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Lifetime PTSD and quality of life among alcohol-dependent men: Impact of childhood emotional abuse and dissociation

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ABSTRACT

The aim of this study was to investigate the impact of lifetime posttraumatic stress disorder (PTSD), dissociation and a history of childhood trauma on quality of life (QoL) among men with alcohol dependency. A consecutive series of alcohol-dependent men ($N=156$) admitted to an inpatient treatment unit were screened using the Michigan Alcoholism Screening Test, the Clinician Administered PTSD Scale, the Dissociative Experiences Scale, and the Childhood Trauma Questionnaire. QoL was assessed using the Medical Outcomes Study Short-Form 36-item health survey. Fifty (32.1%) patients had lifetime diagnosis of PTSD. Besides problems related to severity of alcohol use, the lifetime PTSD group was impaired on several physical and mental components of QoL. While the lifetime PTSD group and remaining patients did not differ on reports of childhood trauma and dissociation, in lifetime PTSD group, dissociative patients had higher scores of childhood emotional abuse than those of the non-dissociative patients. In multivariate covariance analysis, both dissociation and lifetime PTSD predicted impairment in physical functioning, general health, vitality, and mental health components of QoL. Among alcohol-dependent men with lifetime PTSD, a history of childhood emotional abuse contributes to impairment of QoL through its relationship with dissociation.

1. Introduction

Alcohol-dependent subjects have lower quality of life (QoL) compared to the general population and patients with chronic health problems (Donovan et al., 2005). QoL is an important component of treatment outcome in alcohol dependency (Donovan et al., 2005; Saatcioglu et al., 2008), because it deteriorates significantly on prolonged relapse (Foster et al., 2000). Despite possible improvement during remission periods following treatment, it is unlikely that QoL of alcohol-dependent individuals becomes equal to or exceeds that of the normative groups (Donovan et al., 2005).

Psychiatric comorbidity is one of the factors that contribute to impairment in health-related QoL in alcohol-dependent patients (Foster et al., 1999). Among others, high prevalence rates of lifetime posttraumatic stress disorder (PTSD) have been documented in this population covering a range of 36–52% (Breslau and Davis, 1992; Kessler et al., 1995). In Turkey, rates of lifetime PTSD among alcohol-dependent inpatients range between 26.8% and 31.0% (Kural et al., 2004; Evren et al., 2006a). Compared to patients with alcohol use solely, those with both alcohol use and PTSD respond to treatment less favorably, relapse faster, take more alcohol during drinking days, and experience more heavy drinking days in post-treatment period (Jacobsen et al., 2001; Brown et al., 1995, 1999; Ouimette et al., 1999; Read et al., 2004). Among patients with alcohol abuse, PTSD is associated with more social, psychological, medical and occupational impairment, poor treatment outcome including worse prognosis on substance use, and a higher rate of utilization of inpatient drug treatment (Brady et al., 1994; Brown et al., 1995; Ouimette et al., 1997, 1998; Najavits et al., 1998). Consequently, coexistent PTSD and alcohol misuse affect QoL adversely both in adults (Warshaw et al., 1993) and adolescents (Clark and Kirisci, 1996).

Subjects with childhood maltreatment history also have significant and sustained losses in health-related QoL in adulthood (Corso et al., 2008). In a recent study, aged (≥60) participants who had experienced either childhood sexual or physical abuse were in greater risk (risk was higher for whom reporting both types of abuse) for poor physical and mental health, after adjustments (Draper et al., 2008). One large study covering members of a health maintenance organization yielded that adverse childhood experiences were associated with ever having used alcohol and with an earlier age of onset of alcohol use (Dube et al., 2006). Childhood trauma is reported by alcohol-dependent patients also frequently and has been proposed to have negative impact on the course of the disorder (Langeland et al., 2004, Evren et al., 2006b), particularly among those with concurrent PTSD (Schumacher et al., 2006). Nevertheless, in alcohol-dependent patients and among men in

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particular, childhood sexual trauma was associated with comorbid PTSD (Langeland et al., 2004).

