

# Dissociative Disorders Among Inpatients With Drug or Alcohol Dependency

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**Objective:** To determine the prevalence of dissociative disorders among inpatients with alcohol or drug dependency.

**Method:** The Dissociative Experiences Scale was used to screen 215 consecutive inpatients admitted to the dependency treatment center of a large mental hospital over a 1-year period (March 1, 2003, to March 31, 2004). Patients who had scores of 30.0 or above were compared with patients who scored below 10.0 on the scale. The patients in both groups were then evaluated using the Dissociative Disorders Interview Schedule and the Structured Clinical Interview for DSM-IV Dissociative Disorders. The interviewers were blind to the Dissociative Experiences Scale scores.

**Results:** Of the patients, 36.7% had a Dissociative Experiences Scale score of 30.0 or above. The prevalence of DSM-IV dissociative disorders was 17.2% (N = 37). On average, 64.9% of these patients' dissociative experiences had started 3.6 years (SD = 2.9; range, 1.0–11.0 years) before onset of the substance use. Patients with dissociative disorders were younger, and the mean duration of their remission periods was shorter. Dissociative disorder patients tended to use more than 1 substance, and drugs were used more frequently than alcohol in this group. The frequency of borderline personality disorder, somatization disorder, history of suicide attempt, and childhood abuse and neglect occurred more frequently in the dissociative disorder group than in the nondissociative disorder group. History of suicide attempt ( $p = .005$ ), female sex ( $p = .050$ ), and childhood emotional abuse ( $p = .010$ ) were significant predictors of a dissociative disorder diagnosis. Significantly more patients with dissociative disorders stopped their treatment prematurely ( $p < .001$ ).

**Conclusion:** Impact of dissociative disorders on development and treatment of substance dependency requires further study.

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There has been an increasing awareness of dissociative disorders in clinical settings during the last 2 decades. Past investigations reported that the frequency of dissociative disorders was between 5.0% and 20.7% among psychiatric inpatients.<sup>1–4</sup> In Turkey, the prevalence of dissociative disorders was 10.2% in a university psychiatric inpatient unit<sup>5</sup> and 12.0% and 13.8% among psychiatric outpatients.<sup>6,7</sup>

Screening studies conducted on populations with alcohol or substance dependency have led to alarming data concerning concurrent dissociative psychopathology. Dunn et al.<sup>8</sup> found that 41.0% of 265 substance-dependent male inpatients had high scores of dissociation. Ross et al.<sup>9</sup> demonstrated that 39.0% of 100 chemically dependent patients had a dissociative disorder. Dunn et al.<sup>10</sup> found that this rate was 15.0% for 100 patients with substance use disorder at the end of their inpatient treatment. Ellason et al.<sup>11</sup> reported that alcohol and drug addiction occurred in a large proportion of patients with dissociative identity disorder and that, in many of the cases, the drug abuse was severe and began at an early age. High dissociation levels were found in detoxified male veterans suggesting that dissociation might be due to the chronic residual effect of long-term substance use, including both alcohol and cocaine.<sup>12</sup> Despite these alarming data, many drug and alcohol counselors still have only minimal education and interest in dissociative disorders.

The aim of this study was to determine the prevalence of dissociative disorders among consecutive inpatients with alcohol and substance dependency using standardized diagnostic instruments and to compare clinical differences of patients with or without a dissociative disorder. To our knowledge, this is the first study conducted on patients with substance and alcohol dependency using the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D).<sup>13</sup>

## METHOD

### Participants

All patients admitted to the 100-bed facility at the Research, Treatment and Training Center for Alcohol and Substance Dependency (AMATEM) of the Bakirkoy State Hospital for Psychiatric and Neurological Diseases in Istanbul, Turkey, over a 1-year period (March 1, 2003,

to March 31, 2004) were considered for participation in the study. As the largest center specializing in treatment of drug and alcohol use disorders in Turkey, the AMATEM accepts referrals from all over the country. As an institution sponsored directly by governmental funds, the AMATEM mainly serves applicants from middle and lower socioeconomic levels.

