Borderline Personality Disorder and Comorbid Addiction

Epidemiology and Treatment

Thorsten Kienast, Jutta Stoffers, Felix Bermpohl, Klaus Lieb

SUMMARY

Background: Borderline personality disorder (BPD) affects 2.7% of adults. About 78% of adults with BPD also develop a substance-related disorder or addiction at some time in their lives. These persons are more impulsive and clinically less stable than BPD patients without substance dependency. They display suicidal behavior to a greater extent, drop out of treatment more often, and have shorter abstinence phases. The combination of borderline personality disorder with addiction requires a special therapeutic approach.

Methods: This review is based on a selective literature search about the treatment of patients with BPD and addiction, with particular attention to Cochrane Reviews and randomized controlled trials (RCT).

Results: The available evidence is scant. In two RCTs, Dialectical Behavior Therapy for Substance Use Disorders (DBT-SUD) was found to improve patients’ overall functional level (effect strength [ES], 1.03) and to increase the number of abstinence days (ES, 0.75). Dual focus schema therapy (DFST) was evaluated in three RCTs. Because of methodological problems, however, no useful quantitative comparison across trials is possible. In one RCT, dynamic deconstructive psychotherapy (DDP) was found to have only a moderate, statistically insignificant effect. Only a single study provides data about potentially helpful drug therapy over the intermediate term.

Conclusion: Patients with borderline personality disorder and comorbid addiction should be treated as early as possible for both conditions in a thematically hierarchical manner. There is no evidence for any restriction on drug therapy to prevent recurrent addiction in these patients. The psychotherapeutic techniques that can be used (despite the currently inadequate evidence base) include DBT-SUD, DFST, and DDP. These patients need qualified expert counseling in choosing a suitable type of psychotherapy. Specific treatment is available in only a few places, and the relevant treatment networks in Germany are just beginning to be constructed.

► Cite this as:
Patients with BPD

The most frequent comorbid psychiatric disorders in BPD patients are anxiety and affective disorders, including posttraumatic stress disorder. The overall lifetime prevalence for these comorbidities is approximately 85%, followed by substance-related disorders with a lifetime prevalence of 78% (2). However, two further studies found lower lifetime prevalence rates for the use of dependence-producing substances. In a German sample of 147 patients, lifetime prevalence was similar (57.1% [4]) to the 64.1% found in a US study (5). In Germany, tobacco dependence (54%), followed by alcohol dependence (47%) and drug dependence (22%) were the most common substance dependence comorbidities (1). Overall, the probability of occurrence of a drug dependence (odds ratio [OR] 10.1) and alcohol dependence (OR 5.38) or a substance-related disorder in general (OR 4.50) is significantly increased among BPD patients compared with that in the general population (2).

Patients with dependence disorders and various personality disorders

Conversely, increased prevalence rates for personality disorders are also found in patients with dependence disorders, e.g. a rate of approximately 57% in alcohol-related disorders. Here, with 13% of cases the most common diagnosis was BPD (6) (Box).

Focused on patients with borderline personality disorder and comorbid substance dependence disorders

The behavior of these patients is characterized by greater impulsivity compared with patients diagnosed with only one of the two disorders. Clinically, this manifests as a preference for short-term rewards and the reduced ability to work towards mid- or long-term rewards (11, 14). The findings regarding an aggravation of BPD symptoms with comorbid dependence disorders are inconsistent (15–17). Even though the frequency of substance-related disorders in BPD patients decreases over the years (18), addiction is found to be a factor associated with a more unfavorable diagnosis in patients initially diagnosed with both BPD and dependence disorder, as remissions, defined as a drop below the minimum number of criteria required for the diagnosis of BPD according to DSM, occur less frequently: Remissions in BPD patients without comorbid addiction were four times more likely to occur within a period of six years compared with patients with such

**Box**

Alcohol-dependent patients with personality disorder are different from those without personality disorder in that they show

- an increased general psychopathological burden (7)
- an earlier onset (7, 8)
- more severe dependence symptoms (7, 8)
- a lower level of social functioning (9)
- more frequent use of other drugs (9, 10)
- increased suicidal behavior (8, 11)
- shorter periods of abstinence and more frequent relapses (10, 11)
- more frequent patient- and center-initiated treatment dropout (12).
- Overall, the long-term prognosis of the dependence disorder is poorer (13).
comorbidity (hazard ratio [HR] 4.01; p<0.0001); dependency disorders constituted a significantly worse prognostic factor for the course of BPD compared with, for example, comorbid post-traumatic stress disorder (PTSD) ([HR] 2.72, p<0.001), other anxiety (HR 1.93, p<0.001) or mood disorders (HR 1.97, p<0.001) (18).