A clinical variable related to both childhood trauma and PTSD is dissociation (Breh and Seidler, 2007). Childhood trauma has been put forward as one of the main predictors of dissociation in the community as well as in clinical samples (Gershuny and Thayer, 1999; Chu and Dill, 1999) including patients with alcohol and/or substance use disorders (Zlotnick et al., 1997; Evren et al., 2007). Dissociation seems to mediate the relationship between childhood maltreatment and severity of PTSD (Twaite and Rodriguez-Srednicki, 2004). Interestingly, a dissociative subtype of PTSD has also been proposed that was associated with a history of childhood abuse and/or neglect as a co-factor alongside the index traumatic event leading to PTSD in adulthood (Waelde et al., 2005; Ginzburg et al., 2006; Lanius et al., 2010). A considerable proportion of treatment-seeking alcohol dependents exhibit elevated levels of dissociative symptoms (Dunn et al., 1993; Wenzel et al., 1996; Evren et al., 2007). As expected, childhood emotional and sexual abuse and neglect were more frequent among alcohol dependents with a dissociative disorder than those without (Evren et al., 2007).

A follow-up of severely injured accident victims 12 months after trauma documented the negative impact of PTSD on QoL (Baranyi et al., 2010). Although high scores of dissociation in the PTSD group were demonstrated, no further inquiry was conducted on a relationship between dissociation and impaired QoL. Thus, going one step further, the present study was aimed at evaluation of potential relationships of lifetime diagnosis of PTSD, childhood psychological trauma, and dissociation with impaired QoL among alcohol-dependent men. We hypothesized that alongside lifetime diagnosis of PTSD, a history of childhood trauma and chronic dissociation contributed to impaired QoL additionally. We preferred to focus on lifetime rather than a current PTSD diagnosis, because we wanted to inquire chronic impact of traumatization. Nevertheless, to inquire clues about its differences from lifetime PTSD, we compared patients with current PTSD with the remaining patients on scores of childhood trauma and dissociation as well. In order to eliminate any confounding effect, severity of the alcohol-related problems was assessed and controlled as a variable.

2. Methods

2.1. Participants and procedures

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 1th and December 31th, 2007. AMATEM is a specialized center for substance use disorders with an 84-bed inpatient unit accepting patients from all over Turkey. The Ethical Committee of the hospital approved the study. Written informed consent was obtained from all participants after the study protocol was thoroughly explained.

One hundred and eighty consecutively admitted alcohol-dependent male 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. Exclusion 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 left some parts of the scales unfilled, did not give the forms back or left the treatment program early; i.e. before administration of assessment instruments. Among 180 patients that were suitable for the study, a total of 156 subjects (86.7%) participated in the study. Interviews with the study group were conducted following completion of the detoxification period, i.e. 4–6 weeks after the last day of alcohol use.

2.2. Assessment instruments

A semi-structured socio-demographic history form was conducted to all patients. Besides clinical assessment, the diagnosis of alcohol or drug dependence in each participating patient was made using the Structured Clinical Interview for DSM-IV (SCID-I) (First et al., 1997), Turkish version (Corapcioglu et al., 1999), conducted by a trained interviewer (CE).

2.2.1. Clinician Administered PTSD Scale

The CAPS is a reliable structured interview designed to assess symptoms of PTSD for frequency and intensity (Blake et al., 1995; Weathers et al., 2001). Being considered as the "gold standard" for assessment of PTSD, CAPS has excellent psychometric properties and utility as a diagnostic instrument (Weathers et al., 2001). Severity of the disorder is computed as the sum of the frequency and intensity scores. A frequency score of "1" and an intensity score of at least "2" were sufficient for a symptom to be counted.