All study interviews were conducted after a detoxification period, i.e., 2 to 4 weeks after the last day of alcohol or drug use. Mean soberness duration of patients (the period between the last day of drug or alcohol intake and the date of Dissociative Experiences Scale (DES)<sup>14,15</sup> administration) was 24.9 days (SD = 27.9; range, 15–300 days). A clinician decided if withdrawal symptoms had disappeared. Exclusion criteria were current epilepsy, mental retardation, cognitive deficit, illiteracy, and current acute psychotic disorders. The subjects of comparison were drawn from the same patient population. After complete description of the study to the subjects, their written informed consent was obtained.

### Instruments

The DES is a 28-item self-rating scale of good reliability and validity. It is not a diagnostic tool but serves as a screening device for dissociative disorders. Possible scores range from 0 to 100. The Turkish version of the DES<sup>16</sup> has good reliability and validity.<sup>17,18</sup> A cutoff score of 30.0 has proved useful in screening for dissociative disorders in Turkey.<sup>17–19</sup>

The Dissociative Disorders Interview Schedule (DDIS)<sup>20</sup> is a structured clinical interview consisting of 131 items. It was designed to diagnose somatization disorder, major depressive disorder, borderline personality disorder, and 5 classes of dissociative disorders according to the DSM-IV. The schedule also inquires about childhood abuse and neglect and a variety of features associated with dissociative identity disorder, including 11 Schneiderian symptoms, 16 secondary features of dissociative identity disorder, and 16 extrasensory experiences. The validity and reliability of the Turkish version (V. Sar, M.D.; H. Tutkun, M.D.; L. I. Yargic, M.D., unpublished translation, 1993/1994) have been reported elsewhere.<sup>19</sup>

The SCID-D<sup>13</sup> is a semistructured diagnostic interview that investigates 5 dissociative disorders according to DSM-IV criteria. The SCID-D also rates 5 symptom areas (depersonalization, derealization, amnesia, identity confusion, and identity alteration) of dissociation and systematically rates the severity of individual symptoms. Information about reliability and validity of the Turkish version of the instrument (V. Sar, M.D.; H. Tutkun, M.D.; L. I. Yargic, M.D., et al., unpublished translation, 1996) has been reported elsewhere.<sup>7,21</sup>

A structured form that was designed for this study, concerning sociodemographic data and detailed history of substance use, was completed for each patient. In order to

determine the sequence of onset of dissociative experiences and substance use, responses to the SCID-D items inquiring about the chronology of symptom formation were compared with data gathered through the structured history form. We also determined the dropout rates during index hospitalization, i.e., number of patients who did not complete the treatment program.

### Procedure

The study consisted of 2 phases. In the first phase, all patients completed the DES and the history form. One psychiatrist (C.E.) and 1 psychiatry resident (M.K.) administered and collected these data. All subjects who had scores higher than 30.0 on the DES and patients who scored below 10.0 on the scale were referred to the second phase of the study.

In the second phase of the study, 2 psychiatrists (F.K. and D.T.G.), both of whom had experience using these instruments before the initiation of the study, administered the DDIS and the SCID-D to patients in both groups. The interviewers were blind to the patients' diagnoses and DES scores.

### Statistical Analyses

The statistical package SPSS 10.0 for Windows (SPSS, Inc., Chicago, Ill.) was used for all the analyses. Categorical variables were compared by means of the  $\chi^2$  statistic. Fisher exact test was used if the expected value in any cell of a 2-by-2 table was less than 5. We also used the Mann-Whitney U test to compare the groups. Backward stepwise multiple regression analysis was performed for evaluating predictors of dissociative disorders. For all statistical analyses, p values were 2-tailed and level of significance was set at  $p = .05$ .

