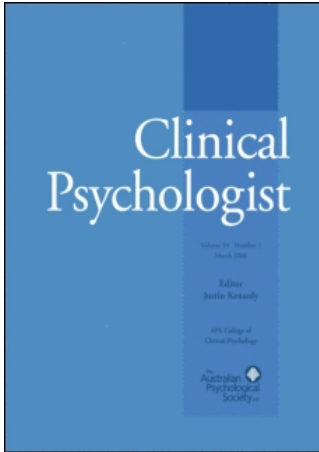


This article was downloaded by:[Uppsala University Library]
On: 27 May 2008
Access Details: [subscription number 786945522]
Publisher: Taylor & Francis
Informa Ltd Registered in England and Wales Registered Number: 1072954
Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



Clinical Psychologist

Publication details, including instructions for authors and subscription information:
<http://www.informaworld.com/smpp/title~content=t713741557>

Dialectical behaviour therapy for borderline personality disorder among adolescents and young adults: Pilot study, extending the research findings in new settings and cultures

Erik Hjalmarsson ^a; Anna Kåver ^b; Kent-Inge Perseius ^b; Kerstin Cederberg ^c; Ata Ghaderi ^d

^a Division of Psychiatry, Malmö University Hospital, Malmö

^b Karolinska Institute, Department of Clinical Neuroscience, Stockholm

^c Child and Adolescent Psychiatry,

^d Department of Psychology, Uppsala University, Uppsala, Sweden

Online Publication Date: 01 March 2008

To cite this Article: Hjalmarsson, Erik, Kåver, Anna, Perseius, Kent-Inge, Cederberg, Kerstin and Ghaderi, Ata (2008) 'Dialectical behaviour therapy for borderline personality disorder among adolescents and young adults: Pilot study, extending the research findings in new settings and cultures', *Clinical Psychologist*, 12:1, 18 — 29

To link to this article: DOI: 10.1080/13284200802069035
URL: <http://dx.doi.org/10.1080/13284200802069035>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article maybe used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Dialectical behaviour therapy for borderline personality disorder among adolescents and young adults: Pilot study, extending the research findings in new settings and cultures

ERIK HJALMARSSON¹, ANNA KÅVER², KENT-INGE PERSEIUS²,
KERSTIN CEDERBERG³, & ATA GHADERI⁴

¹Division of Psychiatry, Malmö University Hospital, Malmö, ²Karolinska Institute, Department of Clinical Neuroscience, Stockholm, and ³Child and Adolescent Psychiatry and ⁴Department of Psychology, Uppsala University, Uppsala, Sweden

Abstract

The aim of this paper was to investigate the feasibility and impact of dialectical behaviour therapy (DBT) for patients with borderline personality disorder (BPD) in a clinical outpatient setting. Eighteen clinicians were trained and supervised in using DBT. Twenty-seven female patients were assessed on a number of variables before the treatment, as well as 5 and 12 months after the start of the DBT. Despite some barriers, DBT could be implemented successfully, and the professionals reported increased competence 1 year after the start of the therapy. Low treatment dropout rates suggested that DBT was well accepted by the patients. One year after the start of treatment, the patients reported significant decrease on most variables measuring psychological distress and number of parasuicidal behaviours. The study provides preliminary support for the feasibility and impact of DBT in the outpatient treatment of BPD in a cultural setting outside the United States.

Keywords: Borderline personality disorder, dialectic behaviour therapy, implementation, parasuicide

Borderline personality disorder (BPD) is a serious psychological disorder, characterised by patterns of instability in affect regulation, impulse control, interpersonal relationships, and problems with self-image (Lieb, Zanarini, Schmal, Linehan, & Bohus, 2004). To establish the BPD diagnosis, a patient should meet five out of nine criteria in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; American Psychiatric Association, 1994). The diagnostic criteria include the four problem areas mentioned above. Characteristic examples of behaviours in BPD are intense feelings of emptiness, anger and sorrow and difficulties in handling those feelings, instability in self-image and paranoid or dissociative symptoms. Further, parasuicidal behaviours (threats or self-mutilating behaviours) and a pattern of unstable and intense interpersonal relationships are common in a BPD (Lieb et al., 2004). In addition, patients with BPD may act in ways that may interfere with treatment. High degree of drop out from treatment, difficulties in therapeutic compliance and difficulties to come to agreement on

goals and structure in therapy are common examples (Linehan, 2000).

BPD is a common diagnosis in psychiatric care. In a study by Loranger et al. (1994) it was found to be the most frequent Axis II diagnosis, with 15% of the patients in psychiatric care meeting the criteria for BPD. This, combined with the high risk of suicide among these patients (Linehan, Cochran, & Kehrer, 2001), makes it utterly important to develop a working treatment model for BPD. It is noteworthy that 10% of patients with BPD will eventually commit suicide (Linehan et al., 2001).

More research is justified given the high prevalence of BPD with frequent parasuicidal acts, the risk of suicide and the corresponding suffering and cost. Concerning the efficacy, two treatments have emerged during the past 10 years as potentially useful interventions for BPD (Lieb et al., 2004). These are a specially designed psychodynamic long-term treatment program (Bateman & Fonagy, 1999, 2001) and dialectical behaviour therapy (DBT; Linehan, 1993a,b). These treatments have shown

significant decreases in parasuicidal behaviours and variables measuring psychological distress. Decrease in parasuicide is a very important finding given its status as a major predictor for suicide (Hawton et al., 1998).

Dialectical behaviour therapy

DBT was originally developed as a treatment for suicidal patients. An assumption in DBT is that people who have a strong urge to die do not possess the skills needed to create a life worth living. The aim of the treatment was to build such skills (Robins, Schmidt III, & Linehan, 2004). The lack of skills apparent in those persons is seen as a result of an internal emotional vulnerability and an invalidating environment. The invalidating environment plays a crucial role in the development of BPD by responding to the individual's utterances of affect and emotion in an irregular or inappropriate way (Linehan et al., 2001). An early serious traumatic event is also common among patients with BPD. The effect of such an event is still unknown, but some studies have noted a connection between sexual offence in childhood and a future development of self-injurious behaviours (e.g., Gratz, 2003). These biological and social factors are, according to Linehan (1993a), what makes a person develop patterns of emotional dysregulation and behaviours characteristic of people who meet criteria for BPD.

