

# Treatment of older adults with co-morbid personality disorder and depression: a dialectical behavior therapy approach

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## SUMMARY

**Background and Significance** The treatment of personality disorders in older adults, particularly those co-morbid with other Axis I disorders (e.g., Major Depressive Disorder), is an understudied clinical phenomenon. It has also been demonstrated that personality disorders in older adults complicate treatment of other psychopathology, as well as result in heightened interpersonal disturbance and emotional distress.

**Methods** Two studies utilizing standard Dialectical Behavior Therapy (DBT) to treat depression and personality disorders in older adults are reviewed. Study 1 examined 34 chronically depressed individuals aged 60 and older who were randomly assigned to receive 28 weeks of antidepressant medication plus clinical management, either alone (MED) or with the addition of DBT skills-training and scheduled telephone coaching sessions (MED + DBT). Study 2 had two phases of treatment: Phase I: 8-week open-trial of antidepressant medication (n = 65); Phase II: 24-week randomized trial of DBT + MED versus MED alone for those who prospectively failed to respond to the Phase I medication trial (n = 37).

**Results** Study 1 demonstrated that 71% of MED + DBT patients were in remission at post-treatment, in contrast to 47% of MED patients. This became a significant difference at the 6-month follow-up; where 75% of MED + DBT-D patients were in remission compared with only 31% of MED patients. Study 2 showed that after 8 weeks of treatment with antidepressant medication alone (Phase 1) only 14% of the sample had at least a 50% reduction in HAM-D scores. Phase II results showed on average, the DBT + MED group reached depression remission by the post-group assessment and maintained these gains while the MED group did not reach remission, until the follow-up assessment. Results demonstrated superiority of DBT + MED compared to MED alone on Interpersonal Sensitivity and Interpersonal Aggression at post-treatment and 6-month follow-up.

**Conclusion** Results from these two treatment development studies indicate that applying standard DBT for the treatment of co-morbid MDD or MDD + PD in older adults is feasible, acceptable, and has clinical promise. Modifications to standard DBT and an overview of a new treatment manual for this population are summarized. Copyright © 2006 John Wiley & Sons, Ltd.

KEY WORDS — personality disorders; depression; co-morbid; dialectical behavior therapy, late-life

## OVERVIEW

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This paper outlines a series of studies conducted to address the treatment of personality disorders and co-morbid depression in older adults. Specifically, we will review the rates of personality disorders and depression in older adults; provide an overview of the

original biosocial theory of borderline personality disorder (BPD; Linehan, 1993a), briefly review results from treatment studies of standard Dialectical Behavior Therapy (DBT) for BPD; describe the design considerations and results of two treatment development trials of standard DBT that resulted in the development of a DBT-based manual for the treatment of personality disorders and depression in older adults; and present modified treatment strategies based on a modified biosocial theory for older adults with personality disorders and co-morbid depression.

#### PERSONALITY DISORDERS AND DEPRESSION IN OLDER ADULTS

Meta-analytic studies have found a prevalence rate for personality disorders (PDs) in older adults of 10–20% in community samples (Abrams and Horowitz, 1996; Abrams and Horowitz, 1999); rates essentially equivalent to rates among younger adults (Gradman *et al.*, 1999). Cross-sectional research has indicated that middle-age and older adults have similar rates of personality disorders; with older adults presenting less frequently with BPD (see for example Kenan *et al.*, 2000). These rates provide evidence that PDs affect a similar number of older and younger adults and thus, deserve similar research and clinical attention. In addition, in older adults the highest prevalence may be in clusters A and/or C and personality dysfunction in older adults may be underestimated by focusing on those who meet full criteria for any one disorder (Devanand *et al.*, 2000). Recently, Morse and Lynch (2004) confirmed conclusions by Abrams and Horowitz (1996; 1999) using a depressed older adult sample; that is, the highest PD rates found in this sample were within Clusters A and C.

The diagnostic criteria associated with PDs suggest that individuals with these diagnoses suffer from disruptions in cognitive, affective, and interpersonal functioning (APA, 1994). In addition, the co-morbidity between major depressive disorder (MDD) and PD in older adults is particularly problematic (Thompson *et al.*, 1988; Kunik *et al.*, 1994; Abrams, 1996). Older adults with a diagnosis of MDD have more diagnoses of PD than non-depressed older adults, especially clusters A and C (Abrams *et al.*, 1987; Devanand *et al.*, 1994; Agabayewa, 1996; Devanand *et al.*, 2000; Morse and Lynch, 2004), and estimates of personality disorder co-morbidity in late-life depression range from 24% (Kunik *et al.*, 1994) to 61% (Molinari and Marmion, 1995). Personality psychopathology has generally been associated with poorer response to treatment (Fiorot *et al.*, 1990; but not Thompson *et al.*,

1988; Kunik *et al.*, 1994) and ‘chronicity’—meaning relapse or staying continuously ill (Vine and Steingart, 1994; Stek *et al.*, 2002; Morse and Lynch, 2004). Thus, growing empirical evidence suggests that personality disorders among older adults produce increased Axis I disorders, poorer treatment outcomes, and an increased likelihood of depressive relapse after treatment.