2.2.2. Dissociative Experiences Scale

The DES is a 28-item self-report scale (Bernstein and Putnam, 1986). Respondents are asked to rate various dissociative experiences that are occurring in their daily life when they are not under the influence of alcohol or drugs. The Turkish version of the scale has reliability and validity as high as its original form (Yargic et al., 1995) with a good Cronbach's alpha (0.94) in the present study as well. There is also a taxon form of the scale (DES-T) derived from eight of the original items concerning dissociative amnesia and fugue, depersonalization and derealization experiences, and identity confusion and auditory verbal hallucinations. These items are determined to discriminate pathological dissociation from normative one, which is limited to experiences of heightened absorption ability. Taxometric analysis of these items yielded a high probability that an individual is in one of two discrete categories; normal or suffering from pathological dissociation (Waller et al., 1996). Cronbach's alpha was 0.86 for DES-T in the present study.

2.2.3. Michigan Alcoholism Screening Test

The MAST was used in assessment of the severity of dependence (Gibbs, 1985). It is a rapidly used and effective screening tool for lifetime alcohol-related problems and alcoholism. MAST consists of 25 brief true–false items that are to be self-administered in approximately 10 min. Scoring is accomplished after reverse scoring 4 of the 25 items and assigning weighed scores. These weighed scores are then summed; the sum represents a total score reflecting severity of alcohol-related problems. The Turkish version of the MAST has been proved as valid and reliable (Coskunol et al., 1995). The Cronbach's alpha was 0.74 in the present study.

2.2.4. Childhood Trauma Questionnaire

The CTQ (Bernstein et al., 1994, 1997) is a retrospective self-report instrument that inquires traumatic experiences during childhood and adolescence. It assesses five types of childhood trauma: emotional abuse, emotional neglect, physical abuse, physical neglect and sexual abuse. CTQ has excellent test–retest reliability and convergent validity (Bernstein et al., 1994, 1997). It comprises 28 items. Each item is rated from 1 (never) to 5 (very often). Scores range from 5 to 25 for each type of trauma and 25 to 125 for the total trauma score. The Turkish version of CTQ has been used in clinical studies successfully (Sar et al., 2004).

2.2.5. The Short-Form 36

The SF-36 is a so-called generic QoL instrument, which has been originally derived from the Medical Outcome Study (MOS) (Narud and Dahl, 2002). The SF-36 consists of the following eight scales with 36 items (Ware and Sherbourne, 1992): General Health, Physical Functioning, role limitations due to physical health (Role Physical), Bodily Pain, Mental Health, role limitations due to emotional problems (Role Emotional), Energy Fatigue and Social Functioning. Internal consistencies ranged from 0.62 to 0.97 (Ware and Sherbourne, 1992). The raw scores for each of the 8 subscales span from 0 to 100, with 0 representing worst and 100 representing best possible QoL status. The general health, vitality, and mental health subscales differ from the 5 other subscales in that they are bipolar. Here, a score of 100 does not denote a mere absence of problems but positive health states (e.g., happiness, pep, and well-being). The SF-36 was not specifically developed for psychiatric patients but was defined as a generic instrument for medical outcome measurement. In the present study, QoL was measured using the Turkish version of the SF-36 (Kocyigit et al., 1999). For the initial assessment, we used the SF-36 version referring back to the last 4 weeks before hospital admission.

The MOS-SF-36 presents good criteria for reliability and validity in alcohol-dependent patients (Daeppen et al., 1998). Although there are other scales such as EQ-5D, which is short and valid in alcohol dependents for evaluating QoL (Günther et al., 2007), MOS-SF-36 is the only instrument validated in Turkish population for this purpose.

2.3. Procedure

The study consisted of two phases. In the first phase, all patients completed the socio-demographic form. One psychiatrist (E.D.) administered Clinician Administered PTSD Scale (CAPS) and collected these data. The interviewer only knew that patients were alcohol dependent but was blind to the patients' other diagnoses. In the second phase of the study, two psychiatrists (R.C. and M.D.) administered the other self-rating scales used in the present study and collected these data. These interviewers were blind to the patients' CAPS scores and their diagnoses, other than alcohol dependency.

