Axis-I Comorbidity in Female Patients With Dissociative Identity Disorder and Dissociative Identity Disorder Not Otherwise Specified

Frauke Rodewald, PhD,† Claudia Wilhelm-Gößling, MD,*† Hinderk M. Emrich, MD, PhD,* Luise Reddemann, MD,‡ and Ursula Gast, MD*§*

Abstract: The aim of this study was to investigate axis-I comorbidity in patients with dissociative identity disorder (DID) and dissociative disorder not otherwise specified (DDNOS). Using the Diagnostic Interview for Psychiatric Disorders, results from patients with DID ($n = 44$) and DDNOS ($n = 22$) were compared with those of patients with posttraumatic stress disorder (PTSD) ($n = 13$), other anxiety disorders ($n = 14$), depression ($n = 17$), and nonclinical controls ($n = 30$). No comorbid disorders were found in nonclinical controls. The average number of comorbid disorders in patients with depression or anxiety was 0 to 2. Patients with dissociative disorders averagely suffered from 5 comorbid disorders. The most prevalent comorbidity in DDNOS and DID was PTSD. Comorbidity profiles of patients with DID and DDNOS were very similar to those in PTSD (high prevalence of anxiety, somatoform disorders, and depression), but differed significantly from those of patients with depression and anxiety disorders. These findings confirm the hypothesis that PTSD, DID, and DDNOS are phenomenologically related syndromes that should be summarized within a new diagnostic category.

Key Words: Major dissociative disorder (MDD), dissociative identity disorder (DID), posttraumatic stress disorder (PTSD), comorbidity axis-I disorder, dissociative disorder not otherwise specified (DDNOS).

(*J Nerv Ment Dis* 2011;199: 122–131)

Dissociative disorders (DDs) are characterized by a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment (American Psychiatric Association (APA), 1994). In a traumatic situation, dissociation often occurs as a psychobiological reaction to extreme stress and fear. Later on, dissociative reactions and symptoms can become chronic if the trauma cannot be successfully processed and integrated. In this case, dissociative symptoms may be conceptualized as an attempt to escape from overwhelming pain, anxiety, and memories, associated with the trauma. Dissociative identity disorder (DID) and DD not otherwise specified (DDNOS) Type I are the most severe syndromes within the spectrum of DD. In DSM-IV (APA, 1994, 2000), DID is defined by the presence of at least 2 dissociated personality states (each with its own relatively enduring pattern of perceiving, relating to, and thinking about the environment and self), which recurrently take control of the person's behavior and by the presence of an inability to recall important personal information that is too extensive to be explained by ordinary forgetfulness. DDNOS Type I refers to the first example of DDNOS in DSM-IV: "1. Clinical presentations similar to DID that fail to meet full criteria for this disorder. Examples include presentations in which (a) there are not 2 or more distinct personality states, or (b) amnesia for important personal information does not occur" (p 490).

The category "not otherwise specified" (abbreviated NOS) in general should only be used for mental disorders when the clinical presentation falls within a larger category of disorders but does not meet the criteria of any specific disorder within that category (APA, 2000). DSM-IV defines specific diagnostic criteria for DDNOS type I, so that the recommendations for using the category NOS cited above are not met in this case. This is why Dell (2001, 2009a, b) proposed separating DDNOS Type I from the category of DDNOS. As both DID and DDNOS Type I are characterized by a profound fragmentation of the sense of self, Dell proposed putting them in a new category of "major dissociative disorders" (MDD). The key feature of MDD is the persisting presence of partially (DDNOS Type I) or completely (DID) dissociated self-states. Additionally, patients with MDD suffer from a broad range of other forms of dissociative symptoms and in most cases from many comorbid nondissociative symptoms and disorders (APA, 1994; Dell, 2001, 2002, 2009a, b).

DDs are more prevalent than previously recognized. Recent studies have found prevalence rates ranging from 1% to 6% for DID in clinical samples (Foote et al., 2006; Gast et al., 2001; Sar et al., 2000; Tutkun et al., 1998). Although there is an increasing clinical knowledge and understanding about DDs, patients are often misdiagnosed several times, with the effect that appropriate treatment is initiated late (Boon and Draijer, 1993; Putnam et al., 1986; Rodewald, 2005). When accurately diagnosed, individuals with DDs tend to respond well to specialized psychological treatments (Brand et al., 2009; Coons and Bowman, 2001; Ellason and Ross, 1997; Groenendijk and Van der Hart, 1995).

One reason underlying the long latency until correct diagnosis is the high rate of comorbid nondissociative symptoms and disorders, which can completely mask the dissociative key pathology (Dell, 2002; Steinberg et al., 2003). Because many patients with severe forms of DDs suffer from a broad range of symptoms, Fink (1991) used the term "polysymptomatic" to describe the clinical presentation of DID. In addition, a substantial number of patients do not report dissociative symptoms spontaneously. Therefore, it is important that clinicians and researchers recognize typical profiles of comorbid symptoms and disorders that might suggest the presence of a complex DD. This article gives an overview about studies investigating comorbidities in DID and DDNOS and presents results of our own study investigating comorbid axis-I disorders in patients with DID and DDNOS Type I compared with other diagnostic groups and nonclinical controls.

*Department of Psychiatry, Social Psychiatry and Psychotherapy, Hannover Medical School, Hannover, Germany; †Clinic for Psychiatry and Psychotherapy, AMEOS Klinikum Hildesheim, Hildesheim, Germany; ‡Clinic for Psychotherapeutic and Psychosomatic Medicine, Evangelical Hospital Bielefeld, Bielefeld, Germany; and §Private Practice Havetoftloit, Germany.

Authors Frauke Rodewald and Claudia Wilhelm-Gößling contributed equally to this article.

Send reprint requests to Frauke Rodewald, PhD, AMEOS-Klinikum Hildesheim, Goslarsche Landstraße 60, 31135 Hildesheim, Germany. E-mail: frod.psy@hildesheim.ameos.de.

ISSN: 0022-3018/11/19902-0122

DOI: 10.1097/NMD.0b013e318208314e

During the last 20 years, the symptom profile of DDs has been investigated in several empirical studies. Correspondingly, a wide variety of dissociative symptoms (P. F. Dell, unpublished data, 2003; Steinberg et al., 2003) and comorbid nondissociative axis-I disorders has been found (e.g. Coons et al., 1988; Ellason et al., 1996; Putnam et al., 1986; Ross et al., 1992). In a study by Ellason et al. (1996), 82% of the DID patients displayed at least 1 comorbid axis-I disorder (life-time prevalence) and the mean number of comorbid disorders was 7.3 (standard deviation [*SD*] = 2.5). In 49% of the participants, more than 8 axis-I disorders were diagnosed.

In all investigated samples, major depression was found to be the most frequent comorbid disorder, with prevalence rates ranging from 88% to 97% in patients with DID (Bliss, 1984; Coons et al., 1988; Ellason et al., 1996; Foote et al., 2008; Putnam et al., 1986). In patients with DDNOS prevalence rates for major depression were slightly lower (82%–88%) (Coons, 1992; Ross et al., 1992). Erratic mood swings were found in 70% to 94% of participants (Bliss, 1984; Coons et al., 1988; Putnam et al., 1986; DDNOS: 40%, Coons, 1992). Suicidal tendency and/or suicide attempts in the clinical history were also common in patients with DID (70%–100%) (Bliss, 1984; Boon and Draijer, 1993; Foote et al., 2008; Putnam et al., 1986; Ross et al., 1992).

In addition, high prevalence rates were found for anxiety disorders. In a study by Ellason et al. (1996), 90% of all participants were suffering from at least 1 form of anxiety disorder, which confirms the findings of several other investigations (Bliss, 1984; Ellason et al., 1996; Putnam et al., 1986). In these studies, most prevalent specific anxiety disorders were posttraumatic stress disorder (PTSD; prevalence about 80%), panic syndrome (54%–70%), specific and social phobia (up to 75%), and obsessive compulsive disorder (OCD; up to 64%) (Bliss, 1984; Boon and Draijer, 1993; Ellason et al., 1996; Foote et al., 2008; Putnam et al., 1986).