DBT is a cognitive behavioural therapy (CBT) with the focus on and techniques for behavioural change, but DBT expands the CBT rationale with the inclusion of acceptance of issues that cannot be changed, and mindfulness as a condition to act and react in a particular way towards the inner and outer world (Linehan, 1993a, Robins et al., 2004). The focus in DBT is also slightly different from ordinary CBT. In DBT, focus is on acceptance and validation of the patient, on treating therapy-interfering behaviours, on the therapeutic alliance and on synthesis of dialectical processes (Linehan, 1993a). According to Linehan et al. (2002), the dialectical processes refer to both the coexisting multiple tensions within the patient, as well as the thought processes and behavioural styles used and targeted in the treatment strategies. During therapy the patient and the therapist move through a hierarchy of treatment goals using different modes of treatment to meet the diversity in symptoms often apparent in a BPD diagnosis. The central modes of DBT are individual outpatient psychotherapy, skills training group, telephone consultation and case consultation meetings for therapists. Running throughout the treatment are specific core strategies of validation and problem solving, the aims of which are to increase the overall quality of life for the patient (Linehan, 1993a).

Earlier research

To date, DBT has been shown to be effective (e.g., Swenson, Torrey, & Koerner, 2002) in treating BPD in several randomised controlled trials (RCTs) (see Linehan et al., 2006 for a list of relevant RCTs), as well as non-randomised controlled studies. DBT has also been shown to be effective in the treatment of addictive and eating disorders (Telch, Agras, & Linehan, 2001; van den Bosch, Verheul, Schippers, & van den Brink, 2002), as well as in decreasing parasuicidal behaviours, psychiatric care needed and dropout from the treatment (Lieb et al., 2004). These findings have been replicated in a recent large study of DBT comparing the effectiveness of DBT to other credible treatments given by non-DBT-oriented experts (Linehan et al., 2006). DBT has also been modified for adolescent populations (Miller, Rathus, Linehan, Wetzler, & Leigh, 1997) and the treatment results are promising, with fewer psychiatric hospitalisations and reductions in general psychopathology and borderline symptomatology (Rathus & Miller, 2002).

The impact of DBT is important in several ways. First, it has shown good treatment results for a group of patients who are considered difficult to treat. Second, it has been possible to apply DBT successfully for other disorders, for example, addictive behaviours and eating disorders. Third, the treatment has been compared to other treatments and the results on central variables have been significantly better (Hayes, Masuda, Bissett, Luoma, & Guerrero, 2004). Further, DBT has been shown to be able to be used outside of applied research. Hawkins and Sinha (1998) showed that people in clinical settings with diverse backgrounds could learn the theory and principles of DBT sufficiently. But these findings need to be replicated independently and in different cultures. DBT has also been implemented with success in different outpatient and inpatient settings (Bohus et al., 2000; Bohus et al., 2004; Low, Jones, & Duggan, 2001; Mental Health Center of Greater Manchester, 1998; Verheul et al., 2003) and this seems to suggest the applicability of the treatment outside of applied research.

To further strengthen the empirical basis of DBT it is important to continue evaluating the effectiveness and implementation of the whole treatment package of DBT in usual clinical settings, and in cultures outside of the United States. The empirical support collected insofar can motivate the use of DBT even though some empirical data are still missing (Linehan, 2000). Although the recent large RCT of DBT (Linehan, et al., 2006) showed DBT to be uniquely effective in reducing suicide attempts, further studies of the effectiveness of DBT are needed. But, before conducting an additional

effectiveness study, it is reasonable to study the feasibility, implementation and impact of DBT in different clinical settings and cultures. For a better evaluation of the effect of a treatment, we need to combine empirical evidence from applied and clinical research (Hayes, Barlow, & Nelson-Gray, 1999).

The aim of the DBT program in Uppsala was twofold. The first aim was to examine whether it was possible to effectively train clinicians and implement DBT as a treatment for BPD in a psychiatric outpatient setting (feasibility). DBT was intended to be a regular treatment option in the treatment of BPD in the psychiatric care. The second aim was to examine if the treatment could result in a low dropout rate (an indirect measure of how acceptable the treatment is to the patients) and, if so, to investigate the effects of the treatment on the patients' psychological well-being, as well as on self-injurious behaviours. Experiences from a new cultural setting (there are no published studies on DBT in Sweden) and from the implementation process might contribute to the body of knowledge in forming empirically supported treatments and their implementation. This was a relatively large implementation project given the number of the therapists and the diversity in their background. The study was an uncontrolled pilot study, and consequently not focusing on the efficacy of DBT. The DBT program also initiated a new, mixed-team strategy involving therapists from both child and adult outpatient settings. The aim was to break the somewhat arbitrary barriers between the treatment of patients older than 18 and those below that age and to improve the cooperation between child and adult psychiatry. The DBT manual for adolescents (Miller et al., 1997) was translated to Swedish by the team members, but was not used in the treatment implemented in the DBT program because a larger number of the patients are young adults. Some modifications were made, however, to fit the specific needs of the adolescent (i.e., in exercises, language use and scheduled meetings). The modifications suggested by Miller et al. (1997) were later tried out more systematically and integrated in the treatment protocol.

Methods

Participants

In total, 27 female outpatients were included in the study. Five patients were excluded from the analyses (dropouts) because they did not provide enough data (i.e., they returned a few questionnaires blank on more than one occasion). Those in the dropout group who had provided some data at pretreatment

assessment did not differ on those variables compared to the patients who completed the trial.

The mean age of the 27 patients included in the study was 20.2 years ($SD = 5.6$, age range, 15–40 years), and all of the patients lived in the administrative province of Uppsala. Seventeen of the patients (63%) were ≥ 18 years old. Only 19 patients answered the questions on civil status and highest degree of education. Of those, 89% were unmarried, and the most common highest degree of education was 9 years compulsory school (79%).

Regarding medication, 71% (17 out of 24) of the patients used some form of medication at the beginning of the treatment. The most common was selective serotonin reuptake inhibitors, used by 67% of the patients (16/24), followed by hypnotics (37%) and sedatives (25%). Data regarding the dose, duration and nature of medication use during the study were not collected.

The patients met criteria for 4.9 ($SD = 2.7$) additional diagnoses on Axis II following the self-administered version of Structural Clinical Interview for DSM-IV Personality Disorders (SCID-II) (First, Gibbon, Spitzer, Williams, & Benjamin, 1999). The most common comorbid Axis II diagnoses were depressive personality disorder (90%), antisocial personality disorder and paranoid personality disorder (60%), phobic personality disorder (55%) and passive-aggressive personality disorder (50%). All patients met criteria for at least one additional Axis II diagnosis. The screening questionnaire of the SCID-II is known to overrate the occurrence of Axis II disorders, and these figures should be interpreted only as some probability for meeting the criteria for these disorders. The BPD diagnosis was, however, established by interview (see procedure below).

