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Dialectical Behavior Therapy Group Skills Training in a Community Mental Health Setting: A Pilot Study

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Abstract

Effective and affordable therapies are needed for treating people with severe and persistent mental illness in a community mental health setting. In this pilot study, we evaluated the effectiveness of a modified Dialectical Behavior Therapy (DBT) protocol for improving symptoms and functioning in a cohort of persons with severe and persistent mental illness. We provided 6 months of weekly DBT skills training in a group setting. Depression symptoms decreased significantly after treatment. There was a wide range of number of sessions attended, with a minority of the participants completing the full course of treatment. Increased attendance was correlated with improvements in depression symptoms, overall symptoms, quality of life and community functioning. The study findings suggest that the group skills training component of DBT can be successfully implemented in a community mental health center and that further research to determine its efficacy in comparison to other treatments is warranted.

Keywords

dialectical behavior therapy; cognitive behavior therapy; group therapy; skills training; community mental health centers; outpatient treatment

Introduction

While we have made great advances in behavioral and pharmacotherapies for treating mental illness, there is still a critical need for identifying effective and affordable therapies to treat people with severe and persistent mental illness. Empirically-based treatments have demonstrated effectiveness, but because they are usually developed in rigorous scientific settings, the applicability of these treatments to real-world clinical settings is uncertain. Our goal was to evaluate the effectiveness of an empirically-based group treatment, dialectical behavior therapy (DBT) skills training, as practiced in a community mental health center, for improving symptoms and functioning in people with severe and persistent mental illness.

Persons with a severe and persistent mental illness often have multiple diagnoses, require a significant number of services just to maintain their current level of functioning, and have significant challenges complicating their treatment (e.g., missed appointments, noncompliance, and fluctuating clinical course). These clients are often treated in community mental health settings, where treatment is often supported by limited state funding (Narrow et al., 2000) and clinician turnover is high. Thus, clinical settings with the

fewest resources are charged with helping the people with the greatest need and treatment challenges.

Group therapy may be one cost-effective solution to this dilemma because a group setting allows a clinician to treat multiple people during the time usually spent to treat one person. For a community mental health center setting, it is important for the group therapy to have demonstrated effectiveness across a variety of diagnoses, including diagnoses that are difficult to treat, so that a majority of the clients can be served. Also, the therapy should be manual-based or require little training since limited training resources and high clinician turnover are common at community mental health centers. The skills training component of dialectical behavior therapy (DBT) meets both of these criteria.

DBT (Linehan, 1993a; Linehan et al., 1993) is a derivative of cognitive behavior therapy which incorporates behavioral therapy, dialectical philosophy and Zen practice (Lynch et al., 2007). The full DBT protocol includes five treatment modalities: individual therapy, group skills training, 24-hr phone consultation, case management, and a therapist consultation team. DBT has demonstrated effectiveness with a variety of mental illnesses including: borderline personality disorder (Koons et al., 2001; Linehan et al., 1991; Linehan et al., 1993; Linehan et al., 1994; Linehan et al., 2006; van den Bosch et al., 2002; van den Bosch et al., 2005; Verheul et al., 2003); chronic depression (Lynch et al., 2003); eating disorders (Safer et al., 2001; Telch et al., 2001); and post-traumatic stress disorder (Spoont et al., 2003). Although the majority of the studies have been conducted with research populations, DBT has also been successfully used in community mental health settings to treat persons with borderline personality disorder (Ben-Porath et al., 2004; Comtois et al., 2007; Turner, 2000).

While the full DBT protocol is effective, DBT may have limited feasibility in community settings due to high costs, therapist training requirements and severity of illness in the group to be treated. First, most insurance companies cover only a few of the five DBT treatment modalities, making it difficult for many facilities to cover the costs of DBT (Swenson et al., 2002). Second, strong fidelity to the DBT treatment model requires extensive therapist training at an approved facility. Training therapists can be especially difficult in a community setting because the financial and time costs are high and the clinicians are often inexperienced and likely to leave the community mental health setting after a few years. Third, many clients will require treatment beyond the initial six- or twelve-month group, resulting in higher treatment costs. Of the five DBT treatment modalities, skills training group component may be the most cost-effective because a large number of clients can be treated at one time and therapists may require less training since the treatment follows a well-specified protocol.