Prior investigations (Coons, 1992; Coons et al., 1988; Putnam et al., 1986) found only low prevalence rates (24%–34%) for self-injurious behavior. In contrast, in recent Dutch (Boon and Draijer, 1993) and American studies (Saxe et al., 2002), a prevalence rate of more than 80% was described. Foote et al. (2008) reported a prevalence of 42% for a history of self-harm in psychiatric outpatients with DDs.

In all, 50% to 65% of patients with DID report acute substance abuse (Coons, 1992; Ellason et al., 1996; Foote et al., 2008; Putnam et al., 1986; Ross et al., 1992) or previous psychiatric treatment related to substance abuse or addiction (Boon and Draijer, 1993; Coons et al., 1988). In DDNOS, prevalence rates of 14% and 42% have been described (Coons, 1992; Ross et al., 1992).

Finally, somatoform symptoms and disorders were diagnosed in 25% to 65% of patients with severe DDs (Coons, 1992; Coons et al., 1988; Ellason et al., 1996; Ross et al., 1992; Saxe et al.; 1994). Many patients also report various physical symptoms such as severe headache, pain syndromes, sudden anesthesia or insensitiveness to strong temperature stimuli, gastrointestinal symptoms, asthma, and conversion disorder (APA, 1994). Eating disorders such as anorexia or bulimia nervosa are often found in patients with DID and DDNOS, too (prevalence rates up to 76%; Boon and Draijer, 1993; Dell, 2003; Ellason et al., 1996).

However, evidence of most of these findings is limited by methodological shortcomings, because data are often based on self-report questionnaires applied to patients or—in 1 investigation—to therapists (Putnam et al., 1986). Only 1 study uses structured diagnostic interviews to render the diagnosis of a wide range of axis-I disorders (Ellason et al., 1996), and another 2 compare the findings from patients with DDs to those of other clinical groups (Boon and Draijer, 1993; Foote et al. 2008).

RESEARCH QUESTIONS/HYPOTHESES

To the best of our knowledge, no systematic research on comorbid profiles of DDs has been performed in Germany to date. The present study aimed to compare clinical features of German patients suffering from severe forms of DDs with the results from prior international studies.

Dell (2001, 2009a, b) postulated that DID and DDNOS Type I are phenomenologically related disorders and therefore proposed classifying them in a new diagnostic category of MDD. As a first step, we aimed to investigate whether patients with DID and DDNOS Type I in fact show similar clinical presentations, which would confirm the MDD concept (Dell, 2001, 2009a, b). For this purpose, quantity and quality of comorbid axis I disorders in patients with DID versus DDNOS Type I were compared. Additionally, we aimed to expand the empirical knowledge on similarities and differences of DDs and other psychiatric disorders by comparing quantity and quality of comorbid axis-I disorders in patients with DID and DDNOS Type I with those of patients with other psychiatric disorders and nonclinical controls, based on a diagnostic evaluation with a semi-structured diagnostic interview. Following were our hypotheses.

1. Patients with DID and DDNOS suffer from many comorbid axis-I disorders.
2. The type of comorbid disorders is similar in patients with DID and DDNOS Type I.
3. Patients with DID/DDNOS suffer from more comorbid psychiatric axis-I disorders compared with both patients with non-DDs and nonclinical controls.
4. Patients with DID/DDNOS show a different profile of comorbid axis-I disorders to that of patients with non-DDs and nonclinical controls.

Given that individuals with DID and DDNOS Type I often suffer from a broad range of psychiatric symptoms and that an accurate early assessment is important for successful treatment, it is particularly important to ascertain their characteristic comorbid profiles.

This study was part of a comprehensive investigation aiming to improve the diagnostic procedure and treatment for patients with MDD in Germany. It was supported by a grant of the Deutsche Forschungsgemeinschaft (DFG; Grant Nr. EM 18/16–2). The study was carried out at Hannover Medical School (Department of Psychiatry, Social Psychiatry, and Psychotherapy) and at the Evangelical Hospital Bielefeld (Department of Psychotherapeutic and Psychosomatic Medicine).

METHODS

A total of 166 participants entered the study. Sixteen subjects had to be excluded from data analysis because of early discharge or incomplete data. During data collection, all patients participated in a treatment program (inpatients: $n = 92$, 61.3%; outpatients: $n = 28$, 18.7%). They were diagnosed by their referring clinicians according to ICD-10 and DSM-IV-criteria (ICD-10: International Classification of Diseases, 10th Ed., World Health Organization, WHO, 1993; DSM-IV: Diagnostic and Statistical Manual of Psychiatrc Disorders, 4th. Ed., APA, 1996, 2000), based on a careful clinical psychiatric examination and were classified to 5 study groups based on the clinical diagnoses: patients with DID, DDNOS Type I, PTSD, anxiety disorders other than PTSD, and depression. The sixth study group consisted of nonclinical controls.

The Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R, Steinberg, 1994; German translation by Gast et al., 2000) was applied to all participants to confirm the clinical judgment concerning presence or absence of a DD. Diag-

noses of nondissociative mental disorders were not confirmed by diagnostic interviews. In these cases, the clinical diagnosis was decisive for the classification of participants to the study groups.

Forty-four patients met the diagnostic criteria for DID and 22 the criteria for DDNOS Type I. In patients with non-DDs, the following diagnoses were found: PTSD ($n = 13$), depression ($n = 17$), and anxiety disorders other than PTSD ($n = 14$). Another 10 patients met criteria for substance abuse ($n = 2$), adjustment disorders ($n = 4$), or personality disorders ($n = 4$) but had to be excluded from data analysis as the number of patients with these diagnoses would have been too small to build diagnosis-specific samples.

Nonclinical controls were defined as persons who were not in active in- or outpatient psychotherapeutic treatment and with no history of prior psychiatric treatment. They were recruited by advertisements on information boards and personal contact with potential participants. A DD was ruled out by using the SCID-D-R.

Additional inclusion criteria were female sex and a minimum age of 18 years. Exclusion criteria were severe agitation, acute suicidal ideation, organic brain syndrome, language difficulties, or mental retardation.

Research ethics approval for the study was obtained from the research ethics committee of Hannover Medical School. All persons participated in the study voluntarily. Before the individual diagnostic investigations started, participants were informed about the general aims of the investigation and gave written informed consent.

Diagnostic Instruments

All participants completed a comprehensive test battery, which consisted of a questionnaire for sociodemographic data and clinical history (Rodewald, 2005), the Childhood Trauma Questionnaire (Bernstein and Fink, 1998; German translation: U.Gast et al., unpublished data, 2001), and several clinical questionnaires. Additionally, SCID-D-R (Steinberg, 1994; German Translation: Gast et al., 2000) and the Brief Structured Diagnostic Interview for Psychiatric Disorders (original title: Diagnostisches Kurz-Interview für psychische Störungen, Mini-DIPS; Margraf, 1994) were administered to all participants. The complete test battery has been described in detail previously (Rodewald, 2005). The results presented here are based on the following instruments:

Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised

The SCID-D (Steinberg, 1994; Gast et al., 2000) is a semi-structured clinical interview that is widely viewed as the "gold standard" in the assessment of dissociative symptoms and disorders (Allen, 2000) and shows excellent psychometric properties (Boon and Draijer, 1993; Rodewald, 2005; Steinberg et al., 1990). It was designed to systematically assess the presence and severity of 5 core dissociative symptoms (amnesia, depersonalization, derealization, identity confusion, and identity alteration) and for the diagnosis and differential diagnosis of DDs based on the DSM-IV classification.