2.4. Statistical analyses

Categorical variables were compared by means of the chi-square statistics. We used Student's *t* test to compare the groups on continuous variables and Mann Whitney *U* when these variables were not normally distributed. Multivariate analysis of covariance was used to identify factors independently associated with QoL. For all statistical analysis *P* values were two-tailed and differences were considered significant at $P<0.05$.

3. Results

Among 156 inpatients, fifty (32.1%) had a lifetime diagnosis of PTSD including 17 patients (10.9%) who fit criteria of a current PTSD. Natural disaster (32.0%) was the most common traumatic experience in the lifetime PTSD group (Table 1). Associated with local conditions of the country as well (predominance of surface transport and long-lasting political terrorism), motor vehicle accidents, combat experiences, and sudden and violent death incidents were also relatively frequent. The index trauma experience leading to lifetime PTSD diagnosis occurred 14.62 months prior to the study examination on average (SD = 10.48, range = 0.0–47.0). There was no difference between patients with past (15.85 ± 9.12) and current PTSD (12.24 ± 12.70) on average duration of interval between index traumatic event and the study examination ($t = 1.16$, df = 48, $P = 0.250$).

Lifetime PTSD group was younger (41.98 ± 7.76) than the remaining patients (45.26 ± 9.53) ($t = 2.13$, $P = 0.035$). Duration of education was lower in lifetime PTSD group (8.70 ± 3.52) than that of the non-PTSD (10.02 ± 4.03) group ($t = 1.99$, $P = 0.049$). In lifetime PTSD group, 23 (46.0%) patients were married, 23 (46.0%) were never married, and 4 (8.0%) were divorced. Among non-PTSD patients, 71 (67.0%) were married, 25 (23.6%) were never married, and 10 (9.4%) were divorced ($\chi^2 = 8.11$, df = 2, $P = 0.017$). Thus, significantly more patients in lifetime PTSD group had never been married. Rate of unemployment did not differ between lifetime PTSD (30.0%, $n = 15$) and non-PTSD groups (34.0%, $n = 36$) ($\chi^2 = 0.29$, df = 3, $P = 0.960$) (not shown). Lifetime PTSD group had higher levels of alcohol-related problems than the non-PTSD group. They also had significantly lower scores in several life quality measures including physical and mental component summary scores except bodily pain and role-emotional subscales (Table 2).

Physical component summary score was negatively correlated with dissociative experiences ($r = -0.36$, $P<0.001$), physical neglect ($r = -0.24$, $P<0.01$), emotional abuse ($r = -0.33$, $P<0.001$), physical abuse ($r = -0.34$, $P<0.001$), sexual abuse ($r = -0.19$, $P<0.05$) and the total childhood trauma scores ($r = -0.33$, $P<0.01$). Similarly, mental component summary score was negatively correlated with dissociative experiences ($r = -0.32$, $P<0.001$), physical neglect ($r = -0.18$, $P<0.05$), emotional abuse ($r = -0.30$, $P<0.001$), physical abuse ($r = -0.24$, $P<0.01$) and total childhood trauma score ($r = -0.25$, $P<0.01$) (not shown). Thus, both physical and mental dimensions of QoL were associated with childhood trauma and dissociative experiences.

Fifty patients (32.1%) belonged to the dissociative taxon; i.e. they were considered as having dissociative experiences at a considerable level likely to fit a clinical dissociative disorder. In comparison with the non-dissociative group, they had more severe alcohol-related problems and higher childhood trauma scores, except that for emotional neglect. They also had impaired life quality as represented by decreased physical and mental component summary scores except those of role-emotional subscale (Table 3).

Table 1
Types of trauma related with lifetime PTSD.