#### TREATMENT OF PERSONALITY DISORDERS AND DEPRESSION IN OLDER ADULTS

Based on the arguments presented above regarding PD and MDD in older adults, we began this line of research with the assumption that PDs are present in later life, are disruptive to many domains of functioning, and complicate the treatment delivery and treatment response in traditional interventions for MDD with older adults. In developing a treatment for PD and MDD in older adults, we struggled with the question: why would these individuals seek treatment for long-standing difficulties at this point in their lives? One possibility is that such an individual has presented for treatment of symptoms related to MDD and PDs several times over the course of the lifespan and has yet to find a satisfactory treatment. A second possibility is that the rigid personality patterns associated with Cluster C PDs do not present a problem for a subset of individuals until these individuals enter a later phase of life with the related challenges and stressors. For example, theorists have observed that the behaviors associated with PDs, for the most part, feel compatible with one’s character (Hirschfeld, 1993; Bailey Jr., 1998).<sup>1</sup> Thus, for many individuals with PD, they may begin treatment at the insistence of significant others, only after their persistent patterns of behavior begin to result in significant distress due to multiple losses or life changes. It is possible that older adults with PD will feel increased distress as they age due to the accumulation of damaged relationships and other significant losses related to rigid behaviors. Psychopathology notwithstanding, researchers have found that the majority of older adults change confidants over time due to losses through death, disability, and

<sup>1</sup>A notable exception to this observation is borderline personality disorder, which is experienced as highly problematic by the sufferer, probably due to the extreme affective dysregulation associated with the disorder. Individuals with BPD may seek treatment earlier in life due to their own distress or due to the distress of those around them stemming from the alarming behaviors (e.g., suicide attempts or intentional self-injury) that are often associated with BPD.

increased dependency (Wenger and Jerome, 1999). Thus, there are changes and losses in interpersonal relationships associated with aging regardless of psychiatric category and it is likely that these losses are compounded by the presence of PD. Additionally, there are different stressors associated with aging such as changes in employment status, social networks, and health-related changes. The presence of new stressors in transaction with existing rigid personality pathology may be related to increased distress and eventually, increased participation in psychiatric treatment services. Thus, in the development of a treatment for co-morbid MDD and PD, we felt confident that older adults would be appropriately motivated to seek treatment.

The purpose of this paper is to provide an overview of the major treatment modifications to dialectical behavior therapy (DBT) that have been developed in the treatment of older adults with co-morbid PD and MDD over the past seven years at Duke University Medical Center (Lynch, 2000; Lynch *et al.*, 2002; Lynch *et al.*, 2003; Lynch *et al.*, personal communication). We will begin by presenting data from two pilot studies that have examined *standard DBT* as a treatment for MDD in older adults (Study 1) and for co-morbid MDD and PD in older adults (Study 2). We will then present the modifications to DBT for this population based on these studies.

## OVERVIEW OF THE BIOSOCIAL THEORY AND DIALECTICAL BEHAVIOR THERAPY

Linehan (1993a)'s Biosocial Theory for Borderline Personality Disorder (BPD) explains the transaction among environmental, biological, and emotional factors that occur in patients with this difficult-to-treat disorder. Specifically, this theory indicates that individuals with BPD have a biological disposition to emotional reactivity and sensitivity, such that they experience emotions more intensely than others and have a slower return to baseline. In addition, they receive environmental feedback that is invalidating of their emotional experience. Third, individuals with BPD have difficulty regulating their emotions when they become upset. In concert with the development of this theory, Linehan created DBT, a therapy that addresses the components of the Biosocial Theory. Three of the primary components of DBT are individual therapy, skills group, and telephone coaching calls. Individual therapy is conducted for approximately one year and begins by targeting life threatening behavior (e.g. suicidality, dangerous behavior), therapy interfering behavior (e.g. missing

scheduled sessions, refusal to participate in treatment activities), and quality of life interfering behavior (e.g. relationship disturbance, financial problems). Individuals with a trauma history, who are behaviorally stable with regard to the above will then begin to address trauma in the second stage of treatment. Skills group is conducted for approximately 12 months and includes didactic presentation of skills modules that addresses deficits typical of patients with BPD (Linehan, 1993b). These four modules include: core mindfulness, interpersonal effectiveness, emotion regulation, and distress tolerance. Each module is presented at least twice, resulting in a year-long group skills training experience for each patient.

To date there have been eight published, randomized clinical trials of DBT for the treatment of BPD (Linehan *et al.*, 1991; Linehan *et al.*, 1999; Turner, 2000; Koons *et al.*, 2001; Linehan *et al.*, 2002; Verheul *et al.*, 2003; Linehan *et al.*, in press). Prior to the initiation of this research program targeting MDD and PDs in late life described in the current manuscript, there were no published studies of DBT for older adults.

## TREATMENT DEVELOPMENT AND PRELIMINARY RESULTS

Because DBT includes motivational and skills oriented approaches to treatment in both individual and group formats, one of the first issues that had to be addressed in applying this treatment to disorders in older adults was determining whether a skill focused approach would be feasible and acceptable to patients. We were specifically concerned about the use of a group setting for behavioral and cognitive skills training. Our concerns regarding this modality included older adults' willingness to discuss psychological difficulties in front of others (due to cohort-related attitudinal biases; e.g. Link *et al.*, 1997) and the ability of older adults to routinely come to a 'set' group time that could not be rescheduled (due to possible transportation difficulties). To address these concerns, we began this line of research with a study designed to determine whether or not older adults would attend a standard DBT skills training group on a weekly basis and utilize phone calls designed to disseminate DBT-based skills.