Procedure

The study was approved by the regional ethics board in Uppsala (Dnr Ups-03-424). Female patients with parasuicidal behaviours who were at least 15 years old were recruited from mental health outpatient clinics. The patients, and the parents of those below 18, were informed about the treatment study. After verifying the eligibility and obtaining informed consent, the patients were assessed using the screening questionnaire of the SCID-II to screen for the occurrence of other personality disorders than BPD, even though the questionnaire overestimates the number of personality disorders. The patients were then interviewed for BPD according to the SCID-II (First, Gibbon, Spitzer, Williams, & Benjamin, 1999) and those who met criteria for BPD were included. Patients who were ≥ 18 years old met the general criteria for personality disorder if they met five out of nine criteria for BPD according to

SCID-II. Patients who were under 18 years of age and met five out of nine criteria according to SCID-II were also included, although they were not given the diagnostic label. The only exclusion criteria were psychosis, severe eating disorder and drug addiction. Two patients were excluded from the study due to severe eating disorder and drug addiction.

The treatment given in the DBT program in Uppsala followed the treatment protocol for BPD developed by Linehan (1993a,b). Repeated measures were executed after 6 and 12 months, respectively. The treatment consisted of 1 hr of individual therapy per week and 3 hr of skills training in group sessions each week. Because of the clinical setting, the treatment could continue for longer than 12 months if necessary. Two independent researchers interviewed the therapists to not only assess the degree of burnout (Perseius, Käver, Ekdahl, Åsberg, & Samuelsson, 2007), but also to assess their sense of competence, experience of the training and the supervision, as well as the acceptability of DBT in the organisation. Furthermore, the therapists were also asked to write a 1-page essay to comment on the above.

Therapists

The therapists were recruited from the psychiatric health-care services in Uppsala. They worked in different psychiatric settings (adult and child psychiatry) and were grouped into mixed DBT teams to increase the communication and cooperation between the child and adult psychiatric clinics. The therapists applied to the program in teams (including at least two therapists). Some teams consisted of therapists from the same catchment area. The only requirement to build a team was to include at least one therapist from child psychiatry and one therapist from adult psychiatry. Six teams consisting of a total 22 therapists (19 women and three men) participated in the study. The therapists differed in experience of psychotherapeutic work and level of education and had different levels of experience with CBT in general and DBT in particular. Included in the study were two physicians, three psychologists, eight registered nurses, eight mental health assistants and one occupational therapist. They had been working in psychiatric care from 6 to 32 years ($Mdn = 20$ years). Three of the therapists were licensed psychotherapists in CBT and another five had some previous cognitive behavioural psychotherapy training. They all had extensive experience in working with patients with BPD. Before the start of the treatment, the therapists were educated in the theory and practice of DBT. Education in form of seminars and workshops continued during the course of the study. The therapists received supervision in group,

3 hr a week. All therapy sessions were videotaped and treatment discussions were based on the DBT adherence-scale constructed by Linehan and carried out in a classical DBT team setting. Individual supervision was also given using the complete DBT adherence scale. The supervisors were well-trained DBT and CBT therapists/supervisors. During 1994–95, the treatment developer, Marsha Linehan, had trained the principal supervisor (AK). She was also trained and tested on reliability as an adherence rater by Alan and Armida Fuzetti, both highly skilled and internationally known as experts in DBT. All supervisors were also engaged in the large-scale RCT study of DBT for BPD at the Karolinska Hospital in Stockholm since mid-1990. Experiences from the Karolinska study showed that it takes at least 1–1.5 years of DBT training to reach the formal adherence level. For that reason, a modified adherence level was used in the present study aiming to teach a basic number of DBT techniques. The following criteria for treatment adherence were used in the study: (a) structure of the session and the treatment should follow the DBT treatment hierarchy, (b) diary cards should influence the session agenda, (c) skills should be present in conducting chain analyses of target behaviours, (d) skills from the DBT skills training manual should be applied and homework should be assigned, and (e) focus should be on validation, mindfulness and commitment and the balancing of acceptance and change strategies.

This pilot phase of the DBT program lasted for 2 years, during which the education of the therapist consisted of 110 hr of theory in DBT, 153 hr of supervision and 51 hr of seminars and workshops. DBT is now the routine treatment for BPD patients in Uppsala.

Outcome measures

To assess the change in the patients' psychological health during treatment a variety of assessment scales were used. To assess the degree of affective disturbance and symptoms related to a BPD diagnosis, Karolinska Affective and Borderline Symptom Scale–Self-Assessment (KABOSS-S; Andersson, Forslund, Gustavsson, & Asberg, 2003) was used. KABOSS-S measures a wide range of psychiatric symptoms and also includes items especially designed for symptoms in BPD. KABOSS-S generates four subscales: depression, anxiety, obsessive–compulsive, and borderline. It is based on the scales included in the Comprehensive Psychiatric Rating Scale (CPRS; Asberg, Montgomery, Perris, Schalling, & Sedvall, 1978), which is a well-validated assessment instrument. Another instrument used was Symptom Checklist-90-Revised (SCL-90-R; Derogatis, Lipman, & Covi, 1973), which assesses psychological

problems and their intensity across different situations and has shown good validity and reliability. The 90 items on the SCL-90-R are summarised in nine symptom scales (somatisation, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism) and three indexes: Global Severity Index (GSI), which measure general psychological problems, Positive Symptom Distress Index (PSDI), which is the intensity of symptoms reported, and Positive Symptom Total (PST), which measures the total amount of self-reported symptoms. To see the effect of the treatment on parasuicidal behaviours, information was collected weekly from the diary cards as well as by using the Brief BPD Treatment Outcome Assessment (BPD-TOA; Comtois & Linehan, 1997), administered at pretreatment assessment and at 6 and 12 months after the start of the treatment. In the results, one incident of parasuicide could consist of several self-injurious behaviours occurring within a short time span. Finally, patients were assessed on the Global Assessment of Functioning Scale (GAF; Endicott, Spitzer, Fleiss, & Cohen, 1976), on which the level of psychological functioning is assessed from 0 to 100. The assessments on GAF were made by the individual therapists, who were trained and experienced in conducting GAF. The outcome measures possess acceptable to very good psychometric properties.

Design

The present study was a clinical pilot consisting of a within-subjects design with repeated measures. The aim of the study was to evaluate the implementation of DBT (feasibility), and its impact in an ordinary clinical outpatient care setting. This study was intended to preclude an effectiveness study of DBT. Because of the high risk of suicide attempts, parasuicide, self-harming behaviours, the long duration of the intervention and ethical issues related to the clinical setting, no control group was used. The dependent variables were the number of parasuicidal events and the results on KABOSS-S, SCL-90-R, and GAF. Time was the independent variable with three levels: pretreatment assessment, and assessment at 6 and 12 months.