	Frequency (n)	%
Natural disaster (flood, earthquake, hurricane vs)	16	32.0
Physical assault (attack, bitten vs)	2	4.0
Attacked with weapon (shot, stab, threat with weapon vs)	3	6.0
Serious accident at home, work or somewhere else	2	4.0
Accident with transport (car, train, ship, airplane)	7	14.0
To be in battle or war area (soldier or civilian)	7	14.0
Severe pain caused by another person	2	4.0
Prisoner (kidnapped, war prisoner vs)	1	2.0
Fire	1	2.0
Sudden and violent death incident (homicide, suicide)	7	14.0
Hijack	1	2.0
Unexpected and sudden death of a close person	1	2.0
Total	50	100.0

Table 2
Current age and scale scores among alcohol-dependent men according to the presence of lifetime PTSD.

	No PTSD ($n = 106$)		Lifetime PTSD ($n = 50$)			
Scale scores	Mean	S.D.	Mean	S.D.	t	P
Current age	45.26	9.53	41.98	7.76	2.13	0.035
Michigan Alcoholism Screening Test	25.49	10.17	32.40	9.06	4.10	<0.001
Dissociative Experiences Scale	21.57	16.00	26.34	14.57	1.79	0.076
Childhood Trauma Questionnaire						
Emotional neglect	12.27	4.51	13.14	4.97	−1.08	0.280
Physical neglect	8.44	3.11	8.86	3.10	−0.78	0.436
Emotional abuse	7.74	3.63	8.60	4.12	−1.33	0.186
Physical abuse	6.50	2.85	7.10	3.61	−1.03	0.305
Sexual abuse	6.08	2.72	6.80	3.60	−1.40	0.165
CTQ total score	41.03	12.44	44.50	12.63	−1.62	0.108
Minimization of trauma	0.64	0.81	0.54	0.79	0.74	0.460
The Short-Form 36						
Physical functioning	78.63	20.23	66.10	26.54	2.96	0.004
Role (physical)	41.75	40.00	27.00	37.40	2.20	0.030
Bodily pain	61.14	27.79	51.68	29.39	1.95	0.053
General health	53.62	21.39	39.74	19.21	3.91	<0.001
Physical component summary (PCS)	235.14	82.13	184.52	83.22	3.58	<0.001
Role (emotional)	30.82	38.68	21.33	34.18	1.55	0.124
Vitality	54.58.	22.20	38.80	21.66	4.17	<0.001
Social functioning	51.30	27.16	39.75	23.51	2.58	0.011
Mental health	51.17	19.74	37.84	18.66	4.00	<0.001
Mental component summary (MCS)	187.86	86.49	137.72	80.12	3.46	0.001

There was no significant difference between patients with and without lifetime PTSD on dissociative experiences and childhood trauma scores (Table 2). However, patients with current PTSD ($n = 17$) had more dissociative experiences (31.83 ± 14.34) than those of the remaining patients ($n = 139$) (22.03 ± 15.54) ($t = -2.47$, $P = 0.015$). They had significantly higher childhood trauma total scores (53.00 ± 14.01) than those of the remaining patients (40.81 ± 11.76) ($t = -3.95$, $P<0.001$) as well. Among childhood trauma types,

Table 3
Scale scores among alcohol-dependent men according to the dissociation status.