### STUDY 1

#### *Methodology*

*Participants.* The sample in our first study consisted of 34 depressed adults over the age of 60 (*M* age = 66.0,

SD=5.0) who were recruited from the Clinical Research Center (CRC) for the Study of Depression in Late Life at the Duke University Medical Center (see Lynch *et al.*, 2003 for additional details on the study and study participants). To be included in the study, participants had a score of 18 or higher on the Hamilton Rating Scale for Depression (HAM-D; Hamilton, 1960) or 19 or higher on the Beck Depression Inventory (BDI; Beck *et al.*, 1979), were willing to be prescribed anti-depressant medication, and did not meet criteria for Bipolar disorder.

*Measures. Hamilton Rating Scale for Depression (HAM-D; Hamilton, 1960).* The HAM-D is a 17-item interview of symptoms of depression and associated features. The HAM-D interviews were administered by two psychology doctoral students and undergraduate research assistants who had previously received at least ten hours of training. The HAM-D includes items tapping symptoms of depression and associated features.

*Beck Depression Inventory (BDI).* The BDI, a 21-item self-report inventory, was used to assess the presence of depressive symptoms within the previous two weeks. Although the BDI is not indicative of the full clinical syndrome of depression, it has yielded adequate reliability estimates, and has been well validated as a measure of depressive symptomatology (see Beck and Steer, 1987, for a review).

*Design.* Participants were randomly assigned to receive 28 weeks of anti-depressant medication either alone (MED) or in combination with standard DBT group skills-training and scheduled weekly 30-min individual telephone coaching sessions (MED + DBT). Participants did not receive in-person individual therapy. The DBT group skills training consisted of two presentations of a 14-week sequence of DBT skills. Skills group leaders consisted of two clinical psychology doctoral students, one MA level therapist, two clinical psychology interns, and one licensed PhD clinical psychologist. All participants were provided clinical management of physician-choice of anti-depressant by a board-certified psychiatrist for the medication component of the treatment.

### Results

Seventy one percent of MED + DBT patients were in remission (i.e. a BDI score  $\leq 9$  or a HAM-D score  $\leq 7$ ) at post-treatment compared to 47% of MED patients. This trend reached significance at a 6-month

follow-up with 75% of MED + DBT patients in remission compared to only 31% of MED patients. We calculated effect size estimates for the primary variables of interest in this study. The effect size estimates for group differences post-treatment were small ( $d=0.14$  for HAM-D scores and  $d=0.39$  for BDI scores), yet promising given the exploratory nature of the work and the powerful nature of the comparison condition.

### Conclusions

We were encouraged in finding differences indicating that augmenting medication treatment of MDD with DBT resulted in superior outcomes. Importantly, our main objective in this study was to determine the feasibility of a group intervention with a skills orientation. Based on drop-out rates in the DBT + MED condition ( $n=1$ ;  $n=0$  for MED) and anecdotal reports from patients in this condition, it appeared to us that this treatment format was acceptable to and feasible for older adults with MDD. This data led to the conduct of our second Stage 1a study designed to apply standard DBT (both group and individual) to older adults with MDD and personality disorder with a goal of modifying standard DBT and manualizing a new treatment approach designed specifically for this population.

### STUDY 2

#### Purpose

In Study 2, we began to conduct standard DBT (both group and individual sessions following Linehan's [1993a; 1993b] manual/book) with depressed older adults presenting with at least one co-morbid personality disorder.

#### Methodology

*Participants.* Participants for this study were recruited through newspaper advertisements, brochures and flyers, other research studies at Duke, and from a pool of former patients. To be eligible for participation in the current study, participants were required to be 55 years of age or older, meet criteria for at least one personality disorder, and score 14 or higher on the 17-item Hamilton Rating Scale for Depression (HAM-D; Hamilton, 1960). Exclusion criteria included a diagnosis of bipolar disorder, current psychotic symptoms, current ECT treatment, or signs of cognitive

Table 1. Demographic information for Study 2 phase I trial completers

Variable	Sample value
Age range, years	54–75 ( <i>M</i> : 60.92, <i>SD</i> : 5.11)
Gender (female, <i>n</i> )	30 (46.2%)
Education, years	10–23 ( <i>M</i> : 15.84, <i>SD</i> : 2.99)
Household income	
\$0–\$10,000	6 (9.4%)
\$10,001–\$20,000	8 (12.5%)
\$20,001–\$30,000	5 (7.8%)
\$30,001–\$40,000	8 (12.5%)
\$40,001–\$50,000	4 (6.3%)
More than \$50,000	22 (34.3%)
Unknown	12 (17.2%)
Marital status	
Married	34 (52.3%)
Separated/Divorced	18 (27.7%)
Single	7 (10.8%)
Living with partner	3 (4.6%)
Widowed/Widower	3 (4.6%)
Ethnicity	
Caucasian	57 (87.7%)
African American	7 (10.8%)
Asian	1 (1.5%)

Table 2. Demographic information for Study 2 phase II trial completers

Variable	Sample value
Age range, years	54–75 ( <i>M</i> : 61.40, <i>SD</i> : 5.42)
Gender (female, <i>n</i> )	16 (45.7%)
Education, years	11–23 ( <i>M</i> : 16.51, <i>SD</i> : 2.89)
Household income	
\$0–\$10,000	3 (8.6%)
\$10,001–\$20,000	4 (11.4%)
\$20,001–\$30,000	2 (5.7%)
\$30,001–\$40,000	6 (17.1%)
\$40,001–\$50,000	3 (8.6%)
More than \$50,000	15 (42.9%)
Unknown	2 (5.7%)
Marital status	
Married	16 (45.7%)
Separated/Divorced	12 (34.3%)
Never married	3 (8.6%)
Living with partner	2 (5.7%)
Widowed/Widower	2 (5.7%)
Ethnicity	
Caucasian	30 (85.7%)
African American	4 (11.4%)
Asian	1 (2.9%)

impairment as evidenced by scores of 25 or less on the Mini-Mental State Exam (Folstein *et al.*, 1975).