Diagnostisches Kurz-Interview bei psychischen Störungen (Brief Structured Diagnostic Interview for Psychiatric Disorders, Mini-DIPS)

The Mini-DIPS is a structured clinical and diagnostic interview with excellent psychometric properties for diagnosing anxiety disorders, OCD, affective disorders, somatoform disorders, and eating disorders according to DSM-IV criteria. Additionally, screening questions are included to test for substance abuse and psychosis (Margraf, 1994). It is a shortened version of the Diagnostisches Interview für psychische Störungen (Structured diagnostic interview for psychiatric disorders, DIPS; Margraf et al., 1991), which is the German adaptation of the Anxiety Disorders Interview Schedule by DiNardo and Barlow (1988). Compared with the original version, DIPS and Mini-DIPS were expanded by a section on eating disorders (Bulimia Nervosa and Anorexia Nervosa). The original version and the German adaptations of the interview were carefully tested and validated and have good psychometric properties (DiNardo et al., 1983; Margraf et al., 1991; Margraf, 1994).

Data Analyses

To get information about number and type of (comorbid) axis-I disorders in the diagnostic groups, Mini-DIPS diagnoses were analyzed. The mean number of Mini-DIPS diagnoses in the 6 study groups was identified.

The Mini-DIPS does not include a section on DDs. Therefore, in the DID and DDNOS groups, the mean number of Mini-DIPS diagnoses indicates the number of comorbid disorders. In contrast to this, PTSD, other forms of anxiety disorders and depression, the principal diagnoses of the participants in the other clinical groups, are assessed by the Mini-DIPS. Consequently, in these participants the number of Mini-DIPS diagnoses refers to the total number of diagnoses and not just the comorbid conditions. To avoid problems based on this difference, the mean scores for Mini-DIPS diagnoses in the DID and DDNOS groups were increased by 1 (DD), so that the resulting corrected mean score reflects the total number of diagnoses, as in the other 3 groups.

Significance of mean differences between the diagnostic groups was tested using Student t test. Regarding the high prevalence rates for comorbid disorders in DID and DDNOS found in prior investigations, large empirical effects were expected. Based on this assumption, statistical power analysis and Bonferroni correction for multiple testing (DID vs. PTSD; DID vs. Anxiety; DID vs. Depression; DID vs. Controls; DDNOS vs. PTSD; DDNOS vs. Anxiety; DDNOS vs. Depression; DDNOS vs. Controls) led to critical values of $\alpha_{\text{crit adj.}} = 0.006$, $\beta_{\text{crit}} = 0.80$ and $\delta_{\text{crit}} = 1.00$ (DID), and 1.15 (DDNOS).

To compare the quality of comorbid conditions, prevalence rates for each Mini-DIPS diagnosis were calculated within the 6 groups DID, DDNOS, PTSD, Depression, Anxiety, and Controls. The comorbidity profiles of the 6 groups were compared descriptively.

Finally, a Classification and Regression Tree (CART) Analysis was performed to examine the extent to which differences in the Mini-DIPS profiles of the 6 groups can be confirmed statistically. The presence or absence of the disorders detected by the Mini-DIPS functioned as the independent variable in each case. The allocation of the study participants to the 6 study groups functioned as the target variable.

RESULTS

The Sample

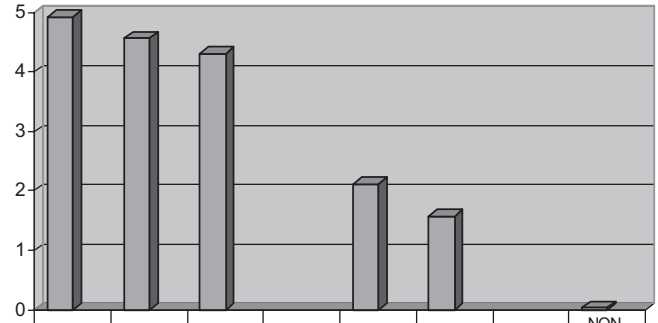
Age ranged from 18 to 65 years (M = 35.90 years, $SD = 10.81$). Fifty-three (37.86%) participants were single, 64 (47.86%) were married or were living in a partnership, 17 (12.14%) were divorced, and 2 (1.43%) were widowed. There were no significant differences concerning age ($F = 0.881$; $p = 0.416$) and martial status ($\chi^2 = 10.78$, $p = 0.095$) between the 6 study groups. Seventy-three participants (52.14%) had completed a vocational training or a technical school. Twenty-six (18.57%) had successfully completed academic studies. Twenty-three participants (16.43%) were still in training at the time of data collection and 13 (9.29%) had no vocational training.

Working status of patients and controls is summarized in Table 1.

TABLE 1. Working Status

	Working Status					
	Employed	**Rehabilitation Program**	**Housewife**	**Unemployed**	**Permanently Disabled**	**Others**
DID						
n	15	6	2	6	14	1
%	10.71%	4.29%	1.43%	4.29%	10.00%	0.71%
DDNOS						
n	2	3	6	1	8	1
%	1.43%	2.14%	4.29%	0.71%	5.71%	0.71%
PTSD						
n	9	0	1	2	1	0
%	6.43%	0.00%	0.71%	1.43%	0.71%	0.00%
Anxiety						
n	5	0	3	2	2	1
%	3.57%	0.00%	2.14%	1.43%	1.43%	0.71%
Affective disorder						
n	8	1	1	2	4	0
%	5.71%	0.71%	0.71%	1.43%	2.86%	0.00%
Nonclinical controls						
n	26	0	0	1	0	3
%	18.57%	0.00%	0.00%	0.71%	0.00%	2.14%

Absolute (*n*) and relative (%) frequencies for working status in the 6 diagnostic groups nonclinicals, anxiety disorder, affective disorder, posttraumatic stress disorder (PTSD), dissociative disorder not otherwise specified (DDNOS), and dissociative identity disorder (DID) are given.



	DID	DDNOS-I	PTSD		DEPRESSION	ANXIETY		NON-CLINICAL CONTROL
M	4.93	4.57	4.31		2.12	1.57		0.03
SD	2.63	2.77	2.69		1.17	1.09		0.18

FIGURE 1. Mean number of Mini-DIPS diagnoses in the 6 study groups. Notes: Mean numbers (M) and standard deviation (*SD*) of Mini-DIPS diagnoses in the 6 diagnostic groups DID, DDNOS, PTSD, Affective Disorders, Anxiety Disorders, and Nonclinical Controls are presented.

As expected, the control group differed significantly from the clinical groups. Patients were more often unemployed, in rehabilitation programs or permanently disabled because of their psychiatric disorder, nonclinical controls were more often employed or in training ($\chi^2 = 36.72$; $p = 0.0001$). The clinical groups did not differ significantly from each other ($\chi^2 = 8.901$, $p = 0.113$).

Number of Comorbid Axis-I Disorders

In hypotheses I and III, it was predicted that patients with DID and DDNOS Type I suffer from several (comorbid) axis-I disorders and that the number of axis-I disorders in these 2 groups is higher than in the other 4 groups. Results are presented in Figure 1 and Table 2.