Statistical analysis

All the statistical analyses were done using SPSS 12.0.1 for Windows (SPSS, Chicago, IL, USA). To see the effect of DBT on the dependent variables, within-group analysis of variance (ANOVA) was used. Analyses were run for the treatment completers, and for the entire sample using intention-to-treat-analysis. Non-systematic missing

values at item level were replaced by the mean values. For missing values at 6 and 12 months after the start of the treatment, the last observation was carried forward. Some patients were excluded from the statistical analyses of the outcome if entire scales were missing or were too incomplete to include in the analyses. This resulted in different n in the analyses.

To investigate the effect of the treatment on the different dependent variables, Cohen's d was calculated. According to Cohen (Clark-Carter, 1997) $d=0.2$ represents a small effect size, $d=0.5$ represents a moderate effect size and $d=0.8$ is a large effect size. These values are for between-subjects designs. In within-group analysis, as in the present study, the effect sizes need to be interpreted approximately (Clark-Carter, 1997). We chose to consider $d=0.5$ as small, $d=0.8$ as moderate, and $d=1.1$ as large. In the analysis, effect sizes are calculated from the pretreatment data and the 12-month data. That is because the difference between pretreatment and 12-month assessments best represents the effect of the treatment on the patients.

To determine whether a patient's observed change on a dependent variable was statistically reliable, Jacobson and Truax (1991) criteria for calculating clinically significant change were used. A patient was considered clinically significantly changed if they had moved from a dysfunctional sample to normal functioning (criterion a for clinical relevant change was used) and if the observed change was statistically reliable, using the reliable change index (RCI). Clinically significant change was calculated only for those patients for whom assessments at pretreatment and 12-month assessments were available and only for the key outcome measures GAF, GSI on SCL-90-R and the four subscales on KABOSS-S.

Results

Training the therapist and therapist competence

Four therapists dropped out from the study during the treatment phase. Two of them dropped out due to altered circumstances at work, one moved to another city, and one dropped out because she experienced DBT as too complicated. All therapists remaining in the study ($N=18$: 15 women and three men) treated at least one patient and were the primary therapist in at least one skills training group. They worked with DBT 25–50% of their total time at work. The supervisors' experience from the training was that it was easier for therapists with a theoretical background in CBT to learn DBT.

Eighteen of the 22 therapists were interviewed 18 months after the start of the treatment by independent interviewers. They reported a marked

increase in their competence as professionals and perceived the DBT skills to have affected them positively as individuals. The treatment adherence level used in the program, as assessed by the supervisors, was reached. The new mixed-team strategy (combining professionals from both child and adolescent psychiatric care as well as adult psychiatric care) contributed to further understanding of the development of BPD from early adolescence to young adulthood, and specific needs of the individual patients. The therapists from the adult units reported becoming more aware of the importance of including the context (more specifically the partners, the family, and the friends) in the analysis and the treatment. The child-care therapists learned not to axiomatically view or treat their patients as too fragile, which helped the patients to improve their ability to make their own decisions. The therapists reported becoming more confident in both the assessment and treatment of their BPD patients and learned to adopt the treatment based on the patient's needs and resources. One challenge was to adapt the skills training and the language and metaphors used to fit the child-care population. The mixed team strategy resulted in discussion of various difficulties with younger and older patients and helped the therapist to adopt a more individualised approach not based on the formal cut-off age for childhood and adulthood, but depending on what the patient brings in and their needs and resources. Shorter sessions were given to some patients, or a couple of breaks were used (especially for the younger patients) to help them stay on task and remain focused. The 5-week summer vacation, which most therapists took, was also perceived as extremely long by younger patients. They were given more support and phone calls to manage until their therapists were back from the vacation.

Implementation

The implementation was facilitated by systematic efforts to create interest for DBT among the clinicians, detailed preparations that took the needs of the organisation into account, and showing how DBT can serve an important function in the treatment of patients with BPD who constitute an extremely resource-demanding group of patients. One of the most important facilitating factors was devoted financial resources and time from the hospital board to support the implementation and DBT. A management team consisting of six persons (program director who also was the head supervisor, assistant clinical director, assistant supervisor, a physician, and two representatives for the therapists) was formed to initiate and supervise the implementation. DBT was seen as a valued treatment worth the

investment: a favourable context for implementation of a treatment.

Another condition that might have facilitated the implementation was the culturally sensitive flexibility and openness shown by the management team. The program director and the assistant clinical director interviewed professionals at different units working with BPD patients, asking about their experiences, problems and needs. Then they presented DBT as an alternative by arranging numerous workshops, short presentations or courses, clinical demonstrations and so on, at various psychiatric units to, as much as possible, root DBT in the organisation. Other important factors might have been available public information about the project, inspiring external consultant supervisors, continuous internal supervision and regular meetings between the management team and the hospital staff.

Although the general reception of DBT was positive, some problems emerged, mostly related to practical aspects of the clinical work. At some units there were some difficulties in sanctioning time for DBT treatment (up to 2–3 days per week) due to limited therapist resources and the large number of patients in need of treatment. Some therapists experienced that some of their colleagues saw DBT as threatening, especially those who had another theoretical orientation than CBT.

The overall clinical culture in a broad context was taken into account in the implementation of the program. The emphasis was on increasing the general knowledge of BPD and its treatment at the Division of Psychiatry, Uppsala University Hospital. Further, it was seen as essential to decrease judgmental attitudes towards patients who show BPD-related behaviour patterns. Culturally sensitive implementation of DBT meant making the clinicians feeling at ease by focusing on skills development, and not on the quantitative assessment of the therapists' achievement. Skills acquisition and increased competence in DBT was achieved by continuous supervision and feedback, paired with validation and as much reinforcement of adequate therapist behaviour as possible. Finally, the responsibility for conducting case consultation meetings as well as seminars and workshops was gradually transferred to the therapists in the study, which seemed to work well.

Outcome variables

In the statistical analyses of the variables measuring the patients' psychological health, 22 patients ($M = 18.7$ years, $SD = 3.1$) were available for analysis. The number of patients available varied for the different dependent variables due to missing data. In addition, it was not possible to apply intention-to-treat-analysis to some of the variables due to missing

data from pretreatment assessment. For the different dependent variables, the number of patients available varied between 13 and 16 for primary analysis and between 18 and 22 for intention-to-treat-analysis.

KABOSS-S and GAF

Table I shows the results of ANOVA on GAF and KABOSS-S. In the primary analysis for those with complete data, significant improvements were found for GAF, as well as depression and borderline subscales of KABOSS-S. The effect sizes were mainly moderate to very large. On the subscale obsessive-compulsive, there was a tendency to a significant improvement ($p = .058$). In the intention-to-treat-analyses, the significant improvements remained and were further strengthened, and significant differences were found regarding GAF and the three subscales of the KABOSS-S. The effect sizes remained moderate to very large.