Participants participated in two phases of treatment for this study. Phase I: 8-week medication trial; Phase II: 24-week randomized trial of DBT + MED versus MED alone for those who prospectively failed to respond to the Phase I medication trial. Of the 116 who were screened for Phase I, 55 either did not qualify for the study, qualified but declined to participate, or dropped out during the initial 8-week medication trial, resulting in a sample of 65 participants for Phase I. Demographic information for these participants is presented in Table 1. Of the 65 participants for Phase I, 13 experienced remission of depressive symptoms during the medication trial and 15 dropped out during the treatment phase. Thus, 37 individuals were randomized and completed the trial. Of these 37, two were removed from analyses due to randomization errors (randomized to treatment despite remission of depression). See Table 2 for demographic information on the 35 participants included in Phase II.

*Measures.* *Hamilton Rating Scale for Depression* (HAM-D; Hamilton, 1960). See Study 1.

*Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II).* The SCID-II (First *et al.*, 1997) was used to assess diagnostic personality disorder features in the sample. In completing this

measure, participants first responded to a 119 item questionnaire reporting 'yes' or 'no' to questions regarding specific symptoms of each personality disorder. Following completion of the questionnaire, a trained assessor conducted an interview with the subject. Since studies suggest a low false negative rate for items individuals do not endorse on the SCID-II, this interview consisted of further evaluation on those items the subject did endorse on the questionnaire. This two stage process is a common method for the assessment of personality disorder diagnosis (Jacobsberg *et al.*, 1995).

*Inventories of Interpersonal Problems—Personality Disorders (IIP-PD;* Pilkonis *et al.*, 1996). This study used the 47-item version developed by Pilkonis and colleagues which distinguishes between individuals with and without personality disorders. Factor analyses have revealed five subscales: Interpersonal Sensitivity, Interpersonal Ambivalence, Aggression, Need for Social Approval, and Lack of Sociability. The IIP-PD is designed to provide a continuous measure of personality pathology, and is thus more likely than the SCID-II to be appropriate for statistical modeling techniques.

*Study design.* Phase I: The first phase of this trial consisted of a standard medication trial. Participants received physician choice of selective serotonin



reuptake inhibitor (SSRI; including Paroxetine, Paroxetine CR, Sertraline, or Fluoxetine) plus clinical management for 8 weeks. Medications were prescribed by board-certified psychiatrists who conducted monthly visits to assess treatment response, monitor any side effects, and adjust dosage as necessary. HAM-D ratings were obtained twice monthly for all participants to examine symptoms of major depression. Other assessment measures were obtained once per month. Participants were considered in remission if their HAM-D score was 10 or less at the end of 8 weeks. Those who were in remission discontinued the study, and the remaining participants were randomized and participated in the next phase of the study. Thus, those who continued to Phase 2 had not fully responded to the standard medication trial.

**Phase II:** All participants continued on anti-depressant medication using an algorithm that included three potential medication-switching phases designed to maximize treatment response to anti-depressant medication. Participants were randomized to 24 weeks of either medication management alone (MED) or medication management plus DBT (DBT + MED). The DBT + MED condition consisted of weekly DBT skills training groups plus 24 individual DBT sessions. In keeping with standard clinical practice, therapists were allowed to extend the time period among the individual sessions toward the end of treatment (i.e. taper), but therapists were required to end all individual treatment by 30 weeks after the Phase I medication trial had ended. In both conditions, medication was uncontrolled after week 24 and all treatment was uncontrolled after week 30. In addition to assessments over the course of treatment, follow-up data were obtained six months after the end of week 30.

## Results

**Phase I.** Mean HAM-D scores decreased from 20.45 at baseline to 14.73 and 14.87 at 4 weeks and 8 weeks, respectively (see Figure 1). HAM-D scores either did not change or increased for 7 of the 65 (10.8%) Phase I participants over the 8-week period. Fourteen percent of the sample responded to treatment (defined as a 50% or greater decrease in HAM-D scores) and 12% were in remission (defined as a HAM-D score of 10 or less) at the end of 8 weeks.

Moderators of treatment response were examined to determine whether they affected change in HAM-D scores. When mean HAM-D change was examined by relationship status, a statistically significant difference

**Mean HAM-D scores during 8 week medication trial**

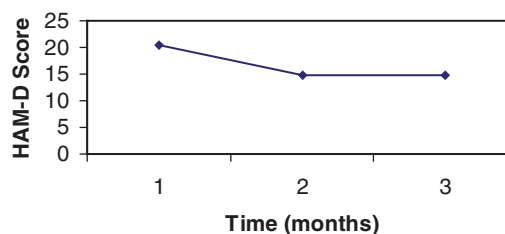


Figure 1. Phase I

was observed ( $p = 0.025$ ). Participants who were married or cohabiting with a partner had a 8.66 change in HAM-D compared with a 5.06 change in HAM-D for those who were divorced, separated, widowed, or single. There were no statistically significant differences between men and women, nor differences on number of co-morbid Axis I disorders (0 vs 1 or 2), age at first depressive episode (<40 years old vs  $\geq 40$  years old) number of depressive episodes ( $\leq 2$  vs  $> 2$ ) or previous anti-depressant use ( $\leq 1$  anti-depressant vs  $> 1$  anti-depressant).