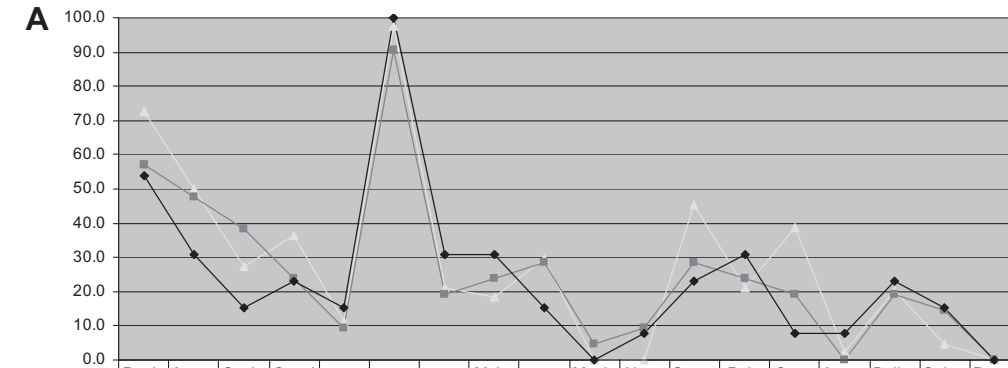
TABLE 2. No. Psychiatric Disorders in Participants in the 6 Diagnostic Groups in %

	No. DSM-IV Psychiatric Disorders			
	0–1	**2–3**	**4–5**	**>5**
DID	6.82%	18.18%	40.91%	34.09%
DDNOS	13.64%	31.82%	9.09%	50.00%
PTSD	7.69%	30.77%	38.46%	23.08%
Anxiety	29.41%	64.71%	5.88%	0.00%
Depression	64.29%	28.57%	7.14%	0.00%
Non-clinical	100.00%	0.00%	0.00%	0.00%

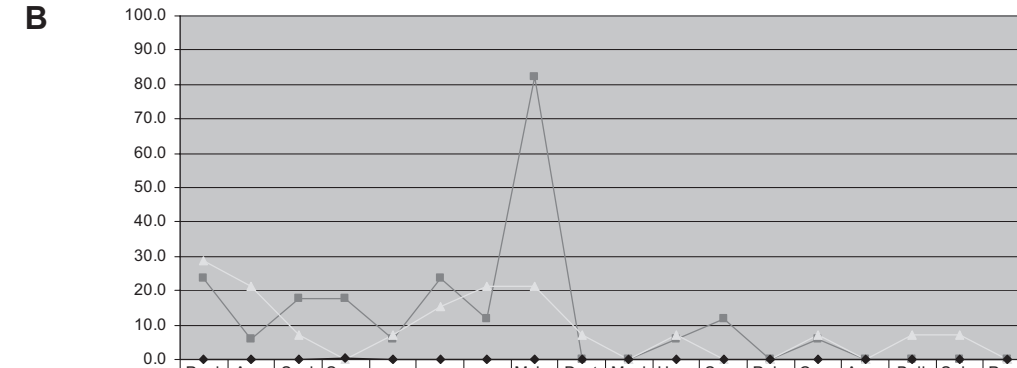
The table shows the percentage of participants in the 6 diagnosis-specific subgroups Dissociative Identity Disorder (DID), Dissociative Disorder not otherwise specified (DDNOS), Posttraumatic Stress Disorder (PTSD), Anxiety Disorder, Depression and non-clinicals, who were suffering from 0–1, 2–3, 4–5, or more than 5 Axis-I disorders (prevalence rates are based on the results from the diagnostic interview for psychiatric disorders Mini-DIPS).

The highest number of axis-I disorders was diagnosed in patients with DID (M = 4.93, *SD* = 2.63) and DDNOS Type I (M = 4.57, *SD* = 2.77). In all, 59% of patients with DDNOS and 75% of patients with DID were suffering from at least 4 DSM-IV psychiatric disorders in addition to the DD. When the DD is added to the number of Mini-DIPS diagnoses, patients with DID were suffering on average from M = 5.93 axis-I disorders and patients with DDNOS Type I from M = 5.57 axis-I disorders. Thus, hypothesis 1 was confirmed by these results.

Many patients with PTSD exhibited several axis-I disorders (M = 4.31, *SD* = 2.69) as well. In addition to the principal diagnosis of PTSD, about 69% of these patients were suffering from 1 to 4



	Panic Syndrome	Agoraphobia	Social Phobi	Specific Phobi	GAS	PTSD	OCD	Major Depressio	Dysthymia	Manic Episode	Hypochondria	Somatization	Pain Syndrome	Conversion	Anorexia Nervo	Bulimia Nervo	Substance Abus	Psychotic Symp
DID	72.7	50.0	27.3	36.4	11.4	97.7	20.9	18.2	29.5	0.0	0.0	45.5	20.9	38.6	2.3	20.5	4.5	0.0
DDNOS	57.1	47.6	38.1	23.8	9.5	90.5	19.0	23.8	28.6	4.8	9.5	28.6	23.8	19.0	0.0	19.0	14.3	0.0
PTSD	53.8	30.8	15.4	23.1	15.4	100.0	30.8	30.8	15.4	0.0	7.7	23.1	30.8	7.7	7.7	23.1	15.4	0.0



	Panic Synd	Agoraphobia	Social Phob	Specific Phob	GAS	PTSD	OCD	Major Depressi	Dysthymia	Manic Epis	Hypochondria	Somatization	Pain Syndrome	Conversion	Anorexia Nerv	Bulimia Nerv	Substance Abus	Psychotic Sym
Depression	23.5	5.9	17.6	17.6	5.9	23.5	11.7	82.4	0.0	0.0	5.9	11.8	0.0	5.9	0.0	0.0	0.0	0.0
Anxiety Disorder	28.6	21.4	7.1	0.0	7.1	15.4	21.4	21.4	7.1	0.0	7.1	0.0	0.0	7.1	0.0	7.1	7.1	0.0
Non-Clinical	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FIGURE 2. Prevalence of Axis-I Disorders (Mini-DIPS Diagnoses). Notes: Prevalence rates within the subgroups posttraumatic stress disorder (PTSD), dissociative disorder not otherwise specified (DDNOS) and dissociative identity disorder (DID) (A) and nonclinical controls, anxiety disorder, and depression (B) for axis I disorders, as assessed by the Mini-DIPS are presented (PTSD indicates posttraumatic stress disorder; OCD, Obsessive compulsive disorder).

comorbid disorders. Only 1 of the 13 PTSD patients (7.69%) did not have a comorbid disorder.

In contrast to this, patients with anxiety disorders (M = 1.57, *SD* = 1.09) and depression (M = 2.12, *SD* = 1.17) reported few comorbid disorders: apart from their primary diagnosis, more than 90% of these patients were suffering from no disorder or a maximum of 1 or 2 comorbid disorders (Table 2).

In the control group, only one subject met diagnostic criteria for specific phobia. No other psychiatric disorders were diagnosed. The mean number of diagnoses was M = 0.03 (*SD* = 0.18) in this group.

Using Student *t* test, mean differences between the DID and DDNOS groups and the other 4 groups were tested for significance. Patients with DID and DDNOS were suffering from significantly more axis-I disorders than patients with anxiety disorders, depression, and nonclinical controls (DID: $p = 0.000$ for each comparison; DDNOS: $p = 0.002$–$p = 0.000$). Empirical effects were large (DID: $d = 1.02$–1.86; DDNOS: $d = 1.00$–1.64). The mean number of axis-I diagnoses in patients with DID, DDNOS, and PTSD did not differ significantly from one another (DID/PTSD: $p = 0.457$; DDNOS/PTSD: $p = 0.787$.

Type of Comorbid Axis-I Disorders

Furthermore, the type of comorbid disorders was investigated. As illustrated in Figures 2A, B, there were considerable differences within the type of axis-I diagnoses in the 6 study groups. Hypothesis 2 predicted that the Mini-DIPS profiles of the groups DID and DDNOS Type I would be very similar. In contrast, it was expected that the profiles of the other groups would differ considerably from those of the groups DID and DDNOS (hypothesis 4). Empirically, there was a strong resemblance regarding the Mini-DIPS profiles in the groups DID, DDNOS, and PTSD (Fig. 2A). In these 3 groups, patients were suffering from many comorbid disorders and almost all participants met DSM-IV diagnostic criteria for PTSD (prevalence rates, 90.5%–100.0%). Beside PTSD, the most prevalent diagnoses were anxiety disorders (panic syndrome: prev-

alence, 53.8%–72.7%; agoraphobia: 30.8%–50.0%; specific phobia: 23.1%–36.4%) and somatoform and/or eating disorders (somatization syndrome: 23.1%–45.5%; pain syndrome: 20.9%–30.8%; conversion syndrome: 7.7%–38.6%; bulimia nervosa: 19.0%–23.1%). In contrast, the prevalence of manic episodes, hypochondria, anorexia nervosa, and psychotic disorders was low (DID: 0.0% for all 4 disorders, DDNOS: manic episodes 4.8% and hypochondria 9.5%, anorexia nervosa and psychotic disorders 0%; PTSD: hypochondira and anorexia nervosa 7.7%, manic episodes and psychotic disorders 0.0%).

