Dialectical Behavior Therapy Compared With Enhanced Usual Care for Adolescents With Repeated Suicidal and Self-Harming Behavior: Outcomes Over a One-Year Follow-Up

Lars Mehlum, MD, PhD, Maria Ramberg, MD, Anita J. Tørmoen, MA, Egil Haga, PhD, Lien M. Diep, MSc, Barbara H. Stanley, PhD, Alec L. Miller, PsyD, Anne M. Sund, MD, PhD, Berit Grøholt, MD, PhD

Objective: We conducted a 1-year prospective follow-up study of posttreatment clinical outcomes in adolescents with recent and repetitive self-harm who had been randomly allocated to receive 19 weeks of either dialectical behavior therapy adapted for adolescents (DBT-A) or enhanced usual care (EUC) at community child and adolescent psychiatric outpatient clinics.

Method: Assessments of self-harm, suicidal ideation, depression, hopelessness, borderline symptoms, and global level of functioning were made at the end of the 19-week treatment period and at follow-up 1 year later. Altogether 75 of the 77 (97%) adolescents participated at both time points. Frequencies of hospitalizations, emergency department visits and other use of mental health care during the 1-year follow-up period were recorded. Change analyses were performed using mixed effects linear spline regression and mixed effect Poisson regression with robust variance.

Results: Over the 52-week follow-up period, DBT-A remained superior to EUC in reducing the frequency of self-harm. For other outcomes such as suicidal ideation, hopelessness, and depressive or borderline symptoms and for the global level of functioning, inter-group differences apparent at the 19-week assessment were no longer observed, mainly due to participants in the EUC group having significantly improved on these dimensions over the follow-up year, whereas DBT-A participants remained unchanged.

Conclusion: A stronger long-term reduction in self-harm and a more rapid recovery in suicidal ideation, depression, and borderline symptoms suggest that DBT-A may be a favorable treatment alternative for adolescents with repetitive self-harming behavior.

Clinical trial registration information: Treatment for Adolescents With Deliberate Self Harm; http://clinicaltrials.gov/; NCT00675129.

Key words: self-harm, attempted suicide, psychotherapy, randomized trial, longitudinal

J Am Acad Child Adolesc Psychiatry 2016;55(4):295–300.

Self-harming behavior (nonfatal self-poisoning or self-injury, with or without suicide intent) in adolescents is a highly prevalent and serious public health problem in many countries,[1,2] but only a minority of adolescents who have self-harmed report having received any kind of subsequent treatment.[3] Self-harm is a powerful predictor of completed suicide,[1] particularly in individuals who have a pattern of repetitive self-harm, often linked to difficulties of emotion regulation and other problems of personality functioning. Adolescents with suicidal and self-harming behavior have often been considered a challenging patient population to treat because of their stronger noncompliance with outpatient care[4] and because of patient safety issues. There is thus a strong need for effective interventions accessible and acceptable to adolescents and their families and feasible to deliver by clinicians in community mental health settings. Over the last decade, a wide variety of therapeutic interventions have indeed been proposed for the treatment of self-harm in adolescents,[5] but only recently the first randomized controlled trials (RCTs) in support of their efficacy have emerged. Still, none of these trials have so far been successfully replicated, and furthermore, our knowledge is limited as to the outcomes of treatment after extended periods of time.

Previously we have reported on the treatment outcomes in 77 adolescents who participated in a randomized controlled trial in Oslo, Norway, in which patients were assigned to receive 19 weeks of either dialectical behavior therapy adapted for adolescents (DBT-A)[6] or enhanced usual care (EUC), which was standard care with no less than 1 weekly treatment session per patient throughout the trial. The original study design, sample, procedures, and outcomes have been described previously,[7] and the main findings were that DBT was superior to EUC in reducing

CG Clinical guidance is available at the end of this article.

frequency of self-harm, severity of suicidal ideation, and depressive symptoms, with generally large effect sizes for outcomes in the DBT-A condition but weak or moderate in the EUC condition. Treatment retention was generally good, and there were few hospital admissions or emergency department visits in both treatment groups.

In the present study, we report 1-year follow-up outcomes in this clinical sample. Our main aim was to evaluate whether the significantly better treatment outcomes achieved in the DBT-A condition would be sustained 1 year after treatment. As in the original study, we used frequency of suicidal and nonsuicidal self-harm episodes and severity of suicidal ideation and depression as our primary outcome measures in addition to several secondary outcome measures regarding use of health care services, psychiatric symptoms, borderline pathology, and overall functioning.

METHOD

The original sample consisted of 77 adolescents (mean age 15.6 years, SD = 1.5 years) who were mainly female (88.3%) and for the most part recruited from child and adolescent psychiatric outpatient clinics in the Oslo area. Inclusion criteria were as follows: a history of at least 2 episodes of self-harm, at least 1 episode within the last 16 weeks; at least 2 criteria of *DSM-IV* borderline personality disorder ([BPD] plus the self-destructive criterion), or alternatively at least 1 criterion of *DSM-IV* BPD plus at least 2 subthreshold-level criteria; and fluency in Norwegian. Exclusion criteria were a diagnosis of bipolar disorder (except bipolar II), schizophrenia, schizoaffective disorder, psychotic disorder not otherwise specified, intellectual disability, and Asperger syndrome. Self-harm was defined as self-poisoning or self-injury irrespective of intent,[8] including self-harm with suicidal intent, nonsuicidal self-harm, and self-harm episodes with unclear intent.

