Borderline personality disorder, substance abuse, and dialectical behavior therapy
van den Bosch, L.M.C.

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Summary

Background

Borderline Personality Disorder (BPD) is a complex, severe and persistent ailment leading to serious stigmatisation. The complex character of BPD is related to the high comorbidity with other psychiatric disorders. Standardised and structured interviews are necessary to assess the presence of BPD in a reliable way. In the daily practice of community and public health settings, structured interviews take up much time and are subsequently too expensive. The diagnostic process therefore, often consists of clinical impressions, developed during an intake session or on examination of patient files. BPD is a severe and persistent disorder. BPD is characterised by intense negative emotions, frequently expressed through suicidal behaviours and other self-damaging acts. BPD patients often show serious problems like low levels of social integration, problems with housing, high debts and under treated somatic diseases. Another factor that adds to the chronic character of the disorder is the lack of effective pharmacotherapeutic treatment. Furthermore, there is hardly any psychosocial treatment with well-established efficacy.

Finally, the distorted image that exists of this disorder must be mentioned. BPD patients are seen as patients who manipulate, are unmotivated for treatment and are treatment resistant. They are known to split treatment teams and burn out therapists. As such, patients with BPD belong to the most stigmatised patient groups.
The BPD patient, who is also a substance abuser, has a special position. Although substance abuse (SA) is generally considered to be a typical borderline manifestation (rather than an independent, comorbid condition), clinicians so far have refrained from developing integrated and collaborative treatments for these dual diagnosis patients. Although there is no empirical justification in terms of etiological and symptomatological differences, substance abusing BPD patients (BPDSA+) tend to be treated differently from BPD patients without comorbid substance abuse (BPDSA-). BPDSA+ patients are often stereotyped as more difficult, if not impossible, to treat, and associated with severe problems in the therapeutic relationship. BPDSA+ patients usually are refused admission to mental health service systems until they stop using substances and cannot have access to substance abuse treatment systems until suicidal and other self-destructive behaviours are under control. This is a well-known ‘Catch-22’ situation.

The BPD patient, and especially the one with comorbid substance abuse finds herself in an invidious situation. On the one hand the disorder is often misdiagnosed, treated inappropriately and unsuccessful treatment is blamed on the patient because of lack of motivation. On the other hand, the severity of the problems makes treatment of vital interest.

In the beginning of the nineties, because of the development of a crises unit, the Jellinek Substance Abuse Treatment Centre in Amsterdam was confronted with many BPDSA+ patients in the described Catch-22 situation. It became important to create a treatment program for these patients. In 1995 the Jellinek Centre and the Amsterdam Institute for Addiction Research (AIAR) decided to examine the feasibility of the implementation of Dialectical Behaviour Therapy (DBT) in the Netherlands for this particular group of patients. DBT was at that time the only psychosocial treatment for chronically suicidal borderline patients with some promising empirical evidence for its efficacy. The support came from a randomised controlled trial (RCT) with a non-substance abusing population of BPD patients, carried out in 1991 by the research team of Marsha Linehan who developed DBT. The results of the study showed that DBT seems to enhance treatment retention, that DBT seems to reduce severe dysfunctional behaviours, and that DBT seems to reduce the number of days in hospital. Whether DBT would also be helpful with BPDSA+ patients could not be concluded on the basis of this study. This led to the decision to replicate Linehan's original study with a mixed sample of BPDSA+ patients and BPDSA- patients, referred by the mental health services and the substance abuse treatment centres.
To our knowledge this is the first study to include a mixed sample of borderline patients with and without substance abuse. The study was aimed at examining the following questions:

- Can DBT be implemented in the Netherlands and is DBT more effective than 'Treatment-as-Usual' (TAU) in the treatment of BPDSA+ patients and BPDSA- patients;
- Can an integrated program for BPDSA+ patients and BPDSA- patients be developed; and
- Can therapists coming from substance abuse services and psychiatric services be trained in applying DBT.

This dissertation describes how a treatment program for BPDSA+ patients and BPDSA- patients was developed and tested. The current dissertation is an attempt both to provide an up-to-date answer to etiological and symptomatological issues and to bridge the gap between clinical and empirical literature about the treatment of BPD.