SCL-90-R

In Tables II, III the results of ANOVA on SCL-90-R are summarised. In the analysis of patients with complete data (Table II), statistically significant differences were found for seven out of nine of the symptom scales (obsessive-compulsive, interpersonal sensitivity, depression, anxiety, phobic anxiety, paranoid ideation, and psychoticism), and two of the indexes (GSI, PSDI). The effect sizes were moderate to very large. For the index PST a tendency to significant decrease was found ($p = .058$).

In the intention-to-treat-analyses, the significant differences were larger for all but one subscale and all the indexes (GSI, PST, PSDI) (Table III).

Parasuicide

One of the main goals of DBT is to reduce the amount of suicidal behaviours among patients. At pretreatment assessment, 88% of the patients ($n = 16$) stated that they had subjected themselves to parasuicidal behaviour during the last 6 months according to the BPD-TOA. Six months into the treatment, the prevalence had decreased to 72%. The corresponding figure at the 12-month assessment was 50%. We used ANOVA to see how the total amount of parasuicide varied during the treatment (Table IV). For those patients who had complete data, there was a significant decrease in the number of parasuicidal behaviours and the effect size was between moderate and large. In the intention-to-treat-analysis, the significant decrease remained, but the effect size was small.

Clinical significant change

According to criterion *a*, the cut-off points for normal functioning on the outcome measures were 0.81 for the GSI, 5.8 for the KABOSS-S depression, 5.5 for the KABOSS-S anxiety, 6.7 for the KABOSS-S obsessive-compulsive and 13.3 for the KABOSS-S borderline. The cut-off point for the GAF scale was chosen to be 70, indicating acceptable normal functioning. A patient was considered

Table I. The results of ANOVA for KABOSS-S subscales and GAF for patients with complete data (KABOSS, $n = 15$; GAF, $n = 16$) and intent-to-treat-analysis (KABOSS-S, $n = 22$; GAF, $n = 20$)

	Pretreatment		6 months		12 months		<i>F</i>	ES (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Depression								
Complete	26.3	9.2	23.5	12.0	18.9	12.8	4.4*	0.80
Intention to treat	26.3	9.2	23.2	12.4	19.6	12.8	6.5**	0.73
Anxiety								
Complete	25.2	9.9	23.7	11.0	21.9	11.2	1.0	0.34
Intention to treat	25.2	8.9	24.1	11.4	21.8	11.0	1.5	0.38
Obsessive-compulsive								
Complete	23.2	8.2	20.4	8.6	17.7	9.3	3.2	0.67
Intention to treat	23.4	7.5	20.0	9.2	17.7	9.5	6.2**	0.76
Borderline								
Complete	33.9	9.5	28.1	13.8	23.0	14.0	7.9**	1.15
Intention to treat	33.5	9.1	27.4	14.0	23.2	13.8	12.3***	1.13
GAF								
Complete	51.4	6.3	60.8	8.0	67.4	13.4	17.5***	2.56
Intention to treat	50.9	6.3	59.9	8.0	65.0	13.2	17.9***	2.24

ES = effect size (calculated from the pretreatment and the 12-month data); GAF = Global Assessment of Functioning Scale; KABOSS-S = Karolinska Affective and Borderline Symptom Scale-Self-Assessment.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table II. The results of ANOVA on SCL-90-R for patients with complete data ($n = 13$)

SCL-90-R (Completers)	Pretreatment		6 months		12 months		<i>F</i>	ES (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
GSI	2.1	0.7	1.6	0.8	1.4	0.8	6.2**	0.99
PST	70.1	14.1	60.2	20.8	59.2	18.4	3.2	0.77
PSDI	2.7	0.5	2.3	0.6	2.1	0.6	7.4*	1.21
Somatisation	20.9	11.7	18.7	12.7	16.9	9.8	1.0	0.35
Obsessive-compulsive	19.9	7.6	15.4	8.8	15.5	7.0	3.4*	0.58
Interpersonal sensitivity	20.0	6.2	15.9	9.5	13.9	8.7	4.2*	0.98
Depression	34.6	9.5	27.2	12.1	22.5	12.4	7.0**	1.28
Anxiety	23.9	10.6	17.5	11.2	15.9	10.0	4.8*	0.75
Hostility	12.7	6.7	10.2	5.9	8.5	5.2	2.2	0.63
Phobic anxiety	12.5	5.8	10.1	6.8	7.4	5.9	6.5*	0.88
Paranoid ideation	13.2	5.8	8.9	5.8	8.1	7.5	4.8*	0.88
Psychoticism	15.1	7.6	8.7	7.8	8.0	7.6	5.5*	0.94

ES = effect size (calculated from the pretreatment and the 12-month data); GSI = Global Severity Index; PSDI = Positive Symptom Distress Index; PST = Positive Symptom Total; SCL-90-R = Symptom Checklist-90-Revised.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table III. The results of ANOVA on SCL-90-R for intent-to-treat-analysis ($n = 20$)

SCL-90-R (Intention to treat)	Pretreatment		6 months		12 months		<i>F</i>	ES (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
GSI	2.1	0.6	1.7	0.9	1.5	0.9	6.9**	1.16
PST	69.9	11.6	60.0	21.5	58.4	20.7	4.2*	0.99
PSDI	2.7	0.4	2.3	0.7	2.1	0.7	10.5**	1.46
Somatisation	21.1	9.3	19.6	13.1	16.5	11.6	1.7	0.49
Obsessive-compulsive	19.8	6.1	16.1	8.9	15.3	8.0	4.1*	0.74
Interpersonal sensitivity	19.9	5.0	16.2	9.8	14.4	9.6	5.0*	1.11
Depression	34.3	8.4	28.1	13.4	24.8	14.2	7.2**	1.14
Anxiety	23.3	8.5	19.2	11.9	16.2	10.9	4.6*	0.83
Hostility	13.1	5.6	9.5	6.2	8.0	5.5	5.0*	0.90
Phobic anxiety	12.2	4.7	10.4	7.1	7.9	6.9	5.2*	0.92
Paranoid ideation	12.9	4.7	8.5	5.8	7.7	6.8	9.0**	1.11
Psychoticism	15.1	6.1	9.1	8.0	8.7	7.9	7.2**	1.05

ES = effect size (calculated from the pretreatment and the 12-month data); GSI = Global Severity Index; PSDI = Positive Symptom Distress Index; PST = Positive Symptom Total; SCL-90-R = Symptom Checklist-90-Revised.