Compared with patients with DID, DDNOS, and PTSD, a completely different pattern of disorders was found in patients with depression and anxiety disorders. As anticipated, in patients with affective disorders, the highest prevalence rate was found for major depression (82.4%). Additionally, depressive patients were often suffering from comorbid anxiety disorders (panic syndrome: prevalence, 23.5%; social phobia: 17.6%, specific phobia: 17.6%; PTSD: 23.5%; OCD: 11.7%). Somatoform disorders, eating disorders, substance abuse, and/or psychosis were rare in this group (prevalence rates, 0.0%–11.7%).

In the group of patients with anxiety disorders, some specific DSM-IV anxiety disorders were prevalent (panic syndrome, 28.6%; agoraphobia, 21.4%; and PTSD, 15.4%), while others were diagnosed never or rarely (social phobia, 7.1%; specific phobia, 0.0%; generalized anxiety syndrome, 7.1%). Many patients with the principal diagnosis of an anxiety disorder were also suffering from OCD (21.4%) and affective disorders (major depression, 21.4%; dysthymia, 7.1%). Prevalences for other psychiatric disorders were low (0%–7.1%). In nonclinical controls, no comorbid disorders were found.

To sum up, the profile of comorbid disorders in participants with DID and DDNOS were very similar but differed considerably from those of patients with depression and anxiety disorders. Thus, the results confirmed hypotheses 2 and 4.

Furthermore, it is remarkable that comorbidity profiles of patients with PTSD were very similar to those of the patients with severe DDs, but differed significantly from profiles of patients suffering from other forms of anxiety disorders or affective disorders.

To test whether these differences could be confirmed statistically, a CART Analysis was calculated (Fig. 3).

The initial division of the total sample into 2 subgroups was made on the basis of the Mini-DIPS diagnosis PTSD (PTBAK = 1: diagnostic criteria for PTSD are fulfilled; PTBAK = 0: diagnostic criteria for PTSD are not fulfilled).

The diagnosis PTSD was rendered in $n = 81$ participants in the Mini-DIPS. Of these 81 participants, 91.6% originated from the PTSD (class: 43; $n = 13$), DDNOS (class: 47; $n = 20$), and DID (class: 48; $n = 42$) study groups.

The subgroup PTSD-diagnosis positive (node 2) was divided in the next step on the basis of the presence or absence of the Mini-DIPS diagnosis conversion syndrome (Node 1, Conversion Syndrome: KSAK = 1 or Node 3, KSAK = 0). The diagnostic criteria of both PTSD and a conversion disorder were fulfilled in $n = 22$ study participants (terminal node 1). Most ($n = 17$; 77.3%) of these 22 participants originated from the DID study group (class = 48).

The 59 study participants with PTSD, but without the diagnosis of a conversion syndrome in the Mini-DIPS (node 3), could finally be divided into 2 further subgroups on the basis of the diagnosis of a dysthymic disorder (Dysthymia = DYSTAK). Fifteen participants (terminal node 2) fulfilled the diagnostic criteria of PTSD and dysthymia. Ninety-three percent of these participants originated from the DID and DDNOS study groups. The remaining $N = 44$ participants showed a PTSD diagnosis in the Mini-DIPS, but did not fulfill the diagnostic criteria for a conversion syndrome or a dysthymic disorder (terminal node 3). Almost all of the participants ($n = 11$) of the PTSD study group (class: 43) were allocated to this terminal node.

As was to be expected from the very similar comorbidity profiles of the DID, DDNOS, and PTSD groups in Figure 2A, almost all participants from these 3 original groups were categorized to the left arm of the tree analysis, but then the 3 groups could only be partially differentiated from each other. DID and DDNOS patients were found in each of the 3 terminal nodes (terminal node 1 = 21; terminal node 2 = 14, and terminal node 3 = 27). In contrast, a marked differentiation was found from the right arm of the analytical tree, which is made up of study participants who did not fulfill the diagnostic criteria for PTSD in the Mini-DIPS (node 4, PTBAK = 0, $n = 59$). This group could also be divided into 2 subgroups (terminal nodes 4 and 5) on the basis of the presence or absence of a severe depressive disorder (DSAK = 1: diagnostic criteria for severe depression are fulfilled/DSAK = 0: diagnostic criteria for severe depression are not fulfilled). As expected, all of the participants of the nonclinical control group ($n = 30$) were allocated to terminal node 5 (no PTSD, no major depression). Again as expected, participants of the affective disorders study group were allocated most frequently to terminal node 4 ($n = 14$; no PTSD, but major depression).

In summary, it can be said that the CART analysis provides statistical support for the differentiation between the DIS, DDNOS, and PTSD groups, on the one hand, and affective disorders, anxiety disorders (without PTSD), and the nonclinical control group, on the other hand, which was suggested by the diagnostic profiles revealed by Figures 2A, B. Hypothesis 4 can thus be considered to have been confirmed.

DISCUSSION

In Germany, research on severe forms of DDs is still in its infancy. As far as we know, no systematic studies investigating comorbid conditions in German patients with DDs have been performed until now. Even in the international scientific literature, few investigations are available on this topic, in which empirical results of patients with DID and DDNOS Type I were compared with results of patients with other psychiatric disorders.

Therefore, the aim of this study was to evaluate clinical features of patients with DID and DDNOS Type I (regarding the number and type of comorbid disorders) and to compare our results with those of prior international studies. Dell (2001, 2009a, b) proposed a new system for the classification of DDs. In this system, he treated DID and DDNOS Type I as phenomenologically related disorders and classified them together in a new diagnostic subcategory of MDD. The present study also aimed to test whether a phenomenological relatedness of these 2 disorders could be confirmed empirically regarding comorbid conditions. Additionally, comparisons between comorbid profiles of patients with DID and DDNOS Type I and those of patients with non-DDs were to be drawn empirically.

The present comparison of the Mini-DIPS results of patients with DID versus DDNOS Type I confirmed the postulation of Dell that both disorders were phenomenologically related. The number and the type of comorbid conditions in these 2 groups were very similar (Fig. 2A, B), and the tree-analysis did not reveal a clear differentiation between the groups. These results support the suggestion of Dell (2001, 2009a, b) to combine DID and DDNOS Type I into an overlapping nosological category of MDD.

When comparing the Mini-DIPS results of the patients with MDD (DID and DDNOS Type I) with those of patients with non-DDs, considerable differences were found. To begin with the number of comorbid disorders, we were able to demonstrate that patients with MDD suffer from significantly more comorbid disor-