Introduction

The aim of Part I (Introduction) of this thesis is to describe BPD and the severe nature of its symptoms. Paragraph 1.1.1 provides an answer to the question 'What is BPD?' In paragraph 1.1.2 the epidemiology of BPD is discussed. BPD has a high incidence, has serious physical and mental consequences and causes high expenses for community mental health systems. Paragraph 1.1.3 describes in detail the comorbidity of BPD with substance abuse and concludes that all research of BPD treatment efficacy should pay attention to comorbid disorders in order to have clinical relevance. Paragraph 1.1.4 indicates that until 1995 there were no treatments, neither pharmacological nor psychosocial, for BPD with a well-established efficacy. It also emphasises that, while examining the efficacy of psychotherapeutic treatments, it is important to give specific attention to the role of dissociative phenomena, parasuicidal and self-damaging behaviour in BPD, as well as substance abuse. In paragraph 1.2 the philosophy, strategies, structure of the treatment program, and specific treatment targets of standard DBT are described. In paragraph 1.3 the aims of the study and the study design are discussed.

Study design. Because the research was aimed at a population that differed from the population in Linehan’s original study (BPDSA+ patients and BPDSA- patients, referred by substance abuse services and psychiatric services), we decided to start with a pilot study. We wanted to examine the feasibility of the implementation of DBT in the
Netherlands in this complex population. A core group of three therapists were trained in DBT by Marsha Linehan. Therapists from substance abuse treatment centres and psychiatric institutes were invited to refer their patients to the pilot study and to take part in the project as therapists. Theoretical training in DBT was provided during a series of short workshops. All therapists received ongoing supervision in DBT and took part in the consultation team. The patient group in the pilot phase consisted of nine, parasuicidal, self-mutilating female BPDS+A and BPDS-A patients. The average age of subjects in the pilot group was 37.5 years.

The average number of days in residential treatment in the last four years was 74 days per year. The average number of admissions in the last four years ranged from 4 to 58.

The results of the pilot were positive: patients judged the program as validating and helpful, which was supported by the session attendance percentage of 81%. Therapists indicated that they felt less isolated and more competent and also that work satisfaction had increased. The attendance rate for the consultation team was 100%.

In the next step female patients aged 18-70 with BPD were recruited for the research program. The referring professionals (psychologists or psychiatrists from addiction treatment services, psychiatric hospitals, outpatient centres for mental health care, independently working psychologists or psychiatrists) had to be willing to sign an agreement expressing commitment to deliver 12 months of treatment-as-usual (TAU) to the patients they referred. The exclusion criteria were: a DSM-IV diagnosis of bipolar disorder or (chronic) psychotic disorder, insufficient command of the Dutch language and severe cognitive impairments. The diagnosis of BPD was established using both the Personality Diagnostic Questionnaire – DSM-IV version (PDQ-4+) and the Structured Clinical Interview for DSM-IV personality disorders (SCID-II). Positive endorsement of DSM-IV diagnostic criteria for BPD (number of BPD criteria > 6) was required on both instruments. In contrast to Linehan's trial, participants were not required to have shown recent parasuicidal behaviours.

922 patients were referred to the study. 64 patients were eligible and gave written informed consent. 31 subjects were randomly assigned to DBT and 33 subjects to TAU. 20 patients (31%) were referred by addiction treatment services and 44 (69%) were referred by mental health services.

An intention-to-treat (ITT) analysis was applied. Two subjects assigned to the TAU condition were dropped from the ITT analysis; they did not accept the randomization outcome and, therefore, refused to further cooperate with the study protocol. Four subjects who were assigned to DBT were excluded because they refused to be treated.

Finally, 58 female BPD patients were included in the research program: 27 in the experimental condition (DBT) and 31 in the control condition (TAU).

