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Outcomes of dialectical behavior therapy administered by an interdisciplinary team

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ABSTRACT

INTRODUCTION: 87 female and 10 male adult outpatients with BPD diagnoses presenting with acute suicidal and self-harm behaviors were offered a 12-Month Intensive DBT Program delivered by an interdisciplinary team of psychotherapists, including social workers, nurses, and a psychologist.

METHODS: Clients were administered self-report measures at pre-treatment, and at 3-, 6-, and 12-month intervals in a single-group longitudinal design. Our analyses of treatment outcomes (ANOVA and Bonferroni-corrected comparisons) considered: *BPD-specific symptoms*, using the BSL-23 (n = 44), ZAN-BPD (n = 39), and DBT-WCCL Adaptive Skills Use and Dysfunctional Coping subscales (n = 43); *transdiagnostic psychiatric symptoms*, using the BSL Global Severity Index (n = 35); and *quality of life*, using QOLI t-scores (n = 42). We also evaluated changes in the proportions of clients who used services for mental health-related crises, visited the ER, or were admitted as inpatients.

RESULTS: Significant reductions in both BPD-specific and transdiagnostic psychiatric symptoms were found. Quality of life improved. DBT skills use notably increased and dysfunctional coping scores declined inversely. Fewer clients tended to use crisis services and visit the ER.

DISCUSSION: These results illustrate the potential for accessible, effective treatment for BPD delivered by interdisciplinary staff.

INTRODUCTION

Borderline Personality Disorder (BPD) is a functionally disabling mental disorder often associated with self-harm and other impulsive behaviors, suicidal ideation, and high rates of hospitalization (Chanen & McCutcheon, 2013). It is widely held that BPD symptomatology is rooted in difficulties *regulating emotions*, which Marsha Linehan (1993a) argues is the result of a biologically-predicated vulnerability and persistent, perceived *invalidation* of emotional needs. Linehan's therapeutic approach, Dialectical behavior Therapy (DBT), is an evidence-based treatment designed for BPD that has increased in popularity over the past decade. Consequently, therapy programs administered by frontline clinicians like nurses and social workers have been launched to promote more widespread access to treatment for BPD.

A tertiary care hospital for mental health in Ontario, Canada, implemented a 12-Month Intensive DBT Program staffed by an interdisciplinary team of DBT-trained therapists (social workers, nurses, and psychologists) for outpatients with BPD presenting with acute suicidal behavior and/or non-suicidal self-injury. The major constituents of the 12-Month Intensive DBT Program were adaptive skills training groups, weekly individual psychotherapy, and phone coaching sessions (Linehan, 1993b). The goals of the program included reducing psychiatric symptomatology, maladaptive behaviors (e.g. self-harm) and frequencies of use of crisis services. The treatment program also aimed to strengthen adaptive coping skills in accordance with the DBT model, and improve quality of life for individuals diagnosed with BPD.

A proportion of the evidence base for DBT comes from randomized controlled trials (RCTs). Several RCTs have demonstrated that DBT is more effective than non-manualized, community-based approaches to treatment of BPD (treatment-as-usual, or TAU; Verheul et al., 2003), and BPD with co-morbid substance abuse (Linehan et al., 1999). Compared to TAU, clients participating in DBT showed significantly reduced BPD symptomatology, lower dropout rates (Linehan et al., 2015), fewer or less severe parasuicidal behaviors (Koons et al., 2001) and suicide attempts (Linehan et al., 2006). DBT program participants have also shown reduced frequencies of hospitalization (Linehan et al.,

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2015) and improved social adjustment (adaptation to social expectations or norms; Koons et al., 2001).

A growing body of research is emerging assessing the potential for the administration of DBT programs by clinicians of diverse educational backgrounds (Herschell, Lindhiem, Kogan, Celedonia, & Stein, 2014; McCay et al., 2015). One study, based on a sample of 109 clinicians. (e.g. nurses, social workers, psychiatrists, and psychologists), found that provided DBT training, educational background did not play a significant role in performance on an exam that assessed familiarity with DBT theory. Psychologists were the only practitioners who performed significantly better than the others (Hawkins & Sinha, 1998). Another study found that therapists did not differ by discipline in terms of their reported adherence to the dialectical model, confidence in its effectiveness, and attitudes towards clients (Herschell et al., 2014). The value of interdisciplinary therapy programs is further bolstered by outcome studies. Among a sample of 60 Canadian street-involved youths psychiatric symptoms (e.g. anxiety and depression), self-esteem, resilience, and social connectedness showed marked improvements across a DBT program delivered by an interdisciplinary team (McCay et al., 2015). This demonstrates the capacity for professionals like youth workers and social workers to deliver DBT effectively.

Despite these findings, literature evaluating the effectiveness of interdisciplinary administration of DBT is slim, especially with regards to *BPD-specific symptomatology*. The present study aims to fill this gap by tracking the outcomes of a DBT program delivered primarily by front-line clinicians (RNs and MSWs) and a psychologist for outpatients with BPD. In addition to the focus on BPD symptoms, our longitudinal design takes into account: transdiagnostic psychiatric symptoms (e.g. depression and anxiety), use of adaptive coping skills as taught within the DBT model, self-reported quality of life, use of crisis services, ER visits, and admissions to inpatient units.

