

# Feasibility and effectiveness of Dialectical-Behavior Therapy for patients with borderline personality disorder in Italian mental health services: a preliminary study

## *Fattibilità ed efficacia della Terapia Dialettico-Comportamentale per pazienti con disturbo borderline di personalità nei servizi di salute mentale italiani: uno studio preliminare*

CHIARA GIORDANO<sup>1</sup>, VALENTINA IANNUZZI<sup>2</sup>, FRANCESCA DANESI<sup>3</sup>, MICHELE POLETTI<sup>2\*</sup>

E-mail: michele.poletti2@ausl.re.it

<sup>1</sup>University of Modena and Reggio Emilia, Degree Course on Psychiatric Rehabilitation Technician

<sup>2</sup>Department of Mental Health and Pathological Addiction, Child and Adolescent Neuropsychiatry Unit, Azienda USL-IRCCS Reggio Emilia

<sup>3</sup>Department of Mental Health and Pathological Addiction, Pathological Addiction Unit, Azienda USL-IRCCS Reggio Emilia

**SUMMARY.** Dialectical-Behavior Therapy (DBT) is an evidence-based effective psychotherapeutic intervention for patients with Borderline Personality Disorder (BPD). There is a paucity of empirical evidences on the feasibility and the effectiveness of DBT in real-world Italian mental health services. This study aimed at reporting preliminary data on the implementation of DBT for adult patients with BPD attending an Italian mental health service. 28 BPD patients attending a mental health service underwent a 16-session DBT program. Effects of DBT were measured with the Difficulties in Emotion Regulation Scale (DERS) and the Barratt Impulsiveness Scale (BIS-11). 17 patients completed the DBT program, reporting reduced levels of emotion dysregulation and impulsiveness at follow up in comparison with baseline. Higher emotional dysregulation was a risk factor for dropout. In conclusion, this preliminary pilot study suggests that DBT is feasible and effective for BPD patients in Italian adult mental health services.

**KEY WORDS:** dialectical-behavior therapy; borderline personality disorder; emotion dysregulation; impulsiveness; dropout.

**RIASSUNTO.** La Terapia Dialettico Comportamentale (Dialectical-Behavior Therapy - DBT) è un intervento psicoterapeutico con evidenza di efficacia per soggetti con Disturbo Borderline di Personalità (DPB). Vi è scarsità di prove empiriche sulla fattibilità e l'efficacia della DBT nei servizi di salute mentale italiani. Questo studio ha l'obiettivo di fornire dati preliminari sull'implementazione di un programma DBT per pazienti adulti con DPB in carico a un Servizio di salute mentale per adulti. 28 pazienti con DPB in carico a un Servizio di salute mentale per adulti sono stati sottoposti a un programma DBT della durata di 16 sessioni. Gli effetti del programma DBT sono stati misurati con le scale Difficulties in Emotion Regulation Scale (DERS) e Barratt Impulsiveness Scale (BIS-11). 17 pazienti hanno completato il programma DBT, riportando livelli ridotti di disregolazione emotiva e impulsività al follow-up rispetto alla valutazione iniziale. Una disregolazione emotiva più severa è un fattore di rischio per l'abbandono del percorso. In conclusione, questo studio pilota preliminare suggerisce che la DBT è fattibile ed efficace per i pazienti con BPD nei Servizi di salute mentale.

**PAROLE CHIAVE:** terapia dialettico-comportamentale, disturbo borderline di personalità, disregolazione emotiva, impulsività; abbandono.

## INTRODUCTION

Dialectical-Behavior Therapy (DBT)<sup>1</sup> is an evidence-based effective psychotherapeutic intervention for subjects with Borderline Personality Disorder (BPD)<sup>2,3</sup>, as shown by an increasing amount of empirical studies inspired by the seminal contribution of Linehan et al. on DBT treatability<sup>4,5</sup>.

Although its widespread diffusion as psychotherapeutic approach, there is a paucity of empirical evidences on the feasibility and the effectiveness of DBT in real-world clinical settings, including Italian mental health services for adult patients<sup>6-8</sup>. Starting from this background, this study aimed at reporting preliminary data on the implementation of DBT for adult patients with BPD attending an Italian mental health service.

## METHODS

### Subjects

Subjects for this study were enrolled among patients attending the Department of Mental Health and Pathological Addiction, Azienda USL-IRCSS in Reggio Emilia, Italy. Patients with BPD diagnosis according to DSM IV-TR or V were enrolled and gave informed written consent to participate. Age range of participants was limited to 20-60 years of age. Mental retardation and poor Italian language comprehension were exclusion criteria. The study was approved by Local Ethic Committee on date 07/16/2019 (protocol number 2019/0085739).

### DBT intervention

DBT intervention was applied within the Mental Health Service of Reggio Emilia with the subsequent modalities, according to the DBT Skills Training Manual<sup>9</sup>: group-based intervention (max 7 participants per group), 6-8 months of duration for each group, weekly or biweekly 90-minute group session, presence of a conductor and a co-conductor for each group, supervision of each group intervention. All conductors and supervisors were trained on DBT within the AUSL-IRCCS in Reggio Emilia training program by an external trainer (Maria Elena Ridolfi), Italian leading expert on DBT. Sessions were focused on group presentation and DBT introduction (n=2), mindfulness (n=4; 2 introductory and 2 of retraining), emotion regulation (n=3), tolerating distress (n=3), interpersonal effectiveness (n=3), three-month post-intervention follow up (n=1).