Patients assigned to DBT (addiction treatment centres n = 8; psychiatric services
n=19) received 12 months of treatment according to the treatment manual. The treatment combines weekly individual psychotherapy sessions with the primary therapist (1 hour a week), weekly skills training groups lasting 2-2.5 hours per session, and weekly supervision and consultation meetings for the therapists. Patients were also provided with consultation by phone with their primary individual therapist 24 hours a day, in order to prevent crises and to enhance the generalisation of learned skills. Within the framework of DBT, individual therapy focuses primarily on reducing life threatening, parasuicidal behaviour and therapy-interfering behaviour. Group therapy is used to teach emotion regulation and cognitive restructuring, as well as interpersonal and self-acceptance skills. Among its central principles is DBT's simultaneous focus on both acceptance and validation strategies as well as change strategies to achieve a synthetic (dialectical) balance in client functioning.

Subjects in the TAU condition received clinical management from the original referral source (addiction treatment centres n=11; psychiatric services n=20). Patients in TAU generally received no more than 2 sessions per month from either a psychologist or psychiatrist.

Baseline assessments took place 1-16 weeks (median 6 weeks) before DBT started 4 weeks following randomization. Two master's level clinical psychologists and one PhD-level clinical psychologist conducted all assessments. The most important outcome measures (the severity of parasuicidal behaviour, the severity of self-damaging behaviour, treatment retention and the severity of substance abuse) were examined with three instruments. Recurrent parasuicidal and self-damaging impulsive behaviours were measured at baseline and 11, 22, 33, 44, 52 and 78 weeks after randomization using the Borderline Personality Disorder Severity Index (BPDSI). This is a semi-structured interview assessing the frequency of borderline symptoms in the previous 3-month period. Self-damaging behaviours were measured using the Lifetime Parasuicide Count (LPC) at baseline. The adapted (3-month) version was administered 22, 52 and 78 weeks after randomization. The LPC is used to obtain information on the frequency and subsequent medical treatment of self-mutilating behaviours (e.g., cutting, burning, head banging, pricking). The severity of the substance abuse was measured using the BPDSI and the EuropASI (European adaptation of the Addiction Severity Index). The EuropASI was administered at baseline and 78 weeks after randomization.

The team of individual therapists included 4 psychiatrists and 12 clinical psychologists. Group training was conducted in three separate groups led and co-led by social workers and clinical psychologists. The author of this dissertation (who has received intensive training from Linehan in Seattle) provided training and regular monitoring (videotapes), along with weekly individual and group supervision. The adherence score of the therapists in terms of conformity to the treatment manual was sufficient.
Characteristics of BPD patients with and without substance abuse problems

Part II of the thesis deals with the question whether BPDSA+ patients differ so strongly from BPDSA- patients that they cannot be part of the same research population when examining the efficacy of DBT. The etiological and symptomatological differences between BPDSA+ patients and BPDSA- patients were studied (Chapter 2) and the differences with regard to traumatisation and dissociation were examined (Chapter 3). The results of these comparisons could be used to interpret the results of the RCT if a clear difference in efficacy would show up between BPDSA+ patients and BPDSA- patients.

In Chapter 2 the differences and similarities with regard to clinical characteristics and etiological factors of female borderline patients with \((n=33)\) and without SA \((n=31)\) are investigated. Clinical characteristics include borderline symptom severity, psychiatric comorbidity, and treatment history. Family history of substance abuse, history of childhood trauma and adult victimization are chosen as possible etiological or risk variables. The study reveals that there were hardly any significant differences between BPDSA+ patients and BPDSA- patients. The differences found are limited in number and rather small in size. Out of the \(124\) comparisons made in total, only \(12\) (\(10\%\)) reached statistical significance. The differences between groups discriminated by referral setting were even more limited. What became clear, however, is that BPDSA+ patients were found in both circuits: 70\% of the borderline patients in addiction treatment services and 47\% of the borderline patients in mental health services proved to be abusing substances. In conclusion, there were no consistent, major differences between BPDSA+ patients and BPDSA- patients in terms of clinical characteristics and etiological background. It seems fair to state that these empirical findings do not support the exclusion of borderline patients with substance abuse problems from regular treatment services or from clinical trials.