DBT skills training is a weekly group, run like a class, which teaches skills across four main topics: mindfulness, interpersonal effectiveness, emotion regulation, and distress tolerance skills. Clients are required to complete homework assignments in which they practice the skills taught during the weekly lesson. DBT skills training may be especially relevant for the community mental health setting because it includes a broad set of basic skills that do not require a high level of functioning to learn and are relevant for a variety of mental illnesses. Preliminary evidence suggests that the DBT skills training group is effective in reducing symptoms for both adults with borderline personality disorder (Harley et al., 2007) and adolescents with oppositional defiant disorder (Nelson-Gray et al., 2006). However, it is not known whether the DBT skills training group is effective in treating a group of people with a variety of mental illnesses in a community mental health setting.

In this pilot study, we examined treatment response to DBT skills training group for persons with severe and persistent mental illness treated in a community mental health center. For the past three years we have used the skills training component of DBT for treating clients at an academic community mental health center. Our goal was to determine the effectiveness of this less costly, less intensive version of DBT. Based on our experience, we hypothesized that six months of DBT skills training group would both reduce symptoms and increase functioning in persons with a variety of severe and persistent mental illnesses served in a community mental health setting.

Methods

Participants

Participants were recruited by a study announcement posted in outpatient and inpatient psychiatric facilities and sent by email to clinicians in the Vanderbilt University Department of Psychiatry. A study investigator spoke with each potential participant and explained that the study treatment was taught to a group, like a class, and required both weekly attendance and completion of homework assignments for six months.

Eligible participants were adults who had completed an intake interview at the community mental health center, had any DSM-IVR Axis I diagnosis and/or a diagnosis of Borderline Personality Disorder, had not previously participated in DBT, and were willing to attend weekly classes and complete homework assignments. Persons with active psychosis or mental retardation were excluded. Study participants came to the clinic for an initial visit where they were told about the study, provided written informed consent to participate, and completed pre-treatment measures.

Eighteen participants enrolled in the study and completed the pre-treatment measures. One participant never attended a treatment group and was not included in the data analyses. Twelve (70%) participants completed the post-treatment measures and were included in the statistical analyses. Of these 12 participants, six (50%) had completed the study treatment, two (16%) completed half of the sessions, and four (33%) dropped out of treatment within the first six sessions. The five participants that did not complete the post-treatment had all attended fewer than six group sessions. The group that completed the post-treatment measures did not differ significantly from the participants that did not complete the post-treatment measures on any demographic, diagnostic, or pre-treatment measures (all p 's $> .20$), except for group attendance, with participants who completed the post-treatment measures attending more group sessions ($M = 14.0$, $SD = 8.6$ vs. $M = 2.8$, $SD = 1.5$; $p = .01$).

The 12 participants included in the final analysis were Caucasian (100%), mainly female ($n = 11$; 92%) and had an average age of 47 years ($SD = 10$ years; range 27-62). Most were either divorced (58%) or married (33%). Education levels were varied and included high school graduate (16%), some college or technical school (42%), college graduate (25%), some graduate/professional school (8%) and Master's degree (8%).

Participants had an early onset of mental illness ($M = 16.2$ years, $SD = 12.4$) resulting in an average 30 years of illness ($SD = 12.9$, range = 7 - 47 years) and 21 years since first treatment ($SD = 11.6$, range = 7 - 41 years). DSM-IVR Axis I and II diagnoses (up to four) were obtained from the participants' medical records. Half (50%) of the participants had a single diagnosis, 8% had two diagnoses, 25% had three diagnoses and 17% had four diagnoses. Most of the participants ($n = 10$; 83%) had a mood disorder: major depressive disorder ($n = 6$; 50%); bipolar disorder ($n = 3$; 25%); or dysthymic disorder ($n = 3$; 25%). Other Axis I diagnoses included post traumatic stress disorder ($n = 4$; 33%); panic disorder

($n = 2$; 17%); other anxiety disorders ($n = 2$; 17%); schizoaffective disorder ($n = 1$; 8%); or substance dependence ($n = 1$; 8%). Three (25%) of the participants also had an Axis II disorder: borderline personality disorder ($n = 2$) and personality disorder NOS ($n = 1$).

Measures

Participants were asked to complete the study measures both prior to the first group session and following the last group session.