Participants were randomly assigned to receive 19 weeks of either DBT-A or EUC at 1 of the participating child and adolescent psychiatric outpatient clinics in a 1:1 ratio stratified according to gender, presence of major depression, and presence of suicide intent during the most serious episode of self-harm behavior within the 16 weeks before enrollment. All treatments were provided free of charge by therapists working at the 10 publicly funded child and adolescent psychiatric outpatient clinics participating in the study. Patients received ancillary nonmanualized pharmacotherapy as needed. DBT-A was delivered according to the manual[6] by therapists trained in DBT for the purpose of the trial, whereas EUC was standard care enhanced for the purpose of the trial by requiring that EUC therapists agree to provide on average no less than 1 weekly treatment session per patient throughout the trial. EUC was not manualized or checked for fidelity, and was either psychodynamically oriented therapy or cognitive-behavioral therapy combined with psychopharmacological treatment as needed. EUC was delivered for 19 weeks but could extend beyond the trial time window depending on the EUC therapists' assessment of their patients' needs; however, this was not an option for DBT-A participants. Therapists provided only DBT or EUC. The study complied with National Institute of Mental Health (NIMH) recommendations[9] for intervention research with persons at high risk for suicidality. All study therapists received training in suicide risk assessment and management before patient treatment commenced. For both treatment modalities, results from the baseline assessments of suicide and self-harm risk, psychiatric diagnoses, and symptom severity were made available to the attending therapists before the first therapy session. Also, when a patient's follow-up data indicated high risk of self-harm or suicide, the study management immediately notified the patient's therapist. The study was approved by the Regional Committee for Medical Research Ethics, South-East Norway, and all patients and parents provided written informed consent.

Study participants were assessed at multiple time points. As data from the trial period of 19 weeks have been published previously,[7] only data from the assessments (interviews and self-report) made at 19 and 71 weeks (1-year follow-up) are reported here. Assessments at 1-year follow-up were performed by independent interviewers (3 child and adolescent psychiatrists and 1 psychiatrist) blinded to treatment allocation. To ensure the integrity of blinding, an unblinded study coordinator made all of the practical arrangements for follow-up interviews and collected treatment history data. All patients were instructed not to disclose any information about their treatment. When asked after completion of interviews which treatment they thought each patient received, assessors' responses were correct for 44.2% of participants (Cohen $\kappa = 0.12$), indicating that blinding was successful. All interviews were audiotaped, and interrater reliability (IRR) of diagnoses and outcome variables was checked by a child and adolescent psychiatrist (A.M.S.) expert in the relevant assessment instruments. Based on 26 IRR-rated interviews, the mean κ value was 0.68 (range, 0.50–0.81, SD = 0.10) for all symptoms rated with Kiddie Schedule for Affective Disorders and Schizophrenia for School-Age Children–Present and Lifetime Version (K-SADS-PL). Intraclass correlation (ICC) was used to test IRR for the Children's Global Assessment Scale (C-GAS; ICC = 0.42), Montgomery–Asberg Depression Rating Scale (MADRS) score (ICC = 0.76), Lifetime Parasuicide Count (LPC; IRR = 0.99), and Structured Clinical Interview for *DSM-IV* Axis II disorders (SCID-II) diagnostic criteria for BPD (ICC = 0.66).

Assessments

The same measures of function and outcome as in the original study were used for the follow-up. Frequency of self-harm episodes over the 1-year follow-up period was measured through the LPC interview.[10] The severity of suicidal ideation was measured by the 15-item self-report Suicidal Ideation Questionnaire–Junior (SIQ-Jr) (suicidal thoughts rated on a 7-point scale from "I never had this thought" to "almost every day").[11] The level of depressive symptoms was measured by the short (13-item) version of the self-report Mood and Feelings Questionnaire (SMFQ)[12] and through the interviewer-rated 10-item MADRS.[13] Other outcomes were hopelessness, measured by the 20-item self-report Beck Hopelessness Scale (BHS),[14] borderline symptoms, assessed through the 23-item self-report Borderline Symptom List (BSL),[15] and global level of functioning, measured by the C-GAS.[16] Data on the use of psychiatric services, psychotropic medication, psychiatric hospitalization, and emergency department visits during the follow-up year were collected from each participant through a self-report questionnaire. Participants received a small amount of monetary compensation for participating in each assessment.

Statistical Analysis

Data analysis was by intention to treat. We also conducted a per-protocol analysis based on those patients who had completed at least 50% of the trial treatments. This included a total of 56 patients (DBT-A, n = 29; EUC, n = 27). Means and standard deviations or median and interquartile ranges were computed for normally distributed and non–normally distributed variables. Differences between central tendencies in the groups were tested by independent-samples *t* tests or Mann–Whitney *U* tests. Differences between the group proportions were tested by the Pearson χ^2 or Fisher exact test. Estimation of trend and differences between group trends over time were examined by mixed effects linear spline