**Phase II. Data Analytic Plan.** There were five data collection points throughout the course of the study. The first (intake) occurred before the medication trial; the second (pre-randomization) occurred after the medication trial/before randomization; the third (post-group) occurred six months after randomization and corresponded to the end of group therapy for those in the DBT condition; the fourth (post-treatment) occurred nine months after randomization and corresponded with the end of DBT treatment and/or the end of study-related medication management; the fifth assessment period (follow-up) occurred 15 months after randomization and six months after the post-treatment assessment.

The initial step in the data analytic plan was to examine the variables to identify potential outliers, skewness, kurtosis, and other violations of the statistical assumptions. HAM-D scores demonstrated significant skewness and kurtosis at the post-treatment assessment. Thus, we conducted square-root transformations on this variable which resulted in a normal distribution. For all analysis we used square-root transformed HAM-D scores for all assessment points. Means and standard deviations for this variable are presented in the original scale to ease interpretation.

**Medication changes.** The medication regimen used in the current study was designed to reflect best psychiatric practices of treatment of MDD for older adults. As such, psychiatrists were free to change medications as often as they felt would be necessary and useful throughout the course of the treatment. The number of medication changes throughout the course of the study ranged from one to six ( $M=3.09$ ,  $SD=1.01$ ; note that this does not reflect pure dosage changes). There was not a significant difference in medication changes between the MED ( $M=3.36$ ,  $SD=0.84$ ) and DBT + MED ( $M=2.89$ ,  $SD=1.1$ ) groups,  $t(31)=1.31$ ,  $p=0.20$ . The number of medication changes in the study was not significantly correlated with age, previous depressive episodes, number of medications tried before entry, years of education, or age of first depressive episode. Additionally, the number of medication changes was not significantly associated with HAM-D or IIP-PD at intake or randomization. The only significant association was between the number of medication changes and HAM-D scores at post-group (6 months after randomization),  $r=0.51$ ,  $p=0.004$ .

**Depressive symptoms.** Depressive symptoms were assessed using the HAM-D at five time-points. In order to evaluate the impact and promise of medication augmented with a long-term psychotherapy for older adults with MDD and PD, the time points of interest are the post-group, post-treatment, and follow-up time points. Results from independent  $t$ -tests indicated that there were no statistically significant differences between MED and DBT + MED at post-group [ $t(29)=0.84$ ,  $p=0.41$ ], post-treatment [ $t(30)=0.45$ ,  $p=0.65$ ], or follow-up [ $t(29)=0.57$ ,  $p=0.57$ ]. The means, standard deviations, and effect sizes are shown in Table 3. As can be seen in Table 3, the effect sizes for the comparisons of interest range from small to medium, with the largest effect size at the post-group assessment.

Another way to evaluate the promise of a treatment is to examine remission and time to remission. In the current study, remission of depressive symptoms was

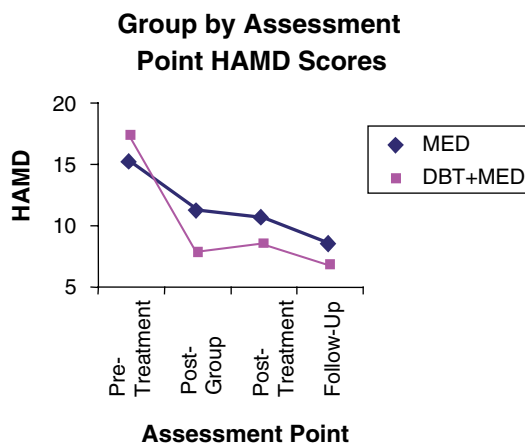


Figure 2. Depressive Symptom Reductions by Group

defined as a HAM-D score 10 or less. As can be seen in Figure 2, there is some evidence that, although there are no significant differences in means at any time point, the DBT + MED group reached the level of remission more quickly than the MED group. At the post-group assessment, 71% of the DBT + MED group dropped to the level of remission compared to 50% of the MED group. This trend continued at the post-treatment assessment where 60% of the DBT + MED group reached the level of remission compared to 50% of the MED group. These differences leveled off at follow-up where 59% of the DBT + MED and 64% of the MED group were in remission. In fact, as can be seen from Figure 2, on average, the DBT + MED group reached the level of remission by the post-group assessment and maintained these gains while the MED group did not reach the level of remission, on average, until the follow-up assessment.