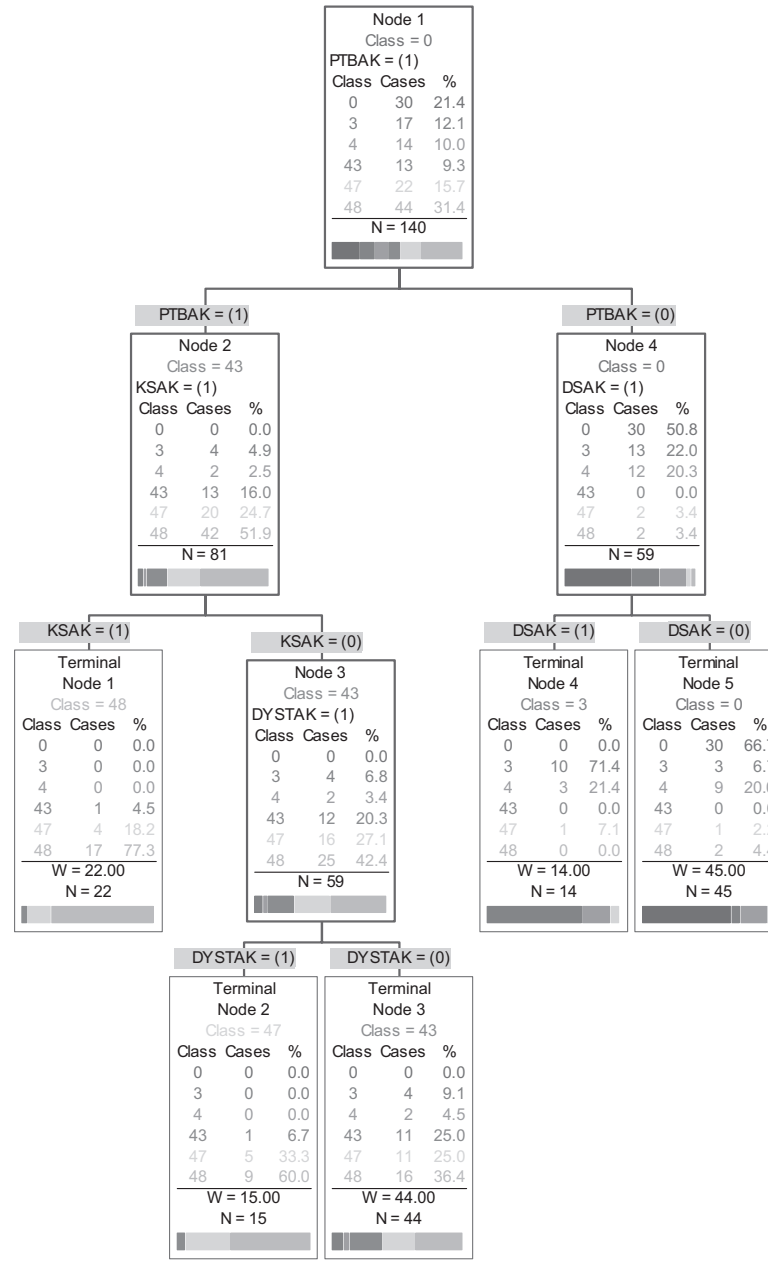


FIGURE 3. Classification and regression tree analysis. Notes: The result of the CART analysis is presented. The total sample (N = 140) could be divided into 5 empirically determined subgroups on the basis of the presence or absence of the Mini-DIPS diagnoses posttraumatic stress disorder (PTBAK = [1]/PTBAK = [0]), conversion syndrome (KSAK = [1]/KSAK = [0]), dysthymia (DYSTAK = [1]/DYSTAK = [0]) and severe depressive episode (DSAK = [1]/DSAK = [0]). In addition, the number of participants who were allocated to the groups and the distribution of the allocated participants to the original study groups DIS (class = 48), DDNOS (class = 47), PTSD (class = 43), other anxiety disorders (class = 4), affective disorders (class = 3), and nonclinical controls (class = 0) are stated for each of the empirically determined subgroups.

ders than patients with other forms of psychopathology. The mean number of positive Mini-DIPS diagnoses (point prevalence) in patients with DID was M = 4.93 and in patients with DDNOS it was M = 4.57. When the DD was added to the Mini-DIPS results, patients with MDD were suffering from a total of M = 5.93 (DID) or M = 5.57 (DDNOS Type I) axis-I disorders, while patients with affective disorders were suffering from M = 2.12 axis-I disorders and patients with anxiety disorders other than PTSD were suffering from M = 1.57 axis-I disorders. In patients with PTSD, the number of axis-I disorders was M = 4.31, and therefore nearly as high as the number of disorders in patients with MDD.

Our results are in accordance with empirical data collected by Ellason et al. (1996) who found a mean number of 7.3 comorbid axis-I disorders in DID patients over the lifespan. The Ellason et al. study is to our knowledge the only investigation to date in which comorbid disorders in patients with DDs were assessed by diagnostic interviews. Additionally, there are many other studies (Coons et al., 1988; Ellason et al., 1996; Putnam et al., 1986; Ross et al., 1992) based on other types of assessment strategies (self-report questionnaires, questionnaires answered by the treating clinician, etc.) in which a great number of comorbid conditions were described in patients with DID and DDNOS. These findings corroborate the concept of DID and DDNOS Type I as polysymptomatic or syndrome disorders (Fink, 1991; Putnam, 2003). Furthermore, our results emphasize the experiences of Ross (1989) who suggested that the existence of more than 3 current or previous (comorbid) diagnoses is an indicator for a high risk of having a (formerly undetected) MDD. Therefore, a careful diagnostic evaluation for MDD is strongly advised in such patients.

Additionally, there were considerable qualitative differences between the 6 study groups in the type of comorbid disorders. As predicted in hypothesis 3, the Mini-DIPS profile of comorbid dis-

orders was very similar in patients with DID and DDNOS (MDD). Furthermore, the comorbid profiles of patients with PTSD were very similar to those of patients with MDD. In contrast to this, significantly different comorbidity profiles were found in patients with anxiety disorders and depression. Comparable to large international comorbidity studies (ESEMed, 2004; Kessler et al., 2005), most prevalent comorbid disorders in patients with anxiety disorders or depression were other anxiety and/or affective disorders, while other psychiatric diagnoses were rare. However, patients with PTSD and MDD were suffering from a wider range of comorbid axis-I disorders. The most prevalent comorbid disorder in patients with MDD was PTSD. Diagnostic criteria of PTSD applied to 91% of patients with DDNOS and 98% of patients with DID. These results replicate findings by Boon and Draijer (1993) and Ellason et al. (1996) who found prevalences of more than 80% for PTSD in their samples of patients with DID. Comparable to results described by Boon and Draijer (1993) and by Ellason et al. (1996), we found high prevalence rates for depression, anxiety disorders (especially panic syndrome and agoraphobia), and somatoform disorders (somatization syndrome, pain syndrome, and conversion syndrome). Many MDD patients also reported a clinical history of substance abuse and eating disorders.

Initially, we did not expect the high congruence of comorbidity profiles in patients with MDD and PTSD found in our study. On the other hand, strong similarities between these groups of patients are evident from a theoretical point of view. In 1992, Herman initially described a syndrome of "Complex PTSD," which is often found in patients with prolonged traumatization, like physical or sexual abuse in childhood (Herman, 1992a, b). Herman stated that many patients with prolonged childhood traumatization had a wide list of comorbid diagnoses, but that the traumatic genesis of the symptoms and disorders often was not taken into account appropriately. To avoid this problem, Herman proposed the new concept of complex PTSD (Herman, 1992b). Further developments were published as "disorder of extreme stress not otherwise specified" (DESNOS, Pelcovitz et al., 1997). DESNOS involves psychopathology of multiple domains: impairment in affect regulation and impulse control, somatization, alterations in self-perception (self-destructive behavior, feelings of shame and guilt) and in relationships with others, and a loss of sustaining beliefs (Herman, 1992a; Pelcovitz et al., 1997). The syndrome of DESNOS or complex PTSD could be confirmed in several investigations and field trials with traumatized patients (Allen et al., 1998; Pelcovitz et al., 1997; Roth et al., 1997; Zlotnick et al., 1996).

We did not specifically assess the symptoms of DESNOS or complex PTSD in our study, but there is a wide overlap between the symptoms of DESNOS and specific symptoms of several axis-I disorders as assessed with the Mini-DIPS. For example, a person with DESNOS might suffer from alterations in the self-perception (DESNOS), in the form of severe feelings of shame and guilt, low self-esteem, and from a loss of sustaining beliefs in the form of negative future prospects. These alterations widely overlap with negative cognitions in relation to the self, the environment and future expectations, listed as diagnostic criteria for depressive disorders in DSM-IV. The relatedness of somatization (DESNOS) and somatoform disorders (DSM-IV) and alterations in affect control (DESNOS) and affective disorders (DSM-IV) is evident. Perhaps, it could be said that we went the other way round. The Mini-DIPS profiles found in our PTSD group were very similar to the typical list of previous or comorbid diagnoses in patients with prolonged childhood traumatization (Herman, 1992b), which led to the development of the concept of complex PTSD by Herman in the early 1990s.