Depression severity was assessed using the Beck Depression Inventory-II (BDI-II; Beck et al., 1996), a standard, brief, self-report depression measure. The BDI was selected because of its extensive use in therapy treatment research and excellent psychometric properties. Internal reliability was high for this sample ($\alpha = .93$).

To measure a range of mental health outcomes, we chose the Washington State Consumer Outcomes Survey, a self-report compiled from other psychometrically validated instruments that measure health and well being in multiple domains including symptom severity, community functioning, quality of life, and recovery. Symptom severity provides an assessment across a variety of symptoms (0 - 4 scale, 4 = more severe symptoms; $\alpha = .82$). Community functioning represents general functioning, adjustment to living in a community, social competence and support, and behavioral problems (1 - 5 scale, higher = better functioning; $\alpha = .79$). The quality of life scale assesses general life satisfaction, living situation, family relationships, social relationships, safety, and emotional and physical well-being (1 - 7 scale, higher = better quality; $\alpha = .70$). The recovery scale measures hope and empowerment (1 - 5 scale, higher = better; $\alpha = .57$). This survey has been successfully used in Washington State to measure treatment outcomes for community mental health center clients and is freely available. We specifically chose this instrument because it was selected by the State of Tennessee for implementation in multiple community mental health centers and thus represented a practical measure of treatment outcomes for this population.

To assess treatment compliance, group session attendance was recorded at the beginning of each session. For participants receiving other outpatient psychiatric services at Vanderbilt, the number of individual therapy and pharmacotherapy services was obtained from each participant's medical record.

Treatment

The DBT skills training was provided for six months during 90-minute weekly sessions led by two therapists: an advanced practice registered nurse with formal training in DBT and 3 ½ years experience with this treatment approach, and a licensed clinical social worker with informal training in DBT and 1 ½ years experience leading DBT groups. The group sessions followed a standardized group skills training protocol (Linehan, 1993b) which consisted of five main topics: introduction, mindfulness, interpersonal effectiveness, emotion regulation, and distress tolerance. Homework was assigned weekly to encourage skills practices and participants tracked feelings, behaviors and skills use on a daily diary card. No other components of the standard DBT protocol were provided as part of this treatment program; however, participants continued to receive other treatments as usual, which may have included non-DBT individual therapy and pharmacotherapy.

The group was run in a highly-structured, classroom-like format. The room was set up with tables in a semi-circle, with the group leader sitting in the open side of the circle, in front of a white board. Within a group session, homework was reviewed first, followed by presentation of a new topic by the group leader, and ending with a new homework assignment. The group was primarily run by the group leader, with limited time for members to interact with one another.

Statistical Analysis

Change in the outcome measures was assessed by comparing before treatment to after treatment measures within participant using paired *t*-tests. We measured effect size by computing a Cohen's *d* (Cohen, 1992) corrected for dependent groups (Dunlap et al., 1996). We used Spearman's correlations to test for a relationship between number of group sessions and pre- to post-treatment difference scores on the outcome measures.

Results

Treatment Response

Depression scores were reduced by 30%, from severe depression pre-treatment ($M = 33.7$, $SD = 11.2$) to low moderate depression post-treatment ($M = 23.6$, $SD = 16.9$; $t(11) = 2.81$, $p = .02$). There were no significant differences on the other outcome measures.

Since attendance varied substantially across participants, we tested for a correlation between number of sessions attended and each outcome measure. Attendance was related to decreases in depression and symptom severity, and increases in quality of life and community functioning. The number of group sessions attended was significantly correlated (all p s $< .05$) with treatment response on the following measures: depression ($\rho = -.61$), symptom severity ($\rho = -.75$), quality of life ($\rho = .87$), and community functioning ($\rho = .65$). For the measure of recovery, there was a trend toward significance ($p = .06$), with more visits associated with increased recovery ($\rho = .56$). Treatment response was not significantly correlated with either therapist or psychiatrist visits, for the participants who received other services at the community mental health center ($n = 10$).

