experiences such as physical or sexual abuse could lead to the development of alexithymic features (Berenbaum 1996). In the present study, childhood physical or sexual abuse was not related to alexithymia in substance-dependent patients. This difference might be due to different treatment settings (e.g., only inpatients were included in the present study), different patient populations

TABLE 4
Mean Scores of TAS-20 and Subscales of TAS-20 According to the Number of Trauma Types

	No CAN		One Type of CAN		Two or More Types of CAN		F	p
	(n = 68)		(n = 41)		(n = 50)			
	M	SD	M	SD	M	SD		
TAS-DIF	20.9	6.7	20.4	6.2	23.9	5.4	4.68	0.011*
TAS-DDF	14.6	4.2	14.8	4.3	16.4	4.6	2.76	NS
TAS-EOT	20.9	4.5	21.1	4.1	21.1	4.8	0.035	NS
Total score of TAS-20	56.4	11.6	56.3	11.1	61.4	11.9	3.244	0.042*

CAN = Childhood Abuse or Neglect, DIF = difficulty in identifying feelings; DDF = difficulty in describing feelings; EOT = externally orientated thinking.

*Two or more types of CAN > No CAN, One type of CAN

(only substance dependents were included) or cultural differences. Other than childhood physical or sexual abuse, alexithymia was also found to be associated with insecure attachment (Troisi et al. 2001; Fukunishi et al. 1999) and with low levels of family communication (Berenbaum & James 1994; Lumley et al. 1996; Lane, Sechrest & Riedel 1998; Kench & Irwin 2000; Yelsma et al. 2000). Fukunishi and colleagues (1999) have linked the development of alexithymia with maternal attachment in infancy or childhood in a sample of male college students. Among young men with clinically significant mood symptoms, alexithymic traits were more pronounced in those participants who had patterns of insecure attachment and who reported more severe symptoms of separation anxiety during childhood (Troisi et al. 2001). Earlier studies on college students (Berenbaum & James 1994), community samples (Lane, Sechrest & Riedel 1998) and university students (Kench & Irwin 2000) have shown that the childhood family environment can have a bearing on alexithymic features in adulthood. Higher levels of alexithymia were associated with retrospective reports of diminished family expressiveness and less emotional safety during childhood in college students (Berenbaum & James 1994). Lumley and colleagues (1996) suggested that the development of alexithymia could be connected with disturbances in the emotional atmosphere of the family during childhood. The sole family variable independently predictive of global alexithymic tendencies was expressiveness, although other family variables were predictive of individual components of alexithymia in university students (Kench & Irwin 2000). In another study, students' self-reported expressive atmospheres in their family-of-origin scores were significantly correlated with the total scores of alexithymia and each of the three factors (Yelsma et al. 2000). Finally, results of a two-year follow-up study suggested that certain adverse childhood experiences, such as harsh discipline and unhappiness of the childhood home, are associated with long-lasting alexithymic features in patients with major depressive disorder (Honkalampi et al. 2004). Consistent with these findings, in the present study emotional abuse was

a sole predictor of alexithymia. Gladstone and colleagues (2004) pointed out the significance of emotional abuse as an important developmental factor linked with adult problems in self-definition and self-worth. Hence, alexithymia may serve as a primitive way of dealing with emotional problems (Kooiman et al. 1998; Parker, Taylor & Bagby 1998) in adult substance dependent patients with history of childhood emotional abuse.

Although number of childhood trauma types was only modestly related with the severity of alexithymia in the present study, one might expect that the severity of childhood abuse or neglect to be important for alexithymia in adult life. Thus, the main limitation of this study was the measure of childhood abuse and neglect which was dichotomous rather than continuous and which therefore did not reflect severity. There are also potential measurement problems due to the retrospective recall of childhood abuse that may reduce the reliability of assessment (Brewin, Andrews & Gotlib 1993). Although the study was conducted after detoxification, patients might still have had some cognitive problems in expressing themselves correctly. Alexithymic subjects might also have been unable to express themselves correctly because of their difficulties in cognitive processing of emotions. No structured interviews were conducted to determine the existence of psychopathologies, especially depression, that could be comorbid with substance dependency shortly after detoxification. Also, the lack of assessment of posttraumatic symptomatology may be considered as a significant limitation of the study. Another limitation of the present study was that patients included in this study were all male. Also, the study group was restricted to a treatment population, and therefore, it may not be possible to generalize the findings to nontreatment groups. Further longitudinal studies on community samples would be necessary to extend these findings to nontreatment populations.