Chapter 3 provides the answer to the question whether BPDSA+ patients \((n=33)\) and BPDSA- patients \((n=31)\) differ with regard to traumatisation and dissociation. Research has shown that many borderline patients have experienced severe childhood sexual (CSA) or childhood physical abuse (CPA). This kind of childhood abuse seems to be associated with an increased tendency to (psychological) dissociation, and (psychological) dissociation seems to be associated with the occurrence of PTSD. Among patients addicted to alcohol, however, these associations between traumatisation and psychological dissociation, and between psychological dissociation
and the occurrence of PTSD have not been found. Some authors, therefore, have suggested that with these patients the psychological dissociation might be replaced by some kind of chemical dissociation through the abuse of alcohol and/or drugs. The use of substances and the subsequent dependency then is not only an expression of pathology, but also a (maladaptive) coping mechanism. We hypothesized that if 'chemical dissociation' were to be a real coping mechanism, differences should be found between the groups of BPDSA+ and BPDSA- patients in the associations between CSA/CPA and the severity of dissociative symptoms and between dissociative symptoms and PTSD during adulthood. In other words, we expected lower levels of dissociation and PTSD with traumatized BPDSA+ patients, compared to traumatized BPDSA- patients. Associations of CSA/CPA and dissociative symptoms and PTSD were indeed only present (and more pronounced) among the non-substance abusing sub-sample. The findings, however, also show that the levels of dissociation and PTSD among BPDSA+ patients were very similar to the levels of dissociation and PTSD reported by the traumatised BPDSA- patients. It seems therefore that with BPDSA+ patients no childhood trauma needs to be present in order to reach a high level of dissociation and PTSD.

It is concluded that no support was found for the 'chemical dissociation' hypothesis in this research population.

Efficacy of DBT

*Part III* focuses on the study of the efficacy of DBT through the randomised controlled trial (RCT). In our RCT, the efficacy of DBT in treating female BPD patients with and without substance abuse problems was compared to TAU.

*Chapter 4* examines the validity of intermediate variables that might be predictive of parasuicidal acts. Most of the research subjects engage in self-damaging and parasuicidal behaviours. The treatment of borderline patients is aimed at preventing parasuicidal acts. The ability to predict those acts provides a possibility to better focus treatment interventions. Linehan used the Reasons for Living Inventory (RFL) to examine the mechanisms underlying the treatment process and outcome in chronically suicidal individuals and/or individuals with borderline personality disorder. We have examined the usefulness of the RFL for our study as a process variable of the efficacy of DBT. Our findings tentatively suggest that only one subtype of reasons for living, i.e. Survival and Coping Beliefs, predicts parasuicide and that items measuring the presence of adequate coping strategies such as reassuring or self-soothing thoughts probably account for most of its predictive value. The results of the study
suggest that determining the presence of reassuring thoughts by administration of a coping questionnaire is more efficient than the relatively time-consuming and for patients stressful administration of the RFL. As a consequence, we decided not to use the RFL as an intermediate variable in the efficacy study.

In Chapter 5 the results of the Randomised Controlled Trial are presented. In this RCT DBT is compared to TAU, in a group of 58 female BPD patients with and without SA problems. Severity of parasuicidal behaviour, treatment retention and severity of substance abuse problems were used as outcome parameters of the study.

First the data show that DBT had a substantially lower 12-month attrition rate (37%) than TAU (77%). Second, DBT resulted in greater reductions of self-mutilating behaviours and self-damaging impulsive acts than TAU. Importantly, the greater impact of DBT could not be explained by differences across conditions in the use of psychotropic medications.

Finally, the beneficial impact on the frequency of self-mutilating behaviours was far more pronounced among those patients who reported higher baseline frequencies as compared to those patients reporting lower baseline frequencies of self-mutilating behaviours.

This trial is the first randomised and controlled trial of DBT that has not been conducted by Linehan’s research group and conducted outside the US. Its results indicate that within the framework of a study, and in a mixed group of BPD-SA+ and BPD-SA- patients, DBT can be successfully applied. The dissemination of DBT to other countries seems feasible. It also provides evidence for the contention that standard DBT can be applied in a heterogeneous group of BPD-SA+ and BPD-SA- patients. The results of the 12 months study corroborated the conclusions of Linehan’s original study that DBT is effective in the treatment of chronically parasuicidal borderline patients. The results can, however, not lead to the conclusion that DBT should be the ‘treatment-of-choice’. In order to reach such a conclusion an RCT should be carried out in which DBT is compared to other potentially effective treatments for BPD. Priority should in that case be given to the long-term (18-months) psychoanalytically oriented day treatment, described by Bateman and Fonagy (1999, 2001).