Therefore, our results from the PTSD group indirectly support the concept of DESNOS, but they also demonstrate that the symptom-cluster of DESNOS is not only found in many patients with PTSD, but that most patients with MDD suffer from a very similar symptom pattern as well. This result might be interpreted as additional support for the hypothesis that MDD are severe forms of posttraumatic disorders and it confirms the recent tendency to categorize MDD and DESNOS/(complex) PTSD as etiologically and phenomenologically related disorders. At the same time, our results indicate that patients with other psychiatric disorders (e.g., depression and anxiety disorder) present with a symptom pattern differing significantly in quantity as well as in quality.

Although our findings correspond well with the results of prior international studies, there are also some differences. Compared with the findings of previous international studies, the prevalence of depression was surprisingly low in our sample (20% of the dissociative patients in contrast to prevalence rates of 88%–97% in prior studies). Most likely, the reason for the lower prevalence rate found in our study is that it reflects only the point prevalence but not life prevalence, which of course is higher.

Of the 52 participants with MDD who did not meet diagnostic criteria for major depression at the time of data collection, 29 reported former episodes of major depression. Moreover, 12 patients had a history of moderate depressive episodes. Life-time prevalence of major depression in group MDD was 63.4% and life-time prevalence for at least moderate forms of depression was 81.8%, which corresponds well with the prevalence rates of 88% to 97% for depression described in prior international studies (Coons, 1992; Coons et al., 1988; Ellason et al., 1996; Ross et al., 1992).

Additionally, prevalence rates for substance abuse and eating disorders (especially anorexia nervosa) in our study were lower than in international investigations. These differences might also be explained by sample effects. All patients in this study were participating in psychotherapeutic treatment programs (in- or outpatient) at the time of their diagnostic evaluation. Acute substance abuse and severe forms of anorexia were considered to be contraindications for psychotherapy. Consequently, prevalence rates were low in our sample, whereas considerably higher prevalence rates would be expected in acute psychiatric samples. In fact, life-time prevalence rates for these disorders were much higher (severe substance abuse, 24.2%; episodic substance abuse, 27.3%; anorexia nervosa, 36.4%) and comparable to the results from previous international studies (substance abuse: prevalence rates ranging from 42% to 65%, Coons, 1992; Ellason et al., 1996; Putnam et al., 1986; Ross et al., 1992; eating disorders: prevalence rates from 15%–76%, Dell, 2003; Ellason et al., 1996).

Despite a large congruence of our results with those of international studies, they are preliminary and should be interpreted with caution because of some limitations. The results are limited by the size of the comparison groups. Especially, the groups of patients with non-DDs consisted of 13 to 17 patients each, which is at the lower limit of an appropriate sample size. Therefore, our results should be interpreted with caution. The second limitation refers to the sex of the participants. All participants of this study were female. Consequently, the results should be confirmed with male patients and/or mixed samples by further research.

Finally, our findings are limited to a certain selection of patients that is not representative for the whole range of psychiatric patients. Our sample consisted of a highly motivated group of patients in active psychotherapeutic treatment with MDD, PTSD, depression, and anxiety disorders. In an acute psychiatric sample (acute crisis intervention or repeated hospitalization), a different clinical profile might be found. Such patients with MDD are often a challenge to therapists and psychiatric staff, because of the broad range of symptoms,

which often shift from one moment to another. Therefore, empirical results on typical patterns of symptoms and (comorbid) disorders in these patients might be a great help for clinicians. In addition, such information might help to shorten the latency period from first clinical contact to the correct diagnosis of an MDD. Patients would benefit, because the correct diagnosis of an MDD is a precondition for more specific therapeutic interventions, which are known to improve symptom severity (Brand et al., 2009; Coons and Bowman, 2001; Ellason and Ross, 1997, Groenendijk and Van der Hart, 1995). Therefore, further investigation is needed to corroborate our data and to study comorbidity in MDD patients with a lower level of functioning in acute psychiatric wards.

Additionally, it would also be important to expand the range of comparison groups. In this study, patients with PTSD, depression, and anxiety disorders were investigated for their clinical profiles. Thus, comorbid profiles of other disorders, e.g., patients with personality disorders, substance abuse or psychosis, who are also known to often suffer from many comorbid disorders, should be compared with and maybe could be differentiated from those of patients with MDD. Such empirical results would be especially important, because many patients with MDD report earlier (mis-) diagnoses of psychosis, personality disorders, substance abuse/addiction, etc. (Boon and Draijer, 1993; Putnam et al., 1986; Rodewald, 2005; Ross et al., 1989).

CONCLUSIONS

Patients with DID and DDNOS Type I, which our data show could be classified as MDD, as suggested by Dell (2001, 2009a, b). Patients with PTSD display corresponding profiles of severe and wide-ranging comorbidity, while patients with anxiety and depression display significantly different and more specific symptom profiles. These findings support an accumulating body of evidence that suggests conceptualizing PTSD and MDD as etiologically and phenomenologically related disorders (Steele et al., 2004). Both results from the literature and current findings support the notion of including "Posttraumatic Disorders" as a new diagnostic category in future revisions of DSM and ICD.

The current findings are of high relevance for clinical practice in psychotherapy and psychiatry. Many patients with MDD do not present for treatment because of their dissociative symptoms, but because of secondary or comorbid symptoms and disorders. Therefore, MDD are often overlooked for years in clinical practice (Boon and Draijer, 1993; Putnam et al., 1986; Rodewald, 2005). In patients with a wide range of severe and often fluctuating psychopathological symptoms, clinicians should be mindful of the possible existence of an underlying MDD. In such cases, a careful diagnostic evaluation for dissociative symptoms and disorders, preferably based on diagnostic interviews like the SCID-D, should be made to confirm or rule out this suspicion.

If such practices were to become standard in daily psychotherapeutic and psychiatric practice, this would be an important contribution for improving the therapeutic care of patients with MDD, which is still often insufficient today.

ACKNOWLEDGMENTS

The authors thank Dr. med. Bastian Claaßen, Dr. med. Cornelia Dehner-Rau, Veronika Engl, Dipl.-Psych. Evelyn Kovalewski, and Greta Wehmeyer for their contributions and assistance with data collection.

REFERENCES

Allen JG (2000) Introduction to advances in diagnosing and treating trauma. *Bull Menninger Clin*. 64:143–145.

Allen JG, Coyne L, Huntoon J (1998) Complex posttraumatic stress disorder from a psychometric perspective. *J Pers Assess*. 70:277–298.

American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* (4th ed). Washington (DC): American Psychiatric Association.

American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision. (DSM-IV-TR)*. Washington, DC: APA.

Bernstein DP, Fink LA (1998) *CTQ: Childhood Trauma Questionnaire. A Retrospective Self-Report*. San Antonio (TX): The Psychological Corporation.

Bliss EL (1984) A symptom profile of patients with multiple personalities, including MMPI results. *J Nerv Ment Dis*. 172:197–202.

Boon S, Draijer N (1993) Multiple personality disorder in the Netherlands: A study on reliability and validity of the diagnosis. Lisse (The Netherlands): Swets & Zeitlinger Publishers.

Brand BL, Classen CC, Lanius RA, Loewenstein RJ, McNary SW, Pain C, Putnam FW (2009) A naturalistic study of dissociative identity disorder and dissociative disorder not otherwise specified patients treated by community clinicians. *Psychol Trauma*. 1:153–171.

Coons PM, Bowman ES (2001) Ten-year follow-up study of patients with dissociative identity disorder. *J Trauma Dissociation*. 2:73–89.