Clinical Observations

Over the six months, the DBT group skills training manual was strictly followed with weekly topics taught in the specified order and related homework assigned. Participants interacted before and after the groups and occasionally between groups. Within the group sessions participants were asked by the therapists to discuss their homework successes and struggles. Group members voluntarily provided both support and constructive feedback to one another. Clinically, we often observed dramatic changes in participants as they began to experience positive changes from the therapy, often after many years of no improvement with other treatments. The participants began developing life skills that improved themselves and their relationships. They gained an understanding that their prior interaction styles were not healthy, but by using their new skills they could interpret situations in new ways and react differently. Of all of the skills taught, we believe the mindfulness skill was critical in helping participants incorporate the other skills into their lives. However, many of the participants did not stay in the group long enough to experience these positive changes. Our most significant clinical issue was failure to complete treatment, with only 33% of the participants completing a full course of treatment. Of the participants who dropped out of treatment, the majority (63%) stopped coming to the group in the first month, with most returning to individual therapy.

Conclusions

The major study finding was a positive correlation between attendance and treatment response, with greater attendance associated with both reductions in symptoms and improvements in functioning. Furthermore, we demonstrated that moderately trained clinicians could implement the DBT skills training group in a community mental health setting, providing a cost effective treatment alternative for treating people with a variety of severe mental illnesses.

Our findings are consistent with a non-randomized, naturalistic study by Harley and colleagues (2007) examining the effectiveness of a DBT skills group for treating persons with borderline personality disorder in a community mental health center. Both studies found a positive correlation between number of sessions and improvements, which is encouraging considering multiple study differences. Our study focused on treating persons with a variety of Axis I diagnoses and the majority of our participants did not have a personality disorder, providing important evidence that the effectiveness of the DBT skills group generalizes to other populations. Also, although our skills group was similar, our study included no other DBT components whereas the Harley study required individual therapy for all participants (half of which was DBT-based) and included the therapist consultation component of DBT. Thus, we provide additional support for the effectiveness of the DBT skills group and extend those findings to a group with a variety of mental illnesses.

Both the current study and the Harley study (2007) also had relatively high drop-out rates which were substantially higher than previously reported in research settings (Linehan et al., 2006). Given that both our studies report significantly greater attrition rates than studies conducted in research settings; this may be related to differences in the populations served at community mental health centers. However, attrition may also be related specifically to the treatment. The group treatment required a significant time commitment for both the 1 ½ hour weekly session at a set day and time, and the time to complete the weekly homework assignments. For participants used to individual therapy or with significant time demands, the inflexible schedule and requirement of work outside of the group may have been too difficult or stressful.

While our preliminary findings are encouraging, there are several caveats. First, the study findings are based on a very small sample from a preliminary study and should be interpreted with caution. Our initial sample was further reduced by study attrition and failure to complete the treatment. Future studies should examine individual differences that may predict who will successfully complete the skills group and thus benefit from this treatment. For example, individuals committed to taking an active role in changing their lives may be more likely to complete the group. External factors may also be important, such as social support and time to both attend the group and complete homework.

Second, this pilot study did not include a control group; therefore, we can not assert that the improvements experienced by our participants were related to the DBT skills group. Changes could have been the result of the natural course of the illness or improvements due to other treatments. In future studies, it will be critical to compare the DBT skills training to a control group. For example, comparison to a treatment-as-usual control group could test whether the skills group improves symptoms relative to standard care. Comparison to another type of group therapy could test for specific effects due to the DBT skills training controlling for other nonspecific therapeutic group factors such as universality and cohesion.

Third, most of the outcome measures included in this study did not assess disorder-specific symptoms. In this study our goal was to use real-world outcome measures, the same measures that are used to measure treatment outcomes at community mental health centers in Tennessee. However, global measures may be less likely to show treatment-related changes. The addition of disorder-specific measures and measures related to the specific skills taught could increase the possibility of identifying the specific symptoms and skills that are most impacted by DBT skills training.

Finally, while we demonstrated improvements at the end of treatment, we did not follow-up with study participants to determine whether the effects were lasting. Anecdotally, clinicians

have reported significant and lasting effects for their clients; however, these effects have not yet been systematically studied.

Our finding suggesting that a DBT skills group can effectively treat persons with a wide variety of diagnoses in a community mental health center has important implications for clinicians and mental health center administrators. This single component of DBT, implemented by moderately trained staff, shows promise as a cost-effective treatment for persons who are not showing improvement with standard treatments. We recommend that clinicians explain the intensity of the time requirement, including homework assignments that will occur outside of class, and assess readiness to change, including addressing fears of being well. In our community mental health center we have further adapted our skills treatment group by using rolling admissions—which allows clients to enter the group as needed—and by allowing clients to repeat the group as necessary, because some clients require additional training and practice to learn and use the skills.

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