**Personality disorders.** Personality disorders were assessed in two ways. The first method through which PD was assessed was structured interview (SCID-II). The SCID-II was conducted at intake and again at the post-group assessment. Table 4 delineates the number

Table 3. Means and SD of outcome measures by assessment point

	DBT + MED	MED	Cohen's $d$
HAM-D			
Pre-randomization	17.37 (5.05), $n=21$	15.28 (4.44), $n=14$	
Post-group	7.88 (4.35), $n=21$	11.26 (9.22), $n=10$	0.49
Post-treatment	8.53 (4.62), $n=20$	10.73 (8.37), $n=12$	0.34
Follow-up	6.82 (4.38), $n=17$	8.56 (7.23), $n=14$	0.30

Table 4. Number of participants by group meeting criteria for personality disorders at both time points

	MED			DBT + MED		
	Intake	Post-group	Remission	Intake	Post-group	Remission
	<i>n</i> = 14	<i>n</i> = 7		<i>n</i> = 21	<i>n</i> = 13	
Avoidant PD	3	0	2	7	2	4
Dependent PD	0	0	n/a	0	0	n/a
OCPD	9	3	2	11	3	4
Paranoid	2	0	0	1	0	0
Schizotypal	0	0	n/a	1	0	0
Schizoid	1	0	0	0	0	n/a
Histrionic	0	0	n/a	0	0	n/a
Narcissistic	1	0	0	1	0	0
BPD	3	0	3	4	1	1
ASPD	0	0	n/a	1	0	0

of participants in each group who met criteria for each PD at both time points. As can be seen from the Table, 16 of 45 cases of PD remitted over the course of treatment (MED = 7, DBT + MED = 9). Another method used to assess personality pathology was the IIP-PD. As discussed in the Methods section of this paper, the IIP-PD has five subscales designed to assess different areas of PD. Utilizing Analysis of Variance (ANOVA), there were significant differences on Interpersonal Sensitivity between the MED and DBT + MED groups at post-treatment (MED = 21.30, DBT + MED = 14.37),  $p < 0.05$ , and follow-up (MED = 19.54, DBT + MED = 14.79),  $p < 0.05$ . There also were significant differences between groups on Interpersonal Aggression at post-treatment (MED = 7.83, DBT + MED = 2.92),  $p < 0.05$  and follow-up (MED = 9.00, DBT + MED = 4.87),  $p < 0.05$ . There were not significant differences between DBT + MED and MED on Lack of Sociability, Need for Approval, or Interpersonal Ambivalence at post-group, post-treatment, or follow-up assessments.

### Conclusions

These results indicate that applying *standard DBT* for the treatment of co-morbid MDD and PD in older adults has promise. Specifically, these results indicate that DBT + MED results in higher rates of remission from depression at post-treatment and follow-up than MED and faster remission of depressive symptoms (i.e. at post-treatment for DBT + MED compared to at follow-up for MED). In addition, at post-treatment and follow-up, participants in DBT + MED had lower interpersonal sensitivity and interpersonal aggression than those in MED alone. As mentioned, the goal of this second Stage 1a study was not only to obtain

clinical experience with older adults with MDD + PD but also to modify standard DBT and develop a new treatment manual for this population.

### ADAPTING DBT FOR OLDER ADULT WITH DEPRESSION AND PERSONALITY DISORDERS

The process of expanding standard DBT for the treatment of PD and MDD in older adults has followed guidelines outlined by NIH for the development of new behavioral treatments (Onken *et al.*, 1997; Linehan, 1999; Rounsaville and Carroll, 2001). These guidelines include three distinct stages that are suggested for developing a new treatment. Stage 1a focuses on developing protocols, obtaining feedback from patient focus groups regarding the acceptability of the new protocols, developing and choosing outcome measures, and developing a treatment manual. Stage 1a also can include open trials during which the new treatment is modified in an iterative fashion based on patient response. Stage 1b includes further treatment modification typically via a small ( $n = 20$  or so) randomized clinical trial, the goal of which is to obtain stable effect size estimates that are used for power calculations to inform a definitive efficacy trial. Stage 2 involves treatment validation and testing the efficacy of the treatment via a well-controlled RCT. Stage 3 includes studies that examine the application of the new treatment in community service settings. The work to date on DBT for older adults with MDD and co-morbid PD and MDD has been Stage 1a and Stage 1b. As previously reported, the results of the two Stage 1a studies indicate that DBT is a promising treatment for this population. Using this research as a basis, we have



modified standard DBT for this population. In part, this was accomplished through weekly treatment team meetings that included discussions regarding how patients were responding to standard DBT, discussions of relevant literature and research findings that examined potential moderators/mediators of treatment (Lynch *et al.*, 2006; Lynch *et al.*, 2004; Rosenthal *et al.*, 2005), and focus groups designed to obtain information from patients regarding acceptability and credibility of the intervention. The following sections present an overview of the manual adapted for DBT<sup>D+PD</sup> that has resulted from this research. The next step in treatment development will be to test this manual in a Stage 1b randomized trial in order to determine the acceptability, feasibility, and tolerability of this new manualized treatment for patients and therapists, and obtain effect size estimates for a later full-scale efficacy trial.

Although much of standard DBT is applicable to older adults with PDs, the biosocial theory that forms the theoretical basis of standard DBT was designed to apply specifically to BPD. Thus, for this adaptation the biosocial theory had to be modified in order to account for the fact that emotion dysregulation in older adults is less likely to be as salient of a problem as it is for younger BPD patients (e.g. Diener *et al.*, 1985; Lawton *et al.*, 1992; Gross *et al.*, 1997; McConatha and Huba, 1999). In fact, there is some evidence that the aging process is associated with less intense emotional experiences and reduced emotional reactivity (e.g. Barrick *et al.*, 1989; Lawton *et al.*, 1992). It is possible that these findings might at least partially explain higher rates of Cluster A and C personality disorders in older adults. To this end, we considered an environmental feedback hypothesis that conceptualizes personality pathology in older adults as being exacerbated by reinforcement of maladaptive habits and/or avoidance of aversive or disconfirming feedback (Morse and Lynch, 2000). Thus, dramatic behaviors that are repeatedly disconfirmed by the environment would be more likely to be shaped out of the behavioral repertoire at a younger age due to environmental feedback. For example, self-injury (a symptom of BPD) may elicit negative social feedback in the vast majority of environmental contexts, and consequently this behavioral response is likely to be slowly shaped out of a person's repertoire (Morse and Lynch, 2000). In addition, behaviors that are reinforced by the environment (or simultaneously reinforced and punished by different environmental contexts) would be more likely to remain into older age. For example, a patient with obsessive-compulsive personality disorder (OCPD)