Etiology and phenomenology of substance use in BPD patients
Substance use is caused by multiple factors. BPD patients often use dependence-producing substances in an attempt to mitigate emotions perceived as overwhelmingly negative or to replace these by a pleasant state, such as feeling intoxicated (self-medication hypothesis). Apart from that, the use of addictive substances can also be triggered by factors related to the social environment, such as peer pressure. The patterns of use show the same diversity as in the general population. Substances are frequently taken with the intention to produce a state similar to dissociation. Thus, the frequency of use can follow an episodic through to a dependent pattern of use (19).

Treatment of borderline personality disorder and comorbid substance dependence
In the following, an overview of the specific treatment options for BPD patients with comorbid dependence disorder will be provided which is based on current Cochrane Collaboration reviews (20, 21) and a complementary recent search of the literature for randomized controlled trials (RCTs) in Medline (Figure). To estimate treatment effects, standardized mean differences (SMDs) and risk ratios (RRs) were calculated for continuous and categorical data, respectively.

Treatment
Psychopharmacotherapy
Since in patients with BPD comorbid dependence disorders are typically regarded as an exclusion criterion for pharmacotherapy studies (21), the available evidence is limited to one randomized controlled treatment trial (RCT) on alcohol-dependent patients with BPD. This study compared 254 alcohol-dependent patients with

- comorbid BPD
- comorbid anti-social personality disorder or
- none of the two personality disorders.

The studies investigated the efficacy of

- placebo
- 50 mg naltrexone (an opioid antagonist)
- 50 mg naltrexone plus 250 mg disulfiram or
- 250 mg disulfiram plus placebo for addiction-related and general psychiatric symptoms.

The results were:

- Pharmacological relapse prevention in patients with alcohol dependency and comorbid BPD was equally effective as in patients with alcohol dependency without comorbid BPD.

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Interventions</th>
<th>Duration (months)</th>
<th>Findings: BPD problems</th>
<th>Findings: Addiction problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linehan et al. 1999 (24)</td>
<td>N = 28 female patients with BPD + addiction: multiple substances (74%), cocaine (58%), alcohol (52%), opioids (21%), cannabis (14%), methamphetamine (11%)</td>
<td>DBT-SUD TAU 12</td>
<td>improvement of general level of functioning, SMD 1.78</td>
<td>more abstinence days, SMD 0.81, ES 1.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fewer dropouts, RR 0.51</td>
<td>more negative urine samples, SMD 0.31, ES 0.75</td>
</tr>
<tr>
<td>Linehan et al. 2002 (25)</td>
<td>N = 23 female patients with BPD + opioid dependence</td>
<td>DBT-SUD CVT+12ST 12</td>
<td>tendency towards more dropouts or not starting treatment for DBT (3 out of 11), none in CVT + 12ST group in DBT patients more frequent participation in groups (SMD 1.07) and individual therapy (SMD 1.61), marginally reduced participation in individual therapy (SMD −0.05)</td>
<td>fewer positive urine samples with DBT (opiate: SMD −0.63, other drugs: SMD −0.21)</td>
</tr>
</tbody>
</table>

BPD, borderline personality disorder; CVT+12ST, controls: Comprehensive Validation Therapy + 12-step program of Narcotics Anonymous; DBT-SUD, Dialectical Behavior Therapy for Substance Use Disorders (DBT-SUD); ES, effect sizes; RR, risk ratio; SMD, standardized mean difference; SHB, self-harm behavior; TAU, treatment-as-usual; bold: significant effects (95% confidence interval)
Pharmacotherapy with disulfiram or naltrexone reduced craving to the same extent as the intake of placebo. In addition, no drug was superior to the others (22). There are no studies on other addictive substances available.

**Note to clinicians:** Patients with alcohol dependence and comorbid BPD benefit to the same extent from pharmacotherapy as patients with dependence disorder without comorbid BPD. Consequently, pharmacological relapse prevention should always be offered to patients with BPD and alcohol dependence, with continued administration if successful (10).

**Psychotherapy**

Data on the efficacy of psychological therapies are somewhat more robust (20). Presently available from comorbid patient populations are RCTs and manuals on Dialectical Behavior Therapy for Substance Use Disorders (DBT-SUD) (23–26), a version of dialectical behavior therapy specifically developed for comorbid patients, on dynamic deconstructive psychotherapy (DDP) (27–30), a psychodynamic approach, and on schema therapy for addiction (Dual Focus Schema Therapy, DFST) (31–34).

**Dialectical Behavior Therapy for Substance Use Disorders (DBT-SUD)—**DBT-SUD is a behavioral therapy which, because of its transparency and specifically developed educational concept, is easier to learn than any other method currently available for this patient group. It takes a solution-focused approach and teaches these patients to assume personal responsibility.