## RESULTS

During the study period, 227 consecutive patients were admitted to the inpatient unit. Seven patients with drug dependency (2 had current epilepsy, 2 had current acute psychosis, and 3 were illiterate) and 5 patients with alcohol dependency (3 were illiterate, 1 had current epilepsy, and 1 had cognitive deficits) were excluded from the study. The remaining 215 patients (104 with drug dependency and 111 with alcohol dependency only) completed the DES. The mean age of the participants was 34.9 years (SD = 12.3; range, 17–68). Nineteen patients (8.8%) were female. Females (mean age = 24.5 years, SD = 6.8) were considerably younger than males (mean age = 35.9 years, SD = 12.2) ( $z = 4.06$ ,  $p < .001$ ). Four patients (1.9%) were below 18 years of age. Among 104 patients with drug dependency, preference drugs reported were cannabis (N = 33), inhalants (N = 27), heroin (N = 21), ecstasy (N = 18), and anticholinergic drugs or cocaine (N = 5).

The mean DES score of the original 215 patients was 24.5 (SD = 17.5; range, 2.1–85.7; median = 20.0). Females (mean score = 36.7, SD = 15.3) had higher DES scores than males (mean score = 24.3, SD = 17.3) ( $z = 3.06$ ,  $p = .002$ ). Age correlated negatively with DES scores ( $N = 215$ ,  $r = -0.23$ ,  $p = .001$ ). Seventy-nine patients (36.7%) had a score of 30.0 or above. Sixty-five high scorers (82.3%) were males and 14 (17.7%) were females; these rates were 131 (96.3%) and 5 (3.7%) for the remaining patients, respectively (i.e., significantly more females were among high scorers [ $\chi^2 = 12.24$ ,  $df = 1$ ,  $p < .001$ ]).

Sixty-three (79.7%) of the 79 high scorers and 49 (94.2%) of the 52 patients with scores below 10.0 were evaluated using structured interviews. Sixteen high scorers (7.4%) and only 3 low scorers (1.4%) were excluded from the second phase, as they were hospitalized for too short a period, i.e., they refused further treatment. This difference was significant ( $\chi^2 = 5.31$ ,  $df = 1$ ,  $p = .023$ ).

Thus, the second phase of the study consisted of 112 patients. Fifty-eight of these patients had drug dependency (with or without alcohol), and 54 patients had alcohol dependency only. Sixteen patients (14.3%) were female. Thirty-seven (17.2%) of the original 215 patients had a dissociative disorder according to the SCID-D. Thus, 33 (52.4%) of the 63 patients with DES scores 30.0 or higher and 4 (8.2%) of the 49 patients with scores below 10.0 were diagnosed as having a dissociative disorder. For the selected cutoff point of the DES in this study, sensitivity and specificity were 89.2% and 60.0%, respectively; positive predictive value was 52.4%; and negative predictive value was 91.8%.

The types of diagnosed dissociative disorders according to the DSM-IV were of considerable interest. Twenty-seven patients (12.6%) had dissociative disorder not otherwise specified. Six (4 females and 2 males) patients (2.8%) had dissociative identity disorder. Two patients (0.9%) had dissociative fugue, 1 (0.5%) had dissociative amnesia, and 1 (0.5%) had depersonalization disorder.

As the largest group, the patients with dissociative disorder not otherwise specified deserve detailed description. Nineteen patients were suffering from conditions similar to dissociative identity disorder, i.e., they had distinct personality states without fitting the criteria of the latter fully. Four patients had a combination of amnesia and depersonalization, 3 had amnesia and derealization, and 1 had derealization without depersonalization. For 3 patients, dissociative fugue was 1 of the symptoms at front of a more complex condition, i.e., dissociative identity disorder ( $N = 1$ ) and dissociative disorder not otherwise specified ( $N = 2$ ).