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table IV. The results of ANOVA for the total amount of parasuicidal behaviours, counting from 6 months before the assessment ($n = 14$ in completer analysis and $n = 18$ in intent-to-treat-analysis)

	Pretreatment		6 months		12 months		<i>F</i>	ES (<i>d</i>)
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Parasuicidal behaviours (Completers)	15.4	13.5	4.5	4.6	1.4	2.1	10.6**	0.97
Parasuicidal behaviours (Intention to treat)	37.4	69.8	9.4	18.7	6.4	19.1	5.8*	0.44

ES = effect size (calculated from the pretreatment and the 12-month data); DBT = dialectical behaviour therapy.

* $p < .05$; ** $p < .01$; *** $p < .001$.

recovered when her score on the dependent variable was changed and now within the limits of normal functioning, and when the magnitude of change was statistically reliable. A patient was considered

improved when they fulfilled only the last criterion. Between 27% and 62% of the patients were considered improved or recovered according to key outcome measures (Table V).

Table V. Result of DBT according to key outcome measures

Measure	N	% improved	% recovered	Insecure status
GSI	13	8	23	69
KABOSS-S depression	15	20	20	60
KABOSS-S anxiety	15	20	7	73
KABOSS-S obsessive-compulsive	15	20	13	67
KABOSS-S borderline	15	27	27	47
GAF	16	25	38	38

GAF = Global Assessment of Functioning Scale; GSI = Global Severity Index; KABOSS-S = Karolinska Affective and Borderline Symptom Scale-Self-Assessment.

Outcome in relation to medication and comorbidity

No differences were shown when the patients were grouped according to age, preoccupation, medication or diagnosis and compared with independent *t* tests on the different outcome variables. It is worth noting, though, that significant differences were found on several variables at pretreatment assessment when the patients who met criteria for paranoid personality disorder according to the screening questionnaire of SCID-II were compared with those who did not. The former scored significantly higher on the scales anxiety, obsessive-compulsive and borderline on KABOSS-S and on GSI, PST, PSDI, somatisation, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, phobic anxiety and paranoid ideation on SCL-90-R. The differences were also apparent at 6 months but not at 12 months, when no significant differences between the groups remained. A similar pattern was observed when the patients who met criteria for passive-aggressive personality disorder were compared with those who did not. Here, the former group scored significantly higher at pretreatment assessment on obsessive-compulsive and borderline on KABOSS-S and on GSI, PSDI, interpersonal sensitivity, depression and phobic anxiety on SCL-90-R. No differences remained at 12 months. It should be remembered that the screening questionnaire of the SCID-II overestimates the occurrence of personality disorders and the results should be interpreted cautiously.

Discussion

The result of the DBT program was an improvement in most of the variables measuring psychological functioning and a large decrease in the number of parasuicidal behaviours among the patients. For some of the patients, parasuicidal behaviours had completely disappeared. The DBT program was an uncontrolled pilot study and no control group was available. It was therefore not possible to state that

the changes observed in the patients were due to DBT.

The first aim of the study was to examine whether it was possible to effectively train clinicians and implement DBT as a treatment for BPD in a psychiatric outpatient setting (feasibility). As suggested by the interviews, the implementation resulted in an increase of competence and understanding of DBT in general and of treatment of BPD in particular. In addition, the therapists perceived that the DBT skills had affected them positively as individuals. The basic treatment adherence level used in the program, as assessed by the supervisors, was reached. The therapists perceived their extensive training and the continuous supervision as the most important variables explaining their increased sense of competence and deeper knowledge in the treatment of patients with BPD. Factors that seemed to facilitate the implementation were appropriate financial resources, time reserved for therapist training, supervision and education, as well as a general positive reception of DBT because there was a clear need for an effective treatment for BPD. In addition, the management team had done extensive work to root DBT in the organisation prior to the start of the formal training by giving short workshops, talks, seminars, and so on. This was done in an open, non-threatening and inviting tone, validating the existing competences of the psychiatric personnel, and this respectful attitude might have reduced hostile and competitive attitudes that may come up when therapists are confronted with a new psychotherapeutic model. Another important factor was the written permission, between the therapists in the program and their employer, to be allowed to work with DBT 2 days a week. This was important when coworkers of the therapists in the program sometimes raised questions regarding the time taken in the treatment.

Furthermore, the work with BPD patients is sometimes extremely demanding, raising many difficult feelings and thoughts, worries and a sense of inefficiency among the therapists. DBT was perceived as a therapy and theory providing tools, not only for the therapeutic work with the patient, but also for the therapists to handle their own feelings, frustrations, thoughts, and worries related to the work with difficult patients.

The second aim of the study was to investigate the impact of the treatment on patients with BPD, keeping in mind that no randomisation was done and no control group existed. The less rigorous control over variables is a natural consequence in "real world" feasibility studies, the aim of which is to examine generalisability and practical applicability rather than to show a high degree of scientific control (Hayes et al., 1999). The participants in the DBT

program consisted of patients with BPD and diverse comorbid symptomatology, and the therapists differed substantially in their therapeutic experience and level of education. We observed large or moderate effects on most of the variables despite the diversity among the patients and therapists. But causal interpretations are not possible due to the design of the study. The patients differed in diagnostic complexity at pretreatment assessment and reported significantly different levels of severity on the dependent variables at that time. These differences had disappeared at the 12-month assessment. Being able to target a broad spectrum of patients is an important quality of a treatment if it is to be routinely implemented in the psychiatric health-care system.

Most of the measures used in the present study showed significant decreases and strong effects when pretreatment assessments were compared to 12-month assessments. One problem in the interpretation of the results was the external and, above all, the internal dropout. This can affect the representability of the data and limit the generalisability of the results. One conservative method of analysis used in the present study was intention to treat. Given its conservative nature, it is more difficult to attain significant differences with intention-to-treat analysis than with an original analysis; but the improvements among the patients in the DBT program remained significant when intention-to-treat analyses were applied. The effect sizes were in most cases still moderate to large, and the results could therefore be considered to be robust. The variability in the sample sizes in the dependent variables, also apparent in intention to treat, was presumably due to insufficient control over the clinical setting by the supervisors and to the collection of research material, which was handled by the individual therapists. To be culturally sensitive, as little negative control as possible was used (e.g., refraining from often telling some of the therapists that they had not collected data, and that they should do it immediately). Instead we focused on skills development, continuous supervision, feedback, validation and as much reinforcement of adequate therapist behaviour as possible.

The assessment of patients was in some cases entirely missing. The novelty of using formal assessments and lack of routines, work-related stress and stress from learning a new treatment model might have been variables explaining this phenomenon. The therapists with prior knowledge in CBT and with more experience in working with assessment scales were slightly better at collecting assessment data. This might be avoided in future studies by a more thorough documentation and the use of independent assessors (e.g., trained staff from other units who are not involved in the treatment).