Finding high rates of CAN and alexithymia in the present study suggests that special attention is needed to identify CAN and alexithymia in this population. Assessing alexithymia early in treatment interventions could be

helpful since, regardless of the treatment technique, almost all treatments depend on verbalization. Assertiveness training methods and/or psychodrama techniques, applied in individual or group psychotherapies, may be helpful to this particular group of alexithymic substance-dependent patients with restricted verbalization. These findings also suggest that childhood emotional abuse contributes to the

high prevalence of alexithymia in a Turkish substance-dependent population. Thus, whenever alexithymia is present, the possibility of childhood abuse, particularly childhood emotional abuse, must be evaluated. It is well known that, addressing unresolved trauma associated with CAN might increase the efficacy of treatment outcomes and reduce relapse rates (Windle et al. 1995).

REFERENCES

- Badura, A.S. 2003. Theoretical and empirical exploration of the similarities between emotional numbing in posttraumatic stress disorder and alexithymia. *Journal of Anxiety Disorders* 17: 349-60.
- Bagby, R.M.; Parker, J.D.A. & Taylor, G.J. 1994. The twenty-item Toronto Alexithymia Scale-I: Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research* 38: 23-32.
- Bagby, R.M.; Taylor, G.J. & Parker, J.D. 1994. The twenty-item Toronto Alexithymia Scale-II. Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research* 38: 33-40.
- Berenbaum, H. 1996. Childhood abuse, alexithymia and personality disorder. *Journal of Psychosomatic Research* 41: 585-95.
- Berenbaum, H. & James, T. 1994. Correlates and retrospectively reported antecedents of alexithymia. *Psychosomatic Medicine* 56: 353-59.
- Bernstein, D.P.; Stein, J.A. & Handelsman, L. 1998. Predicting personality pathology among adult patients with substance use disorders: Effects of childhood maltreatment. *Addictive Behaviors* 23: 855-68.
- Brems, C. & Namyniuk, L. 2002. The relationship of childhood abuse history and substance use in an Alaska sample. *Substance Use & Misuse* 37: 473-93.
- Brems, C.; Johnson, M.E.; Neal, D. & Freemon, M. 2004. Childhood abuse history and substance use among men and women receiving detoxification services. *American Journal on Drug and Alcohol Abuse* 30: 799-821.
- Brewin, C.R.; Andrews, B. & Gotlib, I.H. 1993. Psychopathology and early experience: A reappraisal of retrospective reports. *Psychological Bulletin* 113: 82-98.
- Cecero, J.J. & Holmstrom, R.W. 1997. Alexithymia and affect pathology among adult male alcoholics. *Journal of Clinical Psychology* 53: 201-8.
- Corapcioglu, A.; Aydemir, O.; Yildiz, M.; Esen, A. & Koroglu, E. 1999. *Structured Clinical Interview for DSM IV (SCID), Turkish Version*. Ankara, Turkey: Hekimler Yayin Birliđi. (Turkish)
- Dube, S.R.; Anda, R.F.; Felitti, V.J.; Edwards, V.J. & Croft, J.B. 2002. Adverse childhood experiences and personal alcohol abuse as an adult. *Addictive Behaviors* 27: 713-25.
- Dunn, G.E.; Ryan, J.J. & Dunn, C.E. 1994. Trauma symptoms in substance abusers with and without histories of childhood abuse. *Journal of Psychoactive Drugs* 26: 357-60.
- Easton, C.J.; Swan, S. & Sinha, R. 2000. Prevalence of family violence in clients entering substance misuse treatment. *Journal of Substance Abuse Treatment* 18: 23-28.
- Ellason, J.W.; Ross, C.A.; Sainnton, K. & Mayran, L.W. 1996. Axis I and II comorbidity and childhood trauma history in chemical dependency. *Bulletin of the Menninger Clinic* 60: 39-51.
- Evren, C. & Evren, B. 2005. Self-mutilation in substance dependents and relationship with childhood abuse and neglect, alexithymia and temperament and character dimensions of personality. *Drug and Alcohol Dependence* 80: 15-22.