The symptom scores of the patients with dissociative disorder derived from the SCID-D are presented in Table 1. The highest scores were those for depersonalization and dissociative amnesia. The dissociative disorder group had a mean DES score of 41.2 (SD = 15.4), whereas this figure

**Table 1. Symptom Scores of Substance-Dependent Inpatients With a Dissociative Disorder on the Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (N = 37)**

Item	Item Range	No. of Patients Who Endorsed the Item		Score	
		N	%	Mean	SD
Symptom					
Amnesia	1.0–4.0	28	75.7	2.3	0.9
Depersonalization	1.0–4.0	24	64.9	2.4	1.2
Derealization	1.0–4.0	19	51.4	1.7	0.9
Identity confusion	1.0–4.0	17	45.9	2.0	0.9
Identity alteration	1.0–4.0	12	32.4	1.7	1.1
Total score	5.0–20.0	37	100.0	10.0	2.6

was 22.8 (SD = 20.8) for the nondissociative disorder group ( $z = 4.44$ ,  $p = .001$ ).

Of 58 drug-dependent patients, only 11 patients (19.0%) had mono/drug dependency; they were using cannabis ( $N = 1$ ), heroin ( $N = 4$ ), ecstasy ( $N = 1$ ), and inhalants ( $N = 5$ ). None of the patients used cocaine or benzodiazepines solely. The remaining patients were using 2 to 6 different types of drugs. Table 2 demonstrates the distribution of substance types used according to dissociative disorder status. More patients among the dissociative disorder group had drug dependency; the opposite was true for alcohol dependency only. There was no difference between dissociative and nondissociative disorder patients in terms of drug choice, whereas dissociative patients were using a higher number of different drugs on average (Tables 2 and 3). There was significant correlation between the total score on the SCID-D and the number of used substance types in the dissociative disorder group ( $N = 37$ ,  $r = 0.39$ ,  $p < .016$ ).

Patients with a dissociative disorder had significantly higher scores in all main symptom clusters of the DDIS (Table 3). These patients were younger, and their mean remission duration was shorter than that of the nondissociative disorder group. There were significantly high rates of comorbid borderline personality disorder, somatization disorder, and suicide attempts among patients with dissociative disorders but no difference in prevalence of major depressive disorder between the 2 groups (Table 4). The dissociative disorder group also reported higher rates for all inquired types of childhood trauma.

Females had dissociative disorders more frequently than males (Table 4). Female dissociative patients ( $N = 6$ , 54.5%) reported childhood sexual abuse more frequently than male patients ( $N = 1$ , 3.8%) ( $\chi^2 = 12.95$ ,  $df = 1$ ,  $p < .001$ ). More (in fact, all) dissociative females had borderline personality disorder ( $N = 11$ , 100%) than males ( $N = 17$ , 65.4%) ( $\chi^2 = 5.03$ ,  $df = 1$ ,  $p = .036$ ). In the dissociative disorder group, more females ( $N = 4$ , 36.4%) than males ( $N = 2$ , 7.7%) had the most severe type of dissociative disorder, i.e., dissociative identity disorder ( $\chi^2 = 4.68$ ,  $df = 1$ ,  $p < .05$ ).

**Table 2. Substance Types Used Among Substance-Dependent Inpatients According to Dissociative Disorder Status**

Substance Type	Dissociative Disorder Present (N = 37)		Dissociative Disorder Absent (N = 75)		$\chi^2$	p
	N	%	N	%		
Cannabis	17	45.9	23	30.7	2.52	.112
Ecstasy	12	32.4	13	17.3	3.26	.071
Inhalants	11	29.7	11	14.7	3.56	.059
Heroin	5	13.5	9	12.0	0.05	.820
Benzodiazepines	7	18.9	8	10.7	1.46	.228
Cocaine	2	5.4	6	8.0	*	1.000
Other drugs	5	13.5	3	4.0	2.38	.113
Drug dependency	27	73.0	31	41.3	9.93	.002
Alcohol (with or without a drug)	26	70.3	57	76.0	0.42	.515
Alcohol only	10	27.0	44	58.7	9.93	.002
No. of substance types (2 or more)	22	59.6	26	34.7	6.22	.013

\*Fisher exact test.