	No dissociation ($n = 106$)		Dissociation ($n = 50$)			
Scale scores	Mean	S.D.	Mean	S.D.	t	P
Michigan Alcoholism Screening Test	26.23	10.79	30.84	8.51	2.89	0.005
Childhood Trauma Questionnaire						
Emotional neglect	12.31	4.72	13.06	4.54	0.94	0.351
Physical neglect	8.07	2.77	9.66	3.52	2.82	0.006
Emotional abuse	7.22	2.95	9.70	4.79	3.38	0.001
Physical abuse	6.19	2.36	7.76	4.12	2.51	0.015
Sexual abuse	5.81	1.98	7.36	4.37	2.39	0.020
Total score	39.59	9.81	47.54	15.79	3.27	0.002
Minimization of trauma	0.63	0.84	0.56	0.71	0.52	0.651
The Short-Form 36						
Physical functioning	78.49	21.46	66.40	24.54	3.13	0.002
Role physical	42.45	40.70	25.50	34.81	2.31	0.021
Bodily pain	62.26	28.77	49.30	26.29	2.69	0.008
General health	52.90	21.99	41.28	18.80	3.41	0.001
Physical component summary (PCS)	236.10	87.24	182.48	69.67	4.13	<0.001
Role emotional	29.87	38.75	23.33	34.50	1.02	0.310
Vitality	53.87	22.75	40.30	21.46	3.54	0.001
Social functioning	52.12	26.08	38.00	25.12	3.19	0.002
Mental health	50.34	20.25	39.60	18.64	3.17	0.002
Mental component summary (MCS)	186.20	89.97	141.23	73.78	3.30	0.001

emotional neglect and emotional abuse scores were higher in the current PTSD group (15.65 ± 4.50 and 10.48 ± 5.00 respectively) than those of the remaining patients (12.17 ± 4.56 and 7.71 ± 3.54 respectively) ($t = -2.97$, $P = 0.003$ and $t = -2.21$, $P = 0.041$ respectively) (not shown).

Among patients with lifetime PTSD, 18 (36.0%) were highly dissociative (as shown by positive dissociative taxon membership), whereas 32 (64.0%) were not ($\chi^2 = 0.53$, df = 1, $P = 0.470$). In comparison with non-dissociative group, childhood emotional abuse score was higher in the dissociative group. They also had impaired mental health life quality as represented by decreased vitality, mental health and mental component summary scores (Table 4).

Multivariate analysis of covariance (MANCOVA) was performed to assess whether lifetime PTSD diagnosis resulted in any differences between the SF-36 subscales while age, severity of alcohol use, dissociative experiences, and the five childhood trauma scores were utilized as covariants. The overall main effect of lifetime PTSD was highly significant for physical functioning, general health, vitality and mental health subscale scores of SF-36. Among covariants, dissociation had significant effect on these subscales as well. Severity of alcohol-related problems and emotional abuse were significant covariants for mental health subscale. For role physical and role-emotional subscales, only severity of alcohol-related problems was a significant covariant (Table 5). In a further analysis (MANCOVA) utilizing physical and mental dimensions of SF-36 as dependent variables, dissociation and lifetime PTSD predicted both physical ($F = 6.42$, $P < 0.001$, df = 8147, Adjusted $R^2 = 0.22$) (DES: $F = 6.91$, $P = 0.009$; PTSD: $F = 5.65$, $P = 0.019$) and mental (together with MAST) ($F = 5.36$, $P < 0.001$, df = 8147, Adjusted $R^2 = 0.18$) (DES: $F = 5.13$, $P = 0.025$; PTSD: $F = 4.65$, $P = 0.033$; MAST: $F = 6.83$, $P = 0.010$) component summary scores (not shown).

4. Discussion

The present study yielded that a sizeable proportion (32.1%) of alcohol-dependent men admitted to an inpatient treatment unit had a lifetime diagnosis of PTSD. As hypothesized, patients with lifetime PTSD were impaired on several dimensions of QoL. Close to the figure (33.0%) yielded by a previous one, 32.1% of alcohol-dependent patients belonged to the dissociative taxon in the present study (Evren et al., 2009). Impairment on QoL was more prominent among lifetime PTSD patients who had dissociative experiences. Dissociation was also a significant covariant in predicting low QoL in multivariate analysis. It had a main significant effect on the same life quality components as lifetime PTSD: physical functioning, general health, vitality and mental health (including MAST and emotional abuse). Thus, among patients with lifetime PTSD, dissociation seems to be a component of the overall impairment.