- Evren, C.; Kural, S. & Cakmak, D. 2006. Clinical correlates of childhood abuse and neglect in substance dependents. *Addictive Behaviors* 31: 475-85.
- Evren, C.; Can, S.; Evren, B. & Cakmak, D. 2002. The relationship between alexithymia and depression, anxiety and erectile dysfunction in a sample of male alcoholic inpatients: A controlled study. *Bulletin of Clinical Psychopharmacology* 12: 165-173. (Turkish)
- First, M.B.; Spitzer, R.L. & Williams, J.B.W. 1997. *Structured Clinical Interview for DSM-IV (SCID)*. Washington, DC: American Psychiatric Association.
- Fukunishi, I.; Sei, H.; Morita, Y. & Rahe, R.H. 1999. Sympathetic activity in alexithymics with mother's low care. *Journal of Psychosomatic Research* 46: 579-89.
- Gladstone, G.L.; Parker, G.B.; Mitchell, P.B.; Malhi, G.S.; Wilhelm, K. & Austin, M.P. 2004. Implications of childhood trauma for depressed women: An analysis of pathways from childhood sexual abuse to deliberate self-harm and revictimization. *American Journal of Psychiatry* 161: 1417-25.
- Haviland, M.G.; Hendryx, M.S.; Shaw, D.G. & Henry, J.P. 1994. Alexithymia in women and men hospitalized for psychoactive substance dependence. *Comprehensive Psychiatry* 35: 124-28.
- Honkalampi, K.; Koivumaa-Honkanen, H.; Antikainen, R.; Haatainen, K.; Hintikka, J. & Viinamaki, H. 2004. Relationships among alexithymia, adverse childhood experiences, sociodemographic variables, and actual mood disorder: A 2-year clinical follow-up study of patients with major depressive disorder. *Psychosomatics* 45: 197-204.
- Kench, S. & Irwin, H.J. 2000. Alexithymia and childhood family environment. *Journal of Clinical Psychology* 56: 737-45.
- Kooiman, C.G.; van Rees Vellinga, S.; Spinhoven, P.; Draijer, N.; Trijsburg, R.W. & Rooijmans, H.G. 2004. Childhood adversities as risk factors for alexithymia and other aspects of affect dysregulation in adulthood. *Psychotherapy and Psychosomatics* 73: 107-16.
- Kooiman, C.G.; Spinhoven, P.; Trijsburg, R.W. & Rooijmans, H.G. 1998. Perceived parental attitude, alexithymia and defense style in psychiatric outpatients. *Psychotherapy and Psychosomatics* 67: 81-87.
- Kose, S.; Sayar, K.; Gulec, H.; Evren, C. & Borckardt, J. 2005. The Turkish version of the 20-item Toronto Alexithymia Scale (TAS-20): Reliability, validity, and factorial structure. Paper presented at the Society of Biological Psychiatry Symposium, May 19-22, Atlanta, GA.
- Lane, R.D.; Sechrest, L. & Riedel, R. 1998. Sociodemographic correlates of alexithymia. *Comprehensive Psychiatry* 39: 377-85.
- Loas, G.; Fremaux, D.; Otmani, O.; Lecercle, C. & Delahousse, J. 1997. Is alexithymia a negative factor for maintaining abstinence? A follow-up study. *Comprehensive Psychiatry* 38: 296-99.
- Lumley, M.A.; Mader, C.; Gramzow, J. & Papineau, K. 1996. Family factors related to alexithymia characteristics. *Psychosomatic Medicine* 58: 211-16.
- Mazzeo, S.E. & Espelage, D.L. 2002. Association between childhood physical and emotional abuse and disordered eating behaviors in female undergraduates: An investigation of the mediating role of alexithymia and depression. *Journal of Counseling Psychology* 49: 86-100.
- Medrano, M.A.; Hatch, J.P.; Zule, W.A. & Desmond, D.P. 2002. Psychological distress in childhood trauma survivors who abuse drugs. *American Journal on Drug and Alcohol Abuse* 28: 1-13.
- Paivio, S.C. & McCulloch, C.R. 2004. Alexithymia as a mediator between childhood trauma and self-injurious behaviors. *Child Abuse & Neglect* 28: 339-54.
- Palmer, J.A.; Palmer, L.K. & Williamson, D. 1995. Childhood abuse as a factor in attrition from drug rehabilitation. *Psychological Reports* 76: 879-82.
- Parker, J.D.; Taylor, G.J. & Bagby, R.M. 1998. Alexithymia: Relationship with ego defense and coping styles. *Comprehensive Psychiatry* 39: 91-98.