**Table 3. Clinical and Sociodemographic Features and Main Symptom Cluster Scores on the Dissociative Disorders Interview Schedule Among Substance-Dependent Inpatients According to Dissociative Disorder Status (Mann-Whitney U test)**

Variable	Dissociative Disorder Present (N = 37)		Dissociative Disorder Absent (N = 75)		z	p
	Mean	SD	Mean	SD		
Age, y	26.9	7.5	38.2	13.0	4.53	.001
Education, y	9.3	3.1	9.9	3.9	0.63	.529
Age at onset of substance use, y	16.0	2.2	18.5	5.7	1.69	.091
Longest remission duration, mo	3.8	8.0	10.5	15.9	2.10	.036
No. of substance types used	2.4	1.5	1.7	1.2	2.48	.013
No. of somatic complaints	8.1	7.5	3.4	4.8	3.26	< .001
No. of secondary features of dissociative identity disorder	6.7	4.0	1.7	2.5	6.38	< .001
No. of borderline personality disorder criteria	5.9	2.6	3.0	2.8	4.67	< .001
No. of Schneiderian symptoms	2.1	2.8	0.4	1.5	4.29	< .001
No. of extrasensory perceptions	1.6	1.5	0.3	0.5	5.35	< .001

To assess the relative abilities of the variables to predict dissociative disorder diagnosis, a multivariate logistic regression analysis was performed using presence of dissociative disorder as a dependent variable. Independent variables were age; substance group (drug vs. alcohol); number of drugs used; sex; history of suicide attempt; somatization disorder; major depressive disorder; childhood physical abuse, emotional abuse, sexual abuse, and neglect; and borderline personality disorder. Among them, only history of suicide attempt, female sex, and childhood emotional abuse significantly predicted a dissociative disorder diagnosis (Table 5).

Significantly more patients with dissociative disorders (N = 18, 48.6%) (including 4 patients with dissociative identity disorder and 14 patients with dissociative disorder not otherwise specified) left the hospital before completing the treatment program, i.e., they deliberately stopped the treatment. The dropout rate was only 14.7% (N = 11) among patients in the nondissociative disorder group; the difference was significant ( $\chi^2 = 14.91$ ,  $df = 1$ ,  $p < .001$ ).

For dissociative disorder patients, the mean age at onset of dissociative experiences was 15.6 (SD = 3.5)

years. According to the responses to the SCID-D items inquiring about the chronology of symptom formation, 24 patients (64.9%) with dissociative disorders had dissociative experiences prior to onset of substance use. Thus, in 24 patients, dissociative experiences had started 3.6 years (SD = 2.9; range, 1.0–11.0 years) before onset of the substance use on average. For the remaining 13 patients who reported that dissociative experiences started after onset of substance use, the mean interval was 3.0 years (SD = 2.5; range, 0.0–7.0 years).

## DISCUSSION

On the basis of the present study, the conservative estimate of the frequency of dissociative disorders among inpatients with alcohol or substance dependency was 17.2%. This is the minimum percentage, because patients with a DES score between 10.0 and 30.0 were excluded, and 16 subjects (7.4%) with a score above the cutoff point left the hospital before they were taken to diagnostic interview. This rate is similar to the results of the Dunn et al. study,<sup>10</sup> lower than that of the Ross et al. study,<sup>9</sup> and

**Table 4. Sex, Comorbid Diagnoses, Suicide Attempts, and Childhood Trauma History Among Substance-Dependent Inpatients According to Dissociative Disorder Status**