Nevertheless, adult dissociation was found to mediate the relationship between childhood abuse and severity of PTSD (Twaite and Rodriguez-Srednicki, 2004). On the other hand, a dissociative subtype of PTSD has been proposed, which may stem from more severe childhood experiences of neglect and abuse (Waelde et al., 2005; Ginzburg et al., 2006; Lanius et al., 2010). Thus, the proposed dissociative subtype of PTSD may be associated with impaired QoL in particular. The lifetime PTSD group and the remaining patients did not differ on reports of childhood trauma and dissociation. However, in lifetime PTSD group, dissociative patients had higher scores of childhood emotional abuse than non-dissociative patients. In a previous study conducted on alcohol dependents, dissociative symptoms were related to childhood emotional abuse whereas other forms of childhood trauma and PTSD status were not (Schäfer et al., 2007a,b). In substance dependents, besides PTSD, emotional abuse predicted dissociative symptoms (Schäfer et al., 2010). In tandem with these observations, in the present study, alongside PTSD and dissociative experiences, childhood emotional abuse was a significant covariant for mental health component of life quality.

Unlike those with lifetime diagnosis of PTSD, patients with current PTSD had elevated childhood trauma and dissociation scores in the present as well as in previous studies (Langeland et al., 2004; Wu et al., 2010). Thus, while the lifetime PTSD and non-PTSD groups did not differ on childhood trauma (historical events), they differed on a whole host of symptom scales. This observation suggests that those patients who had lifetime PTSD also report other symptoms, potentially contributing to the association between PTSD and QoL. Nevertheless, the men experienced not only childhood traumas but also adult traumas (Table 1). Thus, the results may be explained by an over-arching response set that may represent a super-ordinate category proposed as complex PTSD by several authors (Ford et al., 2007; Cloitre et al., 2009). Interestingly, there was no significant difference between patients with current and past

Table 4
Scale scores among alcohol-dependent men with lifetime PTSD according to the dissociation status.

	Lifetime PTSD					
	No dissociation ($n = 32$)		Dissociation ($n = 18$)			
Scale scores	Mean	S.D.	Mean	S.D.	z	P
Michigan Alcoholism Screening Test	32.65	10.07	31.94	7.16	0.22	0.820
Childhood Trauma Questionnaire						
Emotional neglect	13.50	5.73	12.50	3.28	−0.40	0.693
Physical neglect	8.38	3.32	9.72	2.54	−1.69	0.091
Emotional abuse	7.75	3.74	10.11	4.43	−2.60	0.009
Physical abuse	6.50	2.91	8.17	4.50	−1.49	0.137
Sexual abuse	6.38	2.85	7.56	4.64	−0.47	0.639
CTQ total score	42.50	12.68	48.06	12.05	−1.72	0.085
Minimization of trauma	0.50	0.80	0.61	0.78	0.69	0.490
The Short-Form 36						
Physical functioning	70.78	27.18	57.78	23.84	1.93	0.054
Role physical	35.16	41.08	12.50	24.63	1.89	0.059
Bodily pain	53.88	30.10	47.78	28.51	0.77	0.440
General health	41.28	21.74	37.00	13.74	0.38	0.710
Physical component summary (PCS)	201.09	90.81	155.06	59.05	1.74	0.082
Vitality	42.50	22.65	32.22	18.57	2.01	0.045
Social functioning	43.36	22.67	33.33	24.25	1.39	0.160
Role emotional	25.00	37.86	14.82	26.13	0.84	0.400
Mental health	40.88	19.03	32.44	17.19	1.96	0.050
Mental component summary (MCS)	151.73	82.04	112.82	72.11	2.02	0.043

Table 5
Multivariate covariance analysis (MANCOVA) with subscale scores of the SF-36 as dependent variables according to the lifetime PTSD status.