The more general indexes and assessments (GAF and GSI), which represent an overall measure of psychological well-being, showed highly significant differences and moderate to very large effect sizes from pre- to post-treatment assessment. This translated into a highly significant increase in psychosocial functioning and a decrease in psychological problems. The intensity of symptoms also decreased from pretreatment to 12-month assessment, given the significant difference and the large effect seen in PSDI. The subscales of KABOSS-S and SCL-90-R gave a more detailed image of how the patients' psychological status changed during the 12 months in treatment. The decrease in KABOSS-S depression and borderline subscales, taken together with the decrease in interpersonal sensitivity, anxiety, phobic anxiety, paranoid ideation and psychoticism scales of the SCL-90-R showed a significant decrease in borderline-related symptomatology. Translated into the four problem areas associated with a BPD diagnosis, three of them (instability in affect regulation, interpersonal relationships and self-image) decreased significantly in intensity and scope. In addition, depression and parasuicidal behaviour was also significantly improved. To assess whether individual patients recovered or improved from their symptoms, Jacobson and Truax (1991) criteria for clinically significant change were used on key outcome measures. On the more global measures, GSI and GAF, between 23% (GSI) and 38% (GAF) of the patients recovered from their symptoms. On the borderline subscale on KABOSS-S more than half of the patients (53%) had improved significantly or recovered.

Parasuicidal behaviours decreased significantly from pretreatment to 12-month assessment. Several randomised controlled studies of DBT have found a significant decrease in parasuicidal behaviours (e.g., Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Koons et al., 2001; Van den Bosch et al., 2002; Verheul et al., 2003). Although there is considerable variability in the course of BPD (American Psychiatric Association, 2000), the essential feature of BPD is defined as a pervasive pattern of instability in relations, self-image, affects and marked impulsivity. In contrast, review of the results of longitudinal studies of BPD (e.g., Skodol et al., 2002) suggests that, over the long term, the stability of BPD is less than what the general definition of personality disorders would appear to require. But the most common pattern of BPD is one of chronic instability in early adulthood (American Psychiatric Association, 2000), and fast spontaneous recovery during the early adulthood years is generally not observed. The outcome should be viewed in light of these facts and the design of the study, which does not permit any causal interpretations. Furthermore,

many other factors than the treatment might have influenced the outcome. Among those, and besides variables related to the life circumstances of the individual patients, the general structural factors might be worth mentioning. These were a more non-judgmental attitude towards patients with BPD, a change in the general reception of those patients at the psychiatric care units involved in the present study, and the introduction of an empirically grounded treatment for a group who is considered to be difficult to treat, making the therapists more enthusiastic and engaged.

One problem with non-blind assessment is the “demand characteristics of the experimental situation”. Factors in the clinical context in which the study is carried out can influence the patients to respond in a way not in line with the way they think and feel (Orne, 1962). Both the therapists who made the assessments and the patients were aware of the purpose of the study, which might have affected the results. This is a possible flaw in this study, which is difficult to control. But the width of the assessment forms may have reduced the risk for distorted replies.

No data on the dose and duration of medication, or other possible comorbid Axis I disorders than psychosis, eating disorders and addiction were gathered separately for the study, which is another limitation of the study. Furthermore, published data on the psychometric properties of the KABOSS are also needed for a more accurate interpretation of the outcome.

The next step for further evaluation of the effect of DBT in natural clinical settings would be to conduct randomised controlled effectiveness studies, and to compare DBT with other existing treatments for BPD. This would be very much like a replication of the Linehan et al. (2006) study, although in natural clinical settings. The results following such a study would be better connected to the context in which the treatment eventually will be applied. Our experiences from the program supported the use of continuous seminars, workshops and supervision of the therapists. Continuous education throughout the treatment was considered to be crucial to further establish the theoretical models and practical methods. It seemed easier for CBT-trained therapists to adopt a DBT stance and it might be profitable to include therapists with training in CBT in further implementations. Moreover, it seemed facilitating to adopt a validating, mindful and problem-solving attitude towards the training and upcoming difficulties. A flexible and effective management team was seen as important in conducting the implementation. It might be sensible to separate the clinical and the administrative responsibility from each other by having at least one team member who primarily focuses on administrative issues.

In this study, DBT was implemented and evaluated in a clinical setting. The therapist reported increased competence and skills by the end of the program. Although lack of a control group, randomisation, small sample size, and attrition limit the interpretation of the results, the data provide some support for the feasibility and impact of DBT in the outpatient treatment of BPD in a cultural setting outside the United States, given the therapist and patient perceptions, as well as outcome in terms of significant and moderate to large effect sizes.

Acknowledgement

The authors wish to thank Elisabeth Welch for careful language editing of the revised version of this paper.

References

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders*, 4th ed. Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders*, 4th ed. Washington, DC: American Psychiatric Press.
- Andersson, E., Forslund, K., Gustavsson, P., & Asberg, M. (2003). *Symptoms in borderline personality disorder: A new self-rating scale*. Manuscript, Centre of Psychiatry, Karolinska, Karolinska University Hospital, Stockholm.
- Asberg, M., Montgomery, S. A., Perris, C., Schalling, D., & Sedvall, G. (1978). A comprehensive psychopathological rating scale. *Acta Psychiatrica Scandinavica Supplementum*, 271, 5–27.
- Bateman, A., & Fonagy, P. (1999). Effectiveness of partial hospitalization in the treatment of borderline personality disorder: A randomized controlled trial. *American Journal of Psychiatry*, 156, 1563–1569.
- Bateman, A., & Fonagy, P. (2001). Treatment of borderline personality disorder with psychoanalytically oriented partial hospitalization: An 18-month follow-up. *American Journal of Psychiatry*, 158, 36–42.
- Bohus, M., Haaf, B., Simms, T., Limberger, M. F., Schmal, C., Unckel, C., et al. (2004). Effectiveness of inpatient dialectical behavior therapy for borderline personality disorder: A controlled trial. *Behavior Research and Therapy*, 42, 487–499.
- Bohus, M., Haaf, B., Stiglmayr, C., Pohl, U., Böhme, R., & Linehan, M. M. (2000). Evaluation of inpatient dialectical-behavioral therapy for borderline personality disorder: A prospective study. *Behavior Research and Therapy*, 38, 875–887.
- Clark-Carter, D. (1997). *Doing quantitative psychological research: From design to report*. East Sussex: Psychology Press.
- Comtois, K. A., & Linehan, M. M. (1997). *Brief BPD Treatment Outcome Assessment*. Seattle: University of Washington, Behavioral Treatment and Research Center, Department of Psychology.
- Derogatis, L. R., Lipman, R. S., & Covi, L. (1973). SCL-90: An outpatient psychiatric rating scale: Preliminary report. *Psychopharmacological Bulletin*, 9, 13–28.
- Endicott, J., Spitzer, R. L., Fleiss, J. L., & Cohen, J. (1976). The global assessment scale. A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry*, 33, 766–771.
- First, M. B., Gibbon, M., Spitzer, R. L., Williams, J. B. W., & Benjamin, L. S. (1999). *Handbok för SCID-I och SCID-II för DSM-IV* (J. Herlofson, Swedish translation). Danderyd, Sweden: Pilgrim Press.