DDIS Variable	Dissociative Disorder Present (N = 37)		Dissociative Disorder Absent (N = 75)		$\chi^2$ (df = 1)	p
	N	%	N	%		
Sex (female)	11	29.7	5	6.7	10.76	.001
Somatization disorder	8	21.6	5	6.7	5.40	.020
Major depressive disorder (current)	3	8.1	8	10.7	0.85	.357
Major depressive disorder (lifetime)	27	73.0	41	54.7	3.48	.062
Borderline personality disorder	28	75.7	22	29.3	21.53	< .001
History of suicide attempt	28	75.7	22	29.3	21.53	< .001
Childhood emotional abuse	23	62.2	17	22.7	16.83	< .001
Childhood physical abuse	22	59.5	27	36.0	5.54	.019
Childhood neglect	19	51.4	21	28.0	5.89	.015
Childhood sexual abuse	7	18.9	5	6.7	3.89	.049
Any of the above childhood traumas	32	86.5	41	54.7	11.05	.001

Abbreviation: DDIS = Dissociative Disorders Interview Schedule.

**Table 5. Predictors of Dissociative Disorders Among Substance-Dependent Inpatients Using Backward Stepwise Multiple Regression Analysis**

Predictor	$\beta$	SE	Wald $\chi^2$	df	p	Odds Ratio (95% CI)
History of suicide attempt	1.49	0.59	7.94	1	.005	0.23 (0.07 to 0.99)
Childhood emotional abuse	1.34	0.52	6.56	1	.010	0.26 (0.09 to 0.73)
Female sex	1.35	0.69	3.86	1	.050	0.26 (0.07 to 0.99)

higher than the prevalence obtained among general psychiatric inpatients (10.2%) in Turkey.<sup>5</sup>

Dissociative disorder patients in this study were using drugs more frequently than the nondissociative disorder group, whereas the latter used alcohol more frequently. A particular drug did not appear to be preferred by dissociative disorder patients systematically, whereas more severe dissociative disorder led to use of a higher number of substances. We speculate that the transient but rapidly acting relieving effect of drugs on intermittent painful mental states seems to be more pertinent than that of alcohol for dissociative disorder subjects.

There was significant comorbidity of borderline personality disorder (75.7%) and somatization disorder (21.6%) among subjects with dissociative disorders. High comorbidity between somatization disorder, conversion disorder, dissociative disorders, and borderline personality disorder and frequent reports of childhood trauma in this spectrum of disorders has been well documented.<sup>7,21-24</sup> In contrast with previous findings among inpatients with dissociative disorders in a general psychiatric setting,<sup>5</sup> the present study found no significant difference for comorbidity of lifetime or current major depressive disorder between the 2 groups. Thus, dissociative disorders cannot be considered merely an epiphenomenon of a concurrent affective disorder among substance-dependent inpatients.

Of our dissociative disorder patients, 86.5% reported at least 1 type of childhood trauma. Dissociative inpatients in a general psychiatric unit in Turkey<sup>5</sup> had a similar rate (88.2%) of childhood trauma history but higher rates for each trauma type, i.e., the rate for sexual abuse was 58.8%

in contrast to 18.9% among substance-dependent patients in our study. This difference pointed to the probability of multiple types of abuse and neglect per subject in the general psychiatric unit; additionally, in contrast to the present study, a higher proportion of these patients (76.5%) were female. Apparently, female patients with more severe childhood trauma are more readily hospitalized in the general psychiatric unit due to overall severity of the condition. Dissociative disorders among females in the present study also tended to be more severe than those of males, i.e., in terms of the predominance of dissociative identity disorder as the most complex type of dissociative disorder, elevated borderline personality disorder comorbidity, and frequent reports of childhood sexual abuse. In a previous study among alcohol-dependent inpatients, the overall prevalence of reported childhood abuse was 59.0% for females but 30.0% for males.<sup>25</sup>

In the present study, besides childhood emotional abuse and suicide attempts, female sex was among the predictors of a dissociative disorder diagnosis. These findings are in accordance with those of previous studies on subjects with dissociative disorders,<sup>21,22,26</sup> i.e., they are not unique for the substance-dependent population. In an epidemiologic study in Turkey,<sup>27</sup> although there was no difference in mean DES scores between sexes, 2 times more females than males were included among high scorers. Thus, the overrepresentation of females among dissociative subjects in our study does not seem to be a selection bias. These results suggest that females are either traumatized more frequently or more readily develop dissociative disorders as a response to trauma.