- Rybakowski, J.; Ziolkowski, M.; Zasadzka, T. & Brzezinski, R. 1988. High prevalence of alexithymia in male patients with alcohol dependence. *Drug and Alcohol Dependence* 21: 133-36.
- Scher, D. & Twaite, J.A. 1999. The relationship between child sexual abuse and alexithymic symptoms in a population of recovering adult substance misusers. *Journal of Child Sexual Abuse* 8: 25-40.
- Simpson, T.L. & Miller, W.R. 2002. Concomitance between childhood sexual and physical abuse and substance use problems. A review. *Clinical Psychology Review* 22: 27-77.
- Taylor, G.J.; Bagby, R.M. & Parker, J.D.A. 1997. *Disorder of Affect Regulation: Alexithymia in Medical and Psychiatric Illness*. Cambridge, MA: Cambridge University Press.
- Triffleman, E.G.; Marmar, C.R.; Delucchi, K.L. & Ronfeldt, H. 1995. Childhood trauma and posttraumatic stress disorder in substance abuse inpatients. *Journal of Nervous and Mental Disease* 183: 172-76.
- Troisi, A.; D'Argenio, A.; Peracchio, F. & Petti, P. 2001. Insecure attachment and alexithymia in young men with mood symptoms. *Journal of Nervous and Mental Disease* 189: 311-16.
- Walker, C.E.; Bonner, B.L. & Kaufmann, K. 1988. *The Physically and Sexually Abused Child: Evaluation and Treatment*. New York, Pergamon Press.
- Westermeyer, J.; Wahmanholm, K. & Thuras, P. 2001. Effects of childhood physical abuse on course and severity of substance abuse. *American Journal on Addictions* 10: 101-10.
- Windle, M.; Windle, R.C.; Scheidt, D.M. & Miller, G.B. 1995. Physical and sexual abuse and associated mental disorders among alcoholic inpatients. *American Journal of Psychiatry* 152: 1322-28.
- Yargic, L.I.; Tutkun, H. & Sar, V. 1994. Childhood trauma and dissociative symptoms in adult life. *Journal of Psychiatry, Psychology and Psychopharmacology* 2: 338-47. (Turkish)
- Yelsma, P.; Hovestadt, A.J.; Anderson, W.T. & Nilsson, J.E. 2000. Family-of-origin expressiveness: Measurement, meaning, and relationship to alexithymia. *Journal of Marital and Family Therapy* 26: 353-363.
- Ziolkowski, M.; Gruss, T. & Rybakowski, J.K. 1995. Does alexithymia in male alcoholics constitute a negative factor for maintaining abstinence? *Psychotherapy and Psychosomatics* 63: 169-73.
- Zlotnick, C.; Mattia, J. & Zimmerman, M. 2001. Clinical features of survivors of sexual abuse with major depression. *Child Abuse and Neglect* 25: 357-67.
- Zlotnick, C.; Shea, M.T.; Pearlstein, T.; Simpson, E.; Costello, E. & Begin, A. 1996. The relationship between dissociative symptoms, alexithymia, impulsivity, sexual abuse, and self-mutilation. *Comprehensive Psychiatry* 37: 12-16.