METHOD

PARTICIPANTS

Participants were outpatients referred to a specialized clinic for BPD treatment at a tertiary mental health hospital in Ontario. Program candidates participated in a preliminary interview and general briefing on the clinical procedures over the telephone. Clients were asked whether they had a diagnosis of BPD, the name and credentials of their diagnosing physician. Their referring clinician sent documentation to confirm the diagnosis. Clients were also asked questions regarding the presence or absence of suicidal and self-harm behaviors to determine eligibility for the 12-Month Intensive Program. They were then administered the Zanarini Rating Scale for BPD (ZAN-BPD; Zanarini, 2003) over the phone for diagnostic confirmation. A more in-depth assessment took place in person to better ascertain program eligibility. Screening measures included: ZAN-BPD, Brief Symptom Inventory (BSI; Derogatis, 1993), Beck Depression Inventory-11 (Beck, Brown, & Steer, 1996), Depression Anxiety Stress Scales-21 (Lovibond & Lovibond, 1995), Eating Disorder Examination-Questionnaire (Luce & Crowther, 1999), and Substance Abuse Subtle Screening Inventory-3 (Miller, Roberts, Brooks, & Lazowski, 1997) for all program participants. Any of the following criteria resulted in exclusion from the program: (a) prominent DSM-IV Axis I symptoms that would interfere with participation in skills groups severe depressive symptoms, active manic symptoms, substance intoxication, severe anorexia nervosa), (b) a primary diagnosis of a psychotic disorder and/or active psychotic symptoms, (c) intellectual disability, developmental delay, or acquired brain injury, (d) antisocial personality disorder. Patients who did not fulfill the eligibility criteria for the 12-Month Program were referred to other, more appropriate services.

A total of 119 clients participated in the therapy program from 2012 to 2015, all of whom had a diagnosis of BPD with or without co-occurring anxiety disorders, major depressive disorder, eating disorders, or addictions. 97 of these clients (87 female and 10 male adults) provided informed consent to participate in the research.

CLINICAL PROCEDURES

MEASURES

Research participants were asked to complete a battery of self-report measures (the *pre-treatment phase* assessments). The measures were administered again at 3, 6 and 12 month intervals in order to evaluate the effectiveness of the therapeutic intervention, with a particular interest in general (transdiagnostic) psychiatric and BPD-specific symptom presentation and quality of life. The assessments were selected for their relevance to this clinical population and use in similar research studies (Pasieczny & Connor, 2011; Priebe et al., 2012). Participants were administered the following:

- *Brief Symptom Inventory* (BSI) for evaluating transdiagnostic psychiatric symptoms. Our analysis considered *global severity index* (GSI) scores, which provide an overall estimate of symptom presentation across nine dimensions: somatization, interpersonal sensitivity, obsessive-compulsive behavior, depression, anxiety, hostility, paranoid ideation, phobic anxiety, and psychotic symptoms (Derogatis, 1993). The BSI has been shown to possess a high degree of internal consistency (Cronbach's α for all nine dimensions fall between 0.75 and 0.85). The measure also possesses limited convergent validity with the Minnesota Multiphasic Personality Inventory (MMPI), an established measure (Boulet & Boss, 1991).
- *Zanarini Rating Scale for BPD* (ZAN-BPD) and the short form of the *Borderline Symptom List* (BSL-23) for assessing the intensity of BPD-specific symptoms, including disturbances in cognition, affect, and identity or self-concept (Bohus et al., 2009; Zanarini, 2003). The ZAN-BPD has been shown to have high internal consistency (Cronbach's $\alpha = 0.85$), interrater reliability, and test-retest reliability (Zanarini, 2003). High internal consistency (Cronbach's $\alpha = 0.94–0.97$), test-retest reliability and sensitivity to treatment-related change have been found for the BSL-23 (Wolf et al., 2009). Bohus et al. (2009) collected BSL-23 scores from 379 patients with BPD diagnoses (81.1% female) across Germany ($M = 2.05$). We utilized this score as a norm against which to compare our outcomes at each interval.
- *DBT Ways of Coping Checklist* (DBT-WCCL) for monitoring usage of adaptive coping skills taught in the DBT program as compared to dysfunctional coping behaviors. In a study by Neacsiu, Rizvi, Vitaliano, Lynch, and Linehan (2010), the DBT-WCCL showed high internal consistency, test-retest reliability and content validity. Our analyses considered scores on both the *skills use* (e.g. “counting my blessings”) and *dysfunctional coping* (e.g. “kept others from knowing how bad things were”) subscales.
- *Quality of Life* (QOLI) for evaluating the “quality of life” construct, which encompasses such areas as self-esteem, goal-setting, and satisfaction with relationships (Frisch, 1994). The QOLI demonstrated high internal consistency, test-retest reliability, and convergent validity with other assessments of subjective well-being in an evaluation of its psychometric properties (Frisch, Cornell, Villanueva, & Retzlaff, 1992). We utilized overall QOLI scores (standardized as *t*-scores) in analysis.
- An original *Client Questionnaire* was also included for inquiry into frequencies of use of services for mental health-related crises, admissions to inpatient units, and ER visits. Responses were collapsed into binary data that provided the proportions of outpatients that either never used these services or used them on one or more occasions within 3 months of assessment.

THE CLINICAL TEAM

The psychotherapy team was composed of one registered nurse (RN), one master-prepared registered mental health nurse (MN,