A relationship is consistently demonstrated between reported childhood trauma and dissociation among psychiatric patients.<sup>5,6,21,28</sup> However, among patients with substance use disorders, findings about this relationship have been rather inconsistent. Of 9 studies, 6 reported no link between childhood trauma and dissociation.<sup>8-10,29-31</sup> One study<sup>11</sup> reported significant relation between childhood physical and/or sexual abuse and dissociation. Another study<sup>32</sup> reported association with a lifetime history of sexual abuse. Substance-dependent inpatients with a history of distressing traumatic events reported not only higher levels of dissociation, but also more self-mutilative acts and a greater degree of impulsivity than did patients without such histories.<sup>33</sup> In fact, general psychiatric outpatients with high dissociative experiences are likely to have also attempted suicide.<sup>34</sup> On the other hand, a previous study on Turkish substance-dependent patients revealed that emotional abuse and physical neglect scores were elevated among high scorers on the DES.<sup>35</sup>

It is noteworthy that 64.9% of the participants of this study who had a dissociative disorder reported that dissociative experiences had started before substance use. Patients with comorbid dissociative disorder were over-represented among dropouts from treatment programs in this study. Moreover, significantly more high scorers on the DES were among patients who quit the study (and the treatment program) before administration of the diagnostic interview. The duration of previous remission periods among the patients with a dissociative disorder was also shorter (Table 3). These findings suggest that dissociative disorder comorbidity is not a phenomenon limited to a cross-sectional observation and to a crisis period, but it is involved in all phases of substance dependency, and it may have tremendous impact on the course and treatment outcome of the process.

Some study limitations should be noted. First, although highly sensitive (89%), the DES had lower specificity (60%) in this patient group than that in the general psychiatric inpatients (100% and 83%, respectively) in Turkey,<sup>5</sup> i.e., there were larger discrepancies in self-rating and clinician-administered assessment instruments. Although we administered the DES at least 2 weeks after the last day of taking drugs or alcohol, the subjects might not have been able to discriminate drug-related phenomena from dissociative experiences during a drug-free period in self-rating assessment. Nevertheless, the administration of best available structured diagnostic interviews in the second phase of the study has guaranteed accuracy of the final diagnoses.

Second, we recruited patients from an inpatient treatment program only. Therefore, we cannot generalize the results to outpatients and nontreatment groups. Furthermore, as this institution mainly serves applicants from middle and lower socioeconomic levels, some substance types might be underrepresented in this study group, e.g.,

in Turkey, cocaine is very expensive, and the easier-to-obtain crack form is not available. Third, we did not include patients with DES scores between 10.0 and 30.0 in the study. The dissociative disorder prevalence yielded in this study should be considered as rather the minimum. Fourth, there might also be potential measurement problems due to the retrospective recall of child abuse and neglect that may reduce the reliability of assessment. Finally, this study is cross-sectional, and longitudinal studies will be necessary to make stronger causal attributions about the impact of dissociative disorders on substance dependents.

## CONCLUSION

A considerable proportion of the inpatients with drug or alcohol dependency have a dissociative disorder and childhood trauma history. Clinicians should not overlook dissociative disorders, which may be hidden behind the dependency disorder that usually dominates the clinical presentation, as the main reason of admission at the intake. As a risk group, young inpatients with a substance use disorder need to be evaluated for a dissociative disorder in particular. On the other hand, as a considerable proportion of patients report having had their dissociative experiences before onset of substance use, screening of high-risk groups for dissociative disorders and appropriate early intervention should be considered as a part of dependency prevention. The impact of dissociative disorders on the development and treatment of drug or alcohol dependency requires further study.

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