Coons PM (1992) Dissociative disorder not otherwise specified: A clinical investigation of 50 cases with suggestions for typology and treatment. *Dissociation*. 5:187–195.

Coons PM, Bowman ES, Milstein V (1988) Multiple personality disorder: A clinical investigation of 50 cases. *J Nerv Ment Dis*. 176:519–527.

Dell PF (2001) Why the diagnostic criteria for dissociative identity disorder should be changed. *J Trauma Dissociation*. 2:7–37.

Dell PF (2002) Dissociative phenomenology of dissociative identity disorder. *J Nerv Ment Dis*. 190:10–15.

Dell PF (2006) A new model of dissociative identity disorder. *Psychiatr Clin North Am*. 29:1–26.

Dell PF (2009a) The long struggle to diagnose multiple personality disorder (MPD): I. MPD. In PF Dell, JA O'Neil (Eds), *Dissociation and the Dissociative Disorders: DSM-V and Beyond* (pp 383–402). New York (NY): Routledge.

Dell PF (2009b) The long struggle to diagnose multiple personality disorder: II. Partial forms. In PF Dell, JA O'Neil (Eds), *Dissociation and the Dissociative Disorders: DSM-V and Beyond* (pp 403–428). New York (NY): Routledge.

DiNardo PA, Barlow DH (1988) *Anxiety Disorders Interview Schedule-Revised (ADIS-R)*. Albany, NY: Graywind Publications.DiNardo PA, O'Brien GT, Barlow DH, Waddell MT, Blanchard EB (1983) Reliability of DSM-III anxiety disorder categories using a new structured interview. *Arch Gen Psychiat*. 40:1070–1074.

Ellason JW, Ross CA (1997) Two-year follow-up of inpatients with dissociative identity disorder. *Am J Psychiatry*. 154:832–839.

Ellason JW, Ross CA, Fuchs DL (1996) Lifetime axis I and II comorbidity and child-hood trauma history in dissociative identity disorder. *Psychiatry*. 59:255–266.

ESEMeD 2000 Investigators (2004) 12-month comorbidity patterns and associated factors in Europe: Results from the European Study of the Epidemiology of Mental Disorders (ESEMeD) project. *Acta Psychiatr Scand.* 109:28–37.

Fink D (1991) The comorbidity of multiple personality disorder and DSM-III-R axis II disorders. *Psychiatr Clin North Am*. 14:547–566.

Foote B, Smolin Y, Kaplan ML, Legatt ME, Lipschitz DS (2006) Prevalence of dissociative disorders in psychiatric outpatients. *Am J Psychiatry*. 163:623–629.

Foote B, Smolin Y, Neft DI, Lipschitz D (2008) Dissociative disorders and suicidality in psychiatric outpatients. In: *J Nerv Ment Dis*. 196: 29–36.

Gast U, Oswald P, Zündorf F, Hofmann A (2000) *Das Strukturierte Klinische Interview für DSM-IV-Dissoziative Störungen. Interview und Manual.* Göttingen (Germany): Hogrefe.

Gast U, Rodewald F, Nickel V, Emrich HM (2001) Dissociation in German psychiatric inpatients. *J Nerv Ment Dis*. 189:249–257.

Groenendijk I, Van der Hart O (1995) Treatment of DID and DDNOS patients in a regional institute for ambulatory mental health care in the Netherlands: A survey. *Dissociation*. 8:73–83.

Herman JL (1992a) Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *J Trauma Stress*. 5:377–391.

Herman JL (1992b) Trauma and Recovery. New York (NY): Basic Books.

Kessler RC, Chiu WT, Demler O, Merikangas KR, Walters E (2005) Prevalence, severity and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 62:617–627.

Margraf J (1994) Diagnostisches Kurz-Interview für Psychische Störungen (Mini-DIPS). Berlin (Germany): Springer.

Margraf, J, Schneider, S & Ehlers, A (1991). *DIPS. Diagnostisches Interview bei psychischen Stoerungen (Handbuch, Interviewleitfaden, Protokollbogen)*. Berlin: Springer.

Pelcovitz D, Van der Kolk BA, Roth SH, Mandel FS, Kaplan SJ, Resick PA (1997) Development of a criteria set and a structured interview for disorders of extreme stress (SIDES). *J Trauma Stress*. 10:3–16.

Putnam, FW (2003). *Diagnostik und Behandlung der Dissoziativen Identitässtörung*. Paderborn: Junfermann. Original: Putnam, FW (1989). Diagnosis and treatment of Multiple Personality Disorder. New York: Guilford Press.

Putnam FW, Guroff JJ, Silberman EK, Barban L, Post RM (1986) The clinical phenomenology of multiple personality disorder. A review of 100 recent cases. *J Clin Psychiatry*. 47:285–293.

Rodewald F (2005) *Diagnostik dissoziativer Störungen* [doctorial thesis]. Hannover (Germany): Hannover Medical School.

Ross CA (1989) Dissociative Identity Disorder: Diagnosis, Clinical Features and Treatment of Multiple Personalities. New York (NY): Wiley.

Ross CA, Anderson G, Fraser GA, Reagor P, Bjornson F, Miller SD (1992) Differentiating multiple personality disorder and dissociative disorder not otherwise specified. *Dissociation*. 5:87–90.

Ross CA, Heber S, Norton GR, Anderson G (1989) Somatic symptoms in multiple personality disorder. *Psychosomatics*. 30:154–160.

Roth S, Newman E, Pelcovitz D, Van der Kolk BA, Mandel FS (1997) Complex PTSD in victims exposed to sexual and physical abuse: Results from the DSM-IV Field Trial for Posttraumatic Stress Disorder. *J Trauma Stress*. 10:539–555.

Sar V, Tutkun H, Alyanak B, Bakim B, Baral I (2000) Frequency of dissociative disorders among psychiatric outpatients in Turkey. *Compr Psychiatry*. 41:216–222.

Saxe GN, Chawla N, Van der Kolk BA (2002) Self-destructive behavior in patients with dissociative disorders. *Suicide Life Threat Behav*. 32:313–320.

Saxe GN, Chinman G, Berkowitz R, Hall K, Lieberg G, Schwartz J, Van der Kolk BA (1994) Somatization in patients with dissociative disorders. *Am J Psychiatry*. 151:1329–1334.

Steele K, van der Hart O, Nijenhuis ER (2004) Phasenorientierte Behandlung komplexer dissoziativer Störungen: Die Bewältigung traumatbezogener Phobien. In A Eckhardt-Henn, SO Hoffmann (Hrsg), *Dissoziative Bewusstseinsstörungen* (S 343–354). Stuttgart (Germany): Schattauer.

Steinberg M, Hall P, Lareau C, Cicchetti D (2003) Diagnostik valider und vorgetäuschter Dissoziation mit dem Strukturierten Klinischen Interview für Dissoziative Störungen (SCID-D-R)—Richtlinien für klinische und forensische Untersuchungen. In L Reddemann, A Hofmann, U Gast (Hrsg), *Psychotherapie der Dissoziativen Störungen* (S 151–167). Stuttgart (Germany): Thieme Verlag.

Steinberg M, Rounsaville B, Cicchetti DV (1990) The Structured Clinical Interview for DSM-III-R Dissociative Disorders: Preliminary report on a new diagnostic instrument. *Am J Psychiatry*. 147:76–81.

Steinberg M (1994) *Structured Clinical Interview for DSM-IV-Dissociative Disorders—Revised (SCID-D)*. Washington (DC): American Psychiatric Press.

Tutkun H, Sar V, Yargic LI, Ozpulat T, Yanik M, Kiziltan E (1998) Frequency of dissociative disorders among psychiatric inpatients in a Turkish University Clinic. *Am J Psychiatry*. 155:800–805.

Zlotnick C, Zakriski AL, Shea MT, Costello E, Begin A, Pearlstein T, Simpson E (1996) The long-term sequelae of sexual abuse; support for a complex posttraumatic stress disorder. *J Trauma Stress*. 9:195–205.