- Gratz, K. L. (2003). Risk factors for and functions of deliberate self-harm: An empirical and conceptual review. *Clinical Psychology: Science and Practice, 10*, 192–205.
- Hawkins, K. A., & Sinha, R. (1998). Can line clinicians master the conceptual complexities of dialectical behavior therapy? An evaluation of a State Department of Mental Health training program. *Journal of Psychiatric Research, 32*, 379–384.
- Hawton, K., Arensman, E., Townsend, E., Bremner, S., Feldman, E., Goldney, R., et al. (1998). Deliberate self harm: Systematic review of efficacy of psychosocial and pharmacological treatments in preventing repetition. *British Medical Journal, 317*, 441–447.
- Hayes, S. C., Barlow, D. H., & Nelson-Gray, R. O. (1999). *The scientist practitioner: Research and accountability in the age of managed care*. Needham Heights, MA: Allyn & Bacon.
- Hayes, S. C., Masuda, A., Bissett, R., Luoma, J., & Guorrero, L. F. (2004). DBT, FAP, and ACT: How empirically oriented are the new behavior therapy technologies? *Behavior Therapy, 35*, 35–54.
- Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology, 59*, 12–19.
- Koons, C. R., Robins, C. J., Tweed, J. L., Lynch, T. R., Gonzales, A. M., Morse, J. Q., et al. (2001). Efficacy of dialectical behavior therapy in women veterans with borderline personality disorder. *Behavior Therapy, 32*, 371–390.
- Lieb, K., Zanarini, M. C., Schmal, C., Linehan, M. M., & Bohus, M. (2004). Borderline personality disorder. *Lancet, 264*, 453–461.
- Linehan, M. M. (1993a). *Cognitive-behavioral treatment of borderline personality disorder*. New York: Guilford Press.
- Linehan, M. M. (1993b). *Skills training manual for treating borderline personality disorder*. New York: Guilford Press.
- Linehan, M. M. (2000). The empirical basis of dialectical behavior therapy: Development of new treatments versus evaluation of existing treatments. *Clinical Psychology: Science and Practice, 7*, 113–119.
- Linehan, M. M., Armstrong, H. E., Suarez, A., Allmon, D., & Heard, H. L. (1991). Cognitive-behavioral treatment of chronically parasuicidal borderline patients. *Archives of General Psychiatry, 48*, 1060–1064.
- Linehan, M. M., Cochran, B. N., & Kehrer, C. A. (2001). Dialectical behavior therapy for borderline personality disorder. In D. H. Barlow (Ed.), *Clinical handbook of psychological disorders* (pp. 470–522). New York: Guilford Press.
- Linehan, M. M., Comtois, K. A., Murray, A. M., Brown, M. Z., Gallop, R. J., Heard, H. L., et al. (2006). Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. *Archives of General Psychiatry, 63*, 757–766.
- Linehan, M. M., Dimeff, L. A., Reynolds, S. K., Comtois, K. A., Welch, S. S., Heagerty, P., et al. (2002). Dialectical behavior therapy versus comprehensive validation therapy plus 12-step for the treatment of opioid dependent women meeting criteria for borderline personality disorder. *Drug and Alcohol Dependence, 67*, 13–26.
- Loranger, A., Sartorius, N., Andreoli, A., Berger, P., Buchheim, P., Channabasavanna, S., et al. (1994). The international personality disorder examination. *Archives of General Psychiatry, 51*, 215–224.
- Low, G., Jones, D., & Duggan, C. (2001). The treatment of deliberate self-harm in borderline personality disorder using dialectical behavior therapy: A pilot study in a high security hospital. *Behavioural and Cognitive Psychology, 29*, 86–92.
- Mental Health Center of Greater Manchester, New Hampshire. (1998). Integrating dialectical behavior therapy into a community mental health program. *Psychiatric Services, 49*, 1338–1340.
- Miller, A. L., Rathus, J. H., Linehan, M. M., Wetzler, S., & Leigh, E. (1997). Dialectical behaviour therapy adapted for suicidal adolescents. *Journal of Practical Psychiatry and Behavioral Health, 3*, 78–86.
- Orne, M. T. (1962). On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. *American Psychologist, 17*, 776–783.
- Perseus, K.I., Käver, A., Ekdahl, S., Åsberg, M., & Samuelsson, M. (2007). Stress and burnout in psychiatric professionals when starting to use dialectical behavioral therapy in the work with young self-harming women showing borderline personality symptoms. *Journal of Psychiatric and Mental Health Nursing, 14*, 635–643.
- Rathus, J. H., & Miller, A. L. (2002). Dialectical behaviour therapy adapted for suicidal adolescents. *Suicide and Life-threatening Behavior, 32*, 146–157.
- Robins, C. R., Schmidt H. III., & Linehan, M. M. (2004). Dialectical behavior therapy: Synthesizing radical acceptance with skillful means. In S. C. Hayes, V. M. Follette, & M. M. Linehan (Eds.), *Mindfulness and acceptance* (pp. 30–44). New York: Guilford Press.
- Skodol, A. E., Siever, L. J., Livesley, J., Gunderson, J. G., Pfohl, B., & Widiger, T. A. (2002). The borderline diagnosis II: Biology, genetics, and clinical course. *Biological Psychiatry, 51*, 951–963.
- Swenson, C. R., Torrey, W. C., & Koerner, K. (2002). Implementing dialectical behavior therapy. *Psychiatric Services, 53*, 171–178.
- Telch, C. F., Agras, W. S., & Linehan, M. M. (2001). Dialectical behavior therapy for binge eating disorder. *Journal of Consulting and Clinical Psychology, 69*, 1061–1065.
- van den Bosch, L. M. C., Verheul, R., Schippers, G. M., & van den Brink, W. (2002). Dialectical behavior therapy of borderline patients with and without substance abuse problems: Implementation and long-term effects. *Addictive Behaviors, 27*, 911–923.
- Verheul, R., van den Bosch, L. M. C., Koeter, M. W. J., Ridder, M. A. J., Stijnen, T., & van den Brink, W. (2003). Dialectical behavior therapy for women with borderline personality disorder. *British Journal of Psychiatry, 182*, 135–140.