**Fundamental principles:** 1. Simultaneous treatment of both disorders: Patients with BPD frequently use addictive substances to control tensions and emotions, in the same way they use self-harm, for example. Would only the self-harm behavior be addressed, an increased use of addictive substances would probably occur, and vice versa (shifting of symptoms). For this reason, it is recommended to simultaneously treat the dependence disorder and BPD.

2. Patient attachment: A key principle is the systematic use of attachment strategies. These strategies foster regular participation even of patients who find it very difficult to do so.

3. Dialectical abstinence: The principle of dialectical abstinence enables the therapist to keep the focus on what is possible for the individual patient instead of demanding radical changes in their consumption behavior. Abstinence is the ultimate goal of the treatment which is to be achieved step-by-step along the therapeutic path. Therefore, vital skills are trained before the substance is withdrawn to ensure that during early abstinence, in the event of a crisis patients can resort to skills they have already learnt.

4. Skills training: Learning a battery of specific skills to cope with addictive behavior.

**Implementation:** DBT-SUD consists of:

- weekly individual therapy (the psychotherapy processes are worked upon and the further therapeutic steps are planned and coordinated),
- weekly educative group therapy for skills training,
- visiting self-help groups and addiction counseling facilities,
- telephone coaching for patients, and
- supervision for therapists.

Key to the therapy’s efficacy are the lived eight basic assumptions of DBT for therapists and the targeted use of the six distinct validation strategies stated for DBT-SUD.

---

**TABLE 2**

**Randomized controlled trials evaluating the efficacy of dynamic deconstructive psychotherapy (DDP) in patients with borderline personality disorder and addiction**

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Interventions</th>
<th>Duration (months)</th>
<th>Findings: BPD problems</th>
<th>Findings: Addiction problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gregory et al. 2008 (27)</td>
<td>N = 30 male (20%) and female patients (80%) with BPD + alcohol dependence</td>
<td>DDP</td>
<td>12</td>
<td>BPD severity SMD −0.44 patient with SHB RR 0.89 dissociative symptoms SMD 0.25 depressed mood SMD −0.52 dropout rate RR 0.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TAU</td>
<td></td>
<td>Patients with alcohol use RR 0.80</td>
</tr>
</tbody>
</table>

BPD, borderline personality disorder; DDP, Dynamic Deconstructive Psychotherapy; SMD, standardized mean difference; RR, risk ratio; TAU, treatment-as-usual; SHB, self-harm behavior.
Efficacy: So far, DBT has been evaluated in two RCTs (Table 1) in which significant improvements of the level of general functioning and addiction-related problems were found. The findings regarding treatment compliance are contradictory. The available data indicate that patients from the DBT-SUD group make more use of group therapy compared with patients from the control group. In addition, it was found that DBT patients provided more plausible information about their actual substance intake, showing a higher correlation with objective urine sample data (Table 1).

Note for clinicians: It is advantageous to start the treatment program when patients are not in a state of severe crisis and do not use large amounts of substances, since learning new skills to regulate their emotions and addictions requires an increased learning ability of the affected individuals. It is possible to search treatment spaces in Germany using, for example, the contact form of the DBT umbrella association: www.dachverband-dbt.de. (References: 23–25, manual in 26).

Dynamic Deconstructive Psychotherapy (DDP)—DDP is one of the depth-psychological methods.

Fundamental principles: DDP combines elements of neuroscience, object relations theory, and Derrida’s deconstruction philosophy. The treatment of BPD symptoms and the dependence disorder is provided at the same time.

Implementation: Treatment is provided in four phases over a period of 12 months in weekly individual therapy sessions.

In phase 1, the focus is on establishing therapeutic alliance. Patients learn to identify and verbalize emotional experiences. In phase 2, the affected individuals analyze their interpersonal emotional experiences and become aware of their polarizing evaluations. In phase 3 and 4, patients learn to become aware of their subjective interpretation and make their judgments closer to reality. In phase 4, the patients learn to distance themselves from idealizing phantasies.

Efficacy: Currently, one study on DDP is available (Table 2), showing moderately positive, but not statistically significant effects on symptoms of both BPD and addiction. The dropout rate was lower for DDP (Table 2).

Note for clinicians: DDP is almost unknown in Germany; a central search tool for treatment spaces is not available. (References: 27–29, manual in 30).