	Dependent variable	Type III sum of squares	Mean square	F (df = 8, 147)	P
Lifetime PTSD	Physical functioning (a)	3201.555	3201.555	6.837	0.010
	General health (b)	3227.559	3227.559	8.103	0.005
	Vitality (c)	3783.228	3783.228	8.601	0.004
	Mental health (d)	2364.411	2364.411	7.202	0.008
Covariates					
DES	Physical functioning	3261.261	3261.261	6.964	0.009
	General health	1991.967	1991.967	5.001	0.027
	Vitality	2458.348	2458.348	5.589	0.019
	Mental health	1336.279	1336.279	4.070	0.045
MAST	Role physical (e)	9267.240	9267.240	6.647	0.011
	Role emotional (f)	6034.616	6034.616	4.598	0.034
	Mental health	1878.239	1878.239	5.721	0.018
Emotional abuse	Mental health	1890.625	1890.625	5.759	0.018

Adjusted R^2: a = 0.12, d = 0.15, e = 0.18, h = 0.21, b = 0.11, g = 0.06. Dependent variables were 8 dimensions of SF-36 QoL scale. Emotional neglect, physical neglect, physical abuse and sexual abuse did not predict any dependent variable.

PTSD on the time interval between index event causing traumatic stress and the study evaluation in the present study. Apparently, elevated scores of childhood trauma reports and dissociation in current PTSD group underline the contribution of these features to the maintenance of PTSD symptoms (Karatzias et al, 2010).

Nevertheless, studies on alcohol-dependent men demonstrated the relationship between dissociation and alexithymia (Evren et al., 2008a), chronic anxiety (Evren et al., 2008a), social anxiety (Evren et al., 2009), self-mutilation (Evren et al., 2008b) and overall concurrent psychopathology (Evren et al., 2008c). Thus, the relationship between dissociative experiences and QoL among alcohol-dependent men may be considered as a consequence of the role of dissociation not only in PTSD (van der Hart et al., 2005), but also along the entire spectrum of trauma-related psychopathologies at least in the form of "subtle dissociation" or "confounding factor" if not overtly at all (Sar and Ross, 2006). Significantly more patients in the lifetime PTSD group were never married. This observation may underline possible impact of trauma-related conditions on interpersonal domain including intimate relationships among alcohol-dependent men.

The present study has several limitations. Using the MAST as a variable, we were able to eliminate any interference of severity of alcohol use with study results. However, psychiatric comorbidities other than PTSD and dissociative disorders, especially depression (Daeppen et al., 1998) may also be a major factor linked to QoL (Malet et al., 2006; Saatcioglu et al., 2008). Severity of depression and anxiety symptoms might be higher among inpatient alcohol dependents compared to outpatients and those in the community, causing deterioration of QoL that initially led to the hospitalization (Malet et al., 2006). Secondly, the study group was restricted to a treatment-seeking inpatient population. Although this prevents us from generalizing present findings to non-treatment groups, it also underlines symptoms of lifetime PTSD and dissociation as possible factors leading to treatment seeking and psychiatric intervention. Third, the present study was limited to men. However, a comparison of QoL among men and women in previous studies indicated that QoL of women is even worse than that of men for comparable levels of dependency (Peters et al., 2003). Finally, univariate relationships between PTSD, QoL, childhood trauma and dissociation were not controlled for alpha error. Therefore, the results must be interpreted with caution.

The present study demonstrated that childhood maltreatment history, lifetime diagnosis of PTSD, and concurrent pathological dissociation have negative effect on QoL among alcohol-dependent men. Given the more severe impact on QoL, a dissociative subtype of PTSD with childhood emotional abuse history may have clinical relevance as a diagnostic category among alcohol-dependent men. Dissociation may be a mediator between childhood emotional abuse, lifetime PTSD, and alcohol dependency in this subgroup of patients. This conceptualization may have implications for planning of effective treatment interventions in this patient population.

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