Chapter 6 examines whether the difference between TAU and DBT, after a six-month follow up, would hold for BPD symptomatology, and also whether TAU and DBT would differ at an 18 months follow-up with regard to the level of substance abuse. The results of our 18 months follow-up study corroborated the findings of the 12 months study. Six months after treatment discontinuation, most of the benefits of DBT over TAU in terms of lower levels of impulsive and self-mutilating behaviours were still significant.
In addition, the DBT group showed significantly larger reductions in alcohol use than the TAU group. However, no differences between the treatment conditions were found for parasuicidality, or for soft and hard drug abuse. It should be noted that, compared to the 12-month results, the efficacy of DBT over TAU seemed to be diminishing. The results suggest that a longer follow-up period with adequate treatment might show an extinction of the overall, beneficial effect of DBT over TAU.

Implementation of DBT

Part IV describes the implementation of DBT, and the clinical implications of the study. Chapter 7 examines whether standard DBT is applicable in the Netherlands. What specific problems that were encountered during the implementation of DBT in Amsterdam, are addressed, as well as the solutions that were found. This chapter also provides the answer to the question whether standard DBT is equally efficacious in reducing borderline symptomatology among BPDSA+ patients (n=31) and BPDSA-patients (n=27). Another issue is raised, namely whether standard DBT is efficacious in reducing the severity of the substance use in a more general sense and what the long-term effects of the treatment are. The results show that the implementation process occurred without major problems. Standard DBT seemed to be as effective for BPDSA+ patients as for BPDSA- patients when suicidal and self-destructive behaviour are the focus of treatment. Standard DBT did not seem to affect the substance abuse problems in these patients in a general sense. This is in line with the conclusion of Chapter 6 that DBT did reduce alcohol problems, but did not seem to influence problems with drugs or medication.

In Chapter 8, finally, the various conclusions are outlined and discussed in depth. In paragraph 8.1 all the results of the study are summarized and discussed. One major conclusion is that DBT, compared to TAU, has a significant higher effect in reducing parasuicidal and self-damaging, impulsive behaviour after 12 months of treatment. Based on earlier research of cognitive behavioural treatment in general, we expected that the effect of DBT would be sustained after an 18-month follow-up. Our findings corroborate these expectations with regard to impulsive and self-damaging behaviour. They, however, also suggest that the difference in efficacy between DBT and TAU diminished during the follow-up period and that a longer follow-up period without adequate treatment might even have nullified the effect of DBT. BPD, after all, remains a serious and persistent disorder. Therefore it is reasonable to assume that symptomatic recovery will fade away if treatment is interrupted for a prolonged period of time. Our
data strongly suggest that a longer follow-up period would probably have shown a gradual extinction of the effect of DBT. This implies that if the effect of DBT is to be retained, a year of DBT treatment needs to be followed by prolonged interventions. Extension of DBT with booster sessions or long-term treatment of these patients, within or outside a DBT framework might prove to be effective.

After an 18-month follow-up, DBT showed a significant greater reduction of alcohol abuse (Chapter 6). This seems to contradict the results described in the implementation article (Chapter 7). There, at 18 months, no change in substance abuse was found with DBT patients, when compared to TAU patients. It should be noted, however, that in the article about the implementation of DBT in a mixed population of BPDS+A patients and BPDS-A patients, the general abuse of substances was subject of research, without specifying the various substances. This leads to the conclusion in this article that DBT was especially effective when the interventions were explicitly focused on specified behavioural domains, where on the other hand in other domains hardly any change occurred. The more detailed analysis of the 18 months data (Chapter 6) showed that, although the interventions were focused on borderline symptomatology, DBT significantly affected the alcohol abuse. No effect was found for the abuse of hard drugs and soft drugs. This suggests a nuance that is of utmost importance for the interpretation of the conclusions of the implementation article. It seems that the question raised is what leads to the differential effect of DBT on alcohol, soft and hard drugs, and not whether the efficacy of DBT generalises towards other behavioural domains. One possible explanation for the lack of effect on drug abuse might be the generally low prevalence of this behaviour in the current study population.