Dual Focus Schema Therapy (DFST)—Schema therapy makes use of depth psychological and behavioral therapy elements. The term “maladaptive schema” refers to unfavorable cognitive, emotional and

<table>
<thead>
<tr>
<th>Patient population</th>
<th>Interventions</th>
<th>Duration (months)</th>
<th>Findings: BPD problems</th>
<th>Findings: Addiction problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 52 homeless men (94%) and women (6%) with predominately combined PD (Cluster A: 88%, Cluster B: 74%, Cluster C: 85%, 51% with BPD) + substance abuse or dependence: alcohol (50%), cocaine (23%), heroine (14%), cannabis (14%)</td>
<td>DFST</td>
<td>Drug counseling</td>
<td>6</td>
<td>very high dropout rate in both groups (60%), thus no quantitative analyses reported and not sufficient raw data available for reanalysis of effect sizes</td>
</tr>
<tr>
<td>N = 30 men (50%) and women (50%) with predominately combined PD + opioid dependence; most frequent PD: antisocial (83%), BPD (57%)</td>
<td>DFST</td>
<td>Drug counseling</td>
<td>6</td>
<td>not sufficient raw data available for reanalysis of effect sizes; the authors report the following:</td>
</tr>
<tr>
<td>N = 105 men (79%) and women (21%) with PD (54% paranoid, 50% antisocial PD, 30% BPD) in in-patient forensic setting + history of substance abuse/dependence</td>
<td>DFST</td>
<td>Drug counseling</td>
<td>6</td>
<td>high dropout rate (overall 58%); not sufficient raw data available for reanalysis of effect sizes; the authors report the following:</td>
</tr>
</tbody>
</table>

BPD, borderline personality disorder; 12 FT, 12-Step Facilitation Therapy in line with the 12-step program of the National Institute on Alcohol Abuse and Alcoholism (NIAAA); DFST, Dual Focus Schema Therapy; TAU, treatment-as-usual; PD personality disorder

Deutsches Ärzteblatt International | Dtsch Arztebl Int 2014; 111(16): 280–6
behavioral reflexes shaped by memories, feelings, thoughts, and behavioral patterns. Such schemas are activated by key stimuli in typical situations, guiding behavior even where they are, directly or indirectly, detrimental to the affected individual.

Fundamental principles: Here again, the treatment of BPD symptoms and the dependence disorder is provided at the same time. DFST postulates:
- that failed attempts to satisfy important basic needs may lead to the development of maladaptive schemas and harmful coping strategies in young people.
- the existence of 18 distinct maladaptive schemas, each of which can be assigned to 1 of 5 overarching clusters. The patient-therapist team aims at initially identifying and inhibiting these schemas, followed by perceiving the underlying basic needs and satisfying them in an adequate manner.
- the subclassifications of personality disorders have no bearing on the work with schema therapy. Based on this approach, DFST logically interprets substance use as a maladaptive strategy for coping with moods or conflicts.

Implementation: Treatment with DFST combines personality-related with pragmatic addiction-specific strategies. These include, besides relapse prevention training, skills training with regard to interpersonal relationships, emotion regulation, stimulus control, and coping with craving, as well as methods to change schemas and coping strategies. The implementation takes place in individual therapy and skills training sessions.

Efficacy: Presently, 3 RCTs on DFST are available in which DFST is compared with general (31) and personalized (33) drug counseling and an Alcoholics Anonymous 12-step program modified for opioid dependent patients (32), respectively. All studies showed (uniformly across all groups) very high dropout rates of about 60%, which certainly needs to be interpreted against the background of each treatment setting (homeless drop-in center, forensic hospital). Consequently, there is little point in undertaking quantitative group comparisons between these studies. Table 3 provides a solely narrative overview; however, these findings should be interpreted with great caution (Table 3).

Note for clinicians: To search for treatment spaces for DFST in Germany, the following website is available: www.verhaltenstherapie.de (31–33).

Conclusion

Only few data are available on the efficacy of pharmacotherapy or psychotherapy in this patient population. Recommendations for longer-term pharmacotherapy are limited to the standard addiction medicine approaches and the treatment of emotion regulation disorders. First steps towards a systematic treatment using psychotherapy have been taken; however, further therapy research based on randomized controlled trials with larger patient populations is needed. It would, in particular, be desirable that independent groups of researchers evaluate the various methods. Despite the very limited data presently available, it should be recommended to use DBT-SUD, DDP or DFST, at least as methods of psychotherapy. All available studies report positive developments for symptoms of both BPD and addiction with treatment over time, but it is currently not possible to postulate that a certain therapy should be preferred over others because of its superiority. Likewise, the absence of solid evidence (compare DFST) should not be misinterpreted as proof of their lack of efficacy.

All 3 approaches have in common:
- the therapists’ consistently positive attitude of appreciation,
- the therapists’ high levels of expertise in the treatment of BPD and dependence disorders,
- the separate offering of skills training and sociotherapy, and
- the simultaneous treatment of both disorders.

Therapists offering one of the three methods discussed above can achieve better treatment outcomes as these psychotherapies have a systematic treatment approach for which special scientific and supervisory expertise is at hand.

Conflict of interest statement

Prof. Bermpohl has received reimbursements for congress participation fees from Lilly.

Prof. Lieb, Dr. Kienast and Ms. Stoffers declare that no conflict of interest exists.

Manuscript received on 16 July 2013; revised version accepted on 13 February 2014.

REFERENCES