may favor occupational feedback that supports rigid and detail-oriented behavior and may not discover that this rigid behavior is problematic until changes in the environment (e.g. change in work status) alter the benefits associated with this behavior.

A second observation based both on the empirical work of others and our clinical experience with this population is that the nature and quality (although not necessarily the quantity) of stressors change with age (Pearlin and Skaff, 1996). For example, we found that many older adults diagnosed with personality disorders whom presented for treatment were facing difficulties reconciling changes in their environment (e.g. loneliness after children left the home, adjusting to retirement). Thus, one of our goals in the adaptation of DBT for older adults with MDD and any PD was to take into account the considerable life experiences of participants.

#### A NEW DIALECTICAL MODEL FOR TREATMENT OF OLDER ADULTS WITH PDS

Based on the results of Studies 1 and 2, we have modified the original biosocial theory for BPD in order to account for the greater prevalence of Cluster A and C disorders, as compared to Cluster B, in older adults. In a related vein, we wanted to incorporate the clinical and empirical observations that older adults with PD and MDD tend to be less open to new experiences and overly rigid in behaviors and cognitions compared to older adults without PD and younger adults with PD. This modified theoretical perspective retains the dialectical nature of DBT in that we propose that the transaction between a biological predisposition for negative affectivity and environmental feedback that either disconfirms or confirms the individual's style of emotional responding produces a pattern of rigid maladaptive coping that over time results in the development of a personality disorder. In the context of a biosocial theory, environmental feedback is the critical socially mediated etiological process, whereas negative affectivity is thought to be the key biological factor.

From the dialectical perspective, we theorized that older adults with PDs develop personality problems via a transaction of a *biological disposition* for negative affectivity with *environmental feedback* (disconfirmation of natural responses and/or confirmation of maladaptive avoidant responses; Linehan *et al.*, personal communication) that results in a pervasive, rigid, maladaptive way of responding. Over time the maladaptive style of coping with negative emotions and feedback from the environment is

repeatedly and intermittently reinforced by either temporary reductions in aversive arousal or environmental support (e.g. job security, increased nurturance) and subsequently becomes more rigid and difficult to change. Indeed, PDs in older adults are extremely difficult to treat because maladaptive behaviors typically have been part of the patient's behavioral repertoire for decades.

DBT<sup>D+PD</sup> is a novel treatment model that synthesizes *behavioral skill deficits and deficits in behavioral flexibility* (overly rigid responses, perfectionism, interpersonal difficulties, avoidance behavior, isolation) theorizing that: (1) older adults with behavioral dysfunctions secondary to personality pathology lack important interpersonal, self-regulation (including emotion regulation) and acceptance skills; and (2) personal and environmental factors inhibit the flexible use of behavioral coping skills the individual does have and often reinforce one dysfunctional behavioral pattern. The tension between these two models, *skill deficit (i.e. the individual does not have the requisite skills) versus flexibility deficit (i.e. the individual does have the requisite skills but is not open using them in new contexts)*, is one of the most difficult challenges when working with older adults with PD. Therapeutic change is most likely to occur if the therapist can address this dialectical dilemma with non-confrontational strategies and by communicating to the patient an understanding of how difficult it is for them to change, while encouraging the use of new skills.

DBT<sup>D+PD</sup> aims to synthesize several dichotomies. Treatment requires commitment, patient responsibility, confrontation, and the learning of new skills on the one hand, and, on the other, focuses considerable therapeutic energy on accepting and validating the patient's current condition. Therapeutic contingencies that reinforce functional behaviors and extinguish or punish dysfunctional behaviors are balanced by efforts aimed at increasing the patient's capacity to emit more adaptive behaviors. Confrontation and/or disconfirmation of maladaptive habits is balanced by support and nurturance. The overarching therapeutic task, over time, is to balance this focus on acceptance with a corresponding focus on change.

#### NEW SKILLS AND TREATMENT APPROACHES IN DBT<sup>D+PD</sup>

As with standard DBT, DBT<sup>D+PD</sup> uses a variety of intervention modes to enhance learning, including group interactions, didactic skills training, role-playing, telephone contact (for skills generalization),

and daily monitoring of both skillful and problem behaviors. Geriatric psychology researchers have emphasized the importance of treatment modifications specific to older adults, including multi-modal training, memory aids, strategies designed to control attention, planning for skill generalization, and interdisciplinary awareness (Zeiss and Lewinsohn, 1986; Hibbard *et al.*, 1990; Zeiss and Breckenridge, 1997), all of which are core elements in DBT<sup>D+PD</sup>. Thus, in addition to the influences of our previous work and the work of Linehan (1993a; 1993b), the manual development was heavily influenced by prior intervention studies with older adults presenting with a variety of psychological difficulties. In addition, to ensure that this treatment addresses issues for participants across different PDs, the revised manual includes example targets for participants with different PDs (e.g. distorted cognitions and avoidant behavior patterns typical of Cluster A disorders, impulsive behavior and emotional dyscontrol for Cluster B, and maladaptive anxious cognitions and rigid behavioral patterns for Cluster C disorders). In addition, it provides a flexible guideline for responding to the diverse needs of participants at different times in treatment (i.e. life threatening behavior, therapy interfering, quality of life, etc.). Importantly, given the high rate of suicide in older adults, the original treatment components targeting suicidal behavior (i.e. hierarchy prioritizing life interfering behavior, distress tolerance module) have been retained in the modified manual.