In the implementation article (Chapter 7) we conclude that, although a generalisation effect was absent, we would prefer standard DBT in the treatment of chronically parasuicidal patients, instead of developing a great number of symptom specific DBT programs. The development of symptom-specific programs would introduce an undesirably high degree of differentiation that poses an enormous, if not impossible, organizational challenge for the mental health field. The results of the analysis of the 18 months data corroborate this viewpoint.

In paragraph 8.2 the limitations of the study are discussed. The size of the sample combined with the statistical methods used; the use of retrospective self reports; the fact that DBT was compared to TAU instead of concurrent therapies such as psychoanalytically oriented partial hospitalization; the fact that the patients went on abusing substances during the research process; the fact that they were conscious of the new and experimental character of the treatment; are all factors indicating that the results need to be interpreted with caution.
In paragraph 8.3 the clinical implications of the study are subject of discussion. When the study started in 1995 no well-established psychosocial or pharmacological treatment existed. Now, there is a growing body of research on the treatment of severe borderline problems. In 1995 we expected that DBT would prove to be superior over TAU in the reduction of severe, life-threatening impulsive behaviours. DBT was developed for this purpose: to keep the BPD patient alive and thereby create the possibility of further treatment. As soon as the high-risk behaviours are sufficiently reduced and stabilised, the more affective components of BPD pathology might become the focus of treatment. Because we limited the treatment program to one year only, we did not expect a reduction of depression, hopelessness and other core features of the pathology of patients with BPD. New treatment studies now indicate that affective instability might be effectively treated with medication (Rinne et al., 2002) and that long-term, psychoanalytically oriented day care also seems effective in the treatment of affective symptoms in BPD (Bateman and Fonagy, 1999, 2001). The findings of these studies, however, need replication.

What we found is that standard DBT reduces borderline symptomatology and alcohol abuse, but does not effectively reduce substance abuse in general. Replication of the study with a group of BPD patients, with a high prevalence of drug abuse is needed in order to reach conclusions. However, the high comorbidity of SA with BPD makes it plausible to integrate the treatment of substance abuse in standard DBT. The development of new separate treatment programs might be prevented if the hierarchy used in the treatment program is modified. Continuous attention paid to the existence and treatment of substance abuse should be prioritized next to suicidal and self-damaging behaviours. As a logical consequence, training in counselling techniques for substance abuse and strategies for modifying addictive behaviours should become a standard in the training of DBT therapists. Finally, we note in this paragraph that at this moment, most of the studied BPD patients with regard to psychosocial interventions are female, whereas most research on the effectiveness of pharmacological interventions has been carried out with populations of men. Therefore, the importance of pharmacological studies that differentiate between men and women needs to be emphasised.

In paragraph 8.4 the problems with the implementation of the treatment program and the study are discussed. Some solutions are highlighted.

Paragraph 8.5 describes recent developments in DBT after the research period. The Dialectics Foundation has initiated all kinds of activities with regard to DBT training, such as workshops and a Dutch ten-day intensive DBT training. DBT has been applied in other parts of the mental health field within the Netherlands, such as forensic psychiatry, and articles have been written about these applications. The manual of
the skills training has been translated into Dutch, as has the DBT textbook. Finally, a book about the practice of DBT has been published.

In paragraph 8.6 finally, some final conclusions are drawn. The research program has been carried out with a very small amount of money and just a handful of people. The study raises a lot of questions, but the clinical relevance of the findings is clear: DBT reduces life-threatening behaviours and helps patients remain in treatment. Furthermore, DBT prevents therapists from burn out. They feel more competent and supported while treating BPD patients. Although more research is obviously needed, this study has shown that it is possible to implement effective treatment for BPD patients who abuse substances and those who do not. It also shows that they can indeed be motivated and highlights that treatment is possible.