In addition to standard DBT strategies that include a focus on emotion regulation, interpersonal effectiveness, behavioral activation, opposite action to emotion action urges, and strategies for reducing suicidal behavior, DBT<sup>D+PD</sup> has a number of new skills and treatment approaches. To augment standard DBT, we created new approaches to deal with greater rigidity and despair among older adults with PD, as compared to younger adults with BPD. Rigidity is defined as resistance to change beliefs, attitudes, or personal habits, and can be divided into cognitive and behavioral components (Rokeach, 1960; Schultz and Searleman, 2002). Low openness to experience, a related construct, has been associated with both depression and completed suicides in older adult (Duberstein *et al.*, 1994; 2000). Additionally, rigidity has been related to poorer prognosis (Ehrlich and Bauer, 1966) and treatment outcomes (Ogrodniczuk *et al.*, 2002; 2003). Targeting rigidity in older adults with PDs is important for a number of reasons. First, there is evidence that cognitive flexibility and openness to experience decrease with age after reaching a

high point in middle-adulthood (Labouvie-Vief *et al.*, 2000; Schaie *et al.*, 2004). Second, rigidity is a key component in the Cluster A and C personality disorders most prevalent in older adults, as well as in MDD. In fact, it could be argued that rigidity is the hallmark symptom of OCPD, a common PD in older adult samples.

Consequently, DBT<sup>D+PD</sup> focuses on a variety of skills designed to maximize openness to new experience. For example, based on focus groups and participant interactions, we have identified common myths or beliefs that older adults with PD frequently have and use cognitive restructuring to challenge these myths as part of skills training. Another way that we have incorporated targeting rigidity is to change the emotion mind/reasonable mind dialectic to fixed mind/fresh mind dialectic. In traditional DBT for BPD, the opposite poles of reasonable mind (i.e. the logical, cool, fact-driven mode of processing) and emotion mind (i.e. the feeling, hot, emotion-driven mode of processing) are contrasted with one and other. Individuals with BPD are then asked to find the truth and value in both poles and to resolve the dialectical tension with wise mind (i.e. the synthesis of both poles; for a more in depth description, see Linehan 1993a,b). Based on our experience and the existing research on both MDD and PD in older adults, we have found that the fixed/fresh dialectic better reflects the psychological processes believed to underlie PD presentation in older adults. In this way, we are asking our older adult patients to let go of rigidity by synthesizing information they have gathered over the life span with new information that is available in their current environments.

In addition, DBT<sup>D+PD</sup> teaches skills specific to creating meaning over the life course. Reviewing and making meaning of past experiences have long been theorized to be an important developmental milestone (Butler, 1963; Webster and Cappeliez, 1993; Erikson and Erikson, 1997; Staudinger and Pasupathi, 2000) that occurs in later life. Additionally, there is evidence that older adults tend to regulate emotion to a greater degree than younger adults by talking about the past and experiencing greater positive emotions while discussing the past (Pasupathi and Carstensen, 2003). Thus, DBT<sup>D+PD</sup> teaches skills associated with goal adjustment (Wrosch *et al.*, 2003) and successful coping with life hassles in older age (Folkman *et al.*, 1987; Meeks *et al.*, 1989) to older adults who are 'stuck' in negative events of the past. Specifically, we have incorporated a module that is divided into two parts: (1) Looking forward (skills focus on values/goals, goal setting, and goal planning; and (2) Looking

#### KEY POINTS

- Personality disorders in older adults complicate treatment of other psychopathology, as well as result in heightened interpersonal disturbance and emotional distress.
- This paper outlines two randomized clinical trials utilizing standard Dialectical Behavior Therapy (DBT) as an augmentation strategy of antidepressant medication to treat chronic depression and personality disorders in older adults.
- Results demonstrated significant advantages for reducing rates of remission for medication augmented by DBT compared to medication alone in the treatment of chronic depression. In addition, DBT plus medication demonstrated superiority compared to medication alone in reducing Interpersonal Sensitivity and Interpersonal Aggression at post-treatment and six month follow-up in a sample of older adults with co-morbid depression and personality disorder.
- Modifications to standard DBT and an overview of a new treatment manual for this population are summarized.

back (skills focus on forgiveness of self/other/environment and development of a personal life story that focuses on overcome obstacles, contributions, and important decisions).

In summary, we have established the feasibility of a DBT-based treatment for older adults with MDD and PD. We also have integrated the existing research from DBT and geropsychology, as well as developed significant clinical experience with this population, in order to develop a treatment manual that targets relevant clinical constructs for older adults with PD. The next step in the continuation of the development and validation of this treatment is to conduct a RCT with the new DBT<sup>D+PD</sup> treatment manual. We look forward to implementing the treatment and reporting results in the near future.

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