### Pre-test and post-test measures

As pre-test and post-test measures, we used two self-reported questionnaires tapping two significant areas of clinical interest for BPD patients, as the regulation of negative emotions and impulsiveness:

the Difficulties in Emotion Regulation Scale (DERS)<sup>10</sup>, Italian version<sup>11</sup>, and the Barratt Impulsiveness Scale (BIS-11)<sup>12</sup>, Italian version<sup>13</sup>. Both instruments have been shown to be sensitive to phenotypic features of BPD in relation to emotion dysregulation<sup>14-16</sup> and impulsiveness<sup>17</sup>.

The DERS is a 36-item questionnaire based on a 1-5 Likert scale, measuring 6 sub-domains of emotion regulation: the six-factor structure was deemed more interpretable and was translated into six subscales: lack of emotional awareness (Awareness), lack of emotional clarity (Clarity), difficulty regulating behavior when distressed (Impulse), difficulty engaging in goal-directed cognition and behavior when distressed (Goals), unwillingness to accept certain emotional responses (Non-acceptance), lack of access to strategies for feeling better when distressed (Strategies).

The BIS-11 is a 30-item 1-4 Likert scale measuring three 2<sup>nd</sup> order impulsiveness domains (Attentional, Motor, Nonplanning) and six 1<sup>st</sup> order impulsiveness domains (Attention, Cognitive Instability, Motor, Perseverance, Self-Control, Cognitive Complexity).

## RESULTS

28 BPD subjects were enrolled for this study (21 F 7 M; mean age 38.2±11.3 years; mean duration of attendance at the Mental Health Service: 8.2±6.9 years; mean education:

10.9±3.1 years) and were included in 4 distinct DBT groups. 11 subjects dropped out along the intervention, therefore only 17 subjects completed the intervention and underwent follow-up examination (60.7% of the initial sample).

DERS and BIS-11 scores at the baseline and at the follow-up are reported in Table 1: *t*-test showed a significant reduction in the DERS total score and in the subsequent DESRS subs-scores: Impulse, Strategies, Clarity; also for the BIS-11, *t*-test showed a significant reduction for the total score and for Motor and Non-planning sub-scores.

At baseline, subjects that will drop out had higher DERS scores in comparison with subjects that will complete the DBT intervention and the final follow-up examination (Table 2).

Table 1. Clinical characteristics of BPD patients at baseline and follow-up.

	Baseline Mean (SD)	Follow-up Mean (SD)
DERS total score	108.95 (20.65)	93.53 (25.99)**
DERS Non acceptance	16.29 (4.48)	14.94 (5.69)
DERS Goals	17.35 (3.12)	15.53 (5.10)
DERS Impulse	18.35 (5.67)	13.58 (5.53)**
DERS Awareness	7.7 (3.12)	9.94 (2.43)
DERS Strategies	25.52 (6.75)	21.65 (7.60)**
DERS Clarity	13.88 (3.44)	12.23 (3.61)*
BIS-11 total score	72.3 (9.6)	67.9 (12.3)*
BIS-11 Motor	26.4 (5.4)	24.7 (5.8)*
BIS-11 Cognitive	15.9 (2.7)	15.7 (3.3)
BIS-11 Nonplanning	28.5 (4.5)	26.4 (4.9)*

Legend: BIS-11= Barratt Impulsiveness Scale; DERS= Difficulties in Emotion Regulation Scale; SD= Standard Deviation; \* = <.05; \*\* = <.01.

Table 2. Baseline characteristics of BPD patients that completed the DBT program and BPD patients that dropped out.

	Patients that completed DBT Mean (SD)	Patients that dropped out Mean (SD)
Age	38.29 (10.75)	37.54 (12.54)
DERS total score	108.94 (20.65)	125.72 (17.94)*
BIS-11 total score	72.29 (9.66)	75.18 (9.31)

Legend: BIS-11= Barratt Impulsiveness Scale; DERS= Difficulties in Emotion Regulation Scale; SD= Standard Deviation; \* = <.05; \*\* = <.01.

## DISCUSSION AND CONCLUSIONS

Although widely investigated and applied worldwide, DBT for subjects with BPD diagnosis has been scarcely investigated in real-world clinical settings, as Italian mental health services for adult patients, in relation to its feasibility and effectiveness<sup>18</sup>. To fill this gap, we reported preliminary data on a DBT group intervention for adult BPD patients implemented in the Mental Health Service of Azienda USL-IRCCS in Reggio Emilia, Italy.

Reported empirical data should be considered in light of the significant amount (39.3%) of subjects that dropped out along the intervention, a percentage higher than the mean rate of 16.7% reported in DBT trials<sup>9</sup>, but presumably nearer to the drop-out rate for group interventions in real-world clinical settings. In this perspective, at baseline BPD patients that dropped out presented more severe difficulties in emotion regulation (as self-rated at DERS) in comparison with who did not drop out, suggesting that severe emotion dysregulation is a risk factor, among others, for therapeutic compliance in BPD patients<sup>19</sup>.

Main findings of the current study regarded a significant reduction, in BPD patients attending the whole DBT intervention, of self-reported levels of emotion dysregulation and impulsiveness: in particular, among emotion regulation domains, DBT stimulated an improvement in the regulation of behavior when distressed, in the availability of strategies for feeling better when distressed and in the awareness of own emotions; moreover, among impulsiveness domains, DBT stimulated a reduction of motor impulsiveness and non-planning impulsiveness. These empirical findings agree with previous reported findings on beneficial effects of DBT on BPD patients<sup>2,3</sup>, including emotion regulation in BPD patients and reduction of amygdala activity<sup>20</sup>.

In conclusion, although these findings are preliminary and need further replication in larger samples and in different clinical conditions presenting difficulties in emotional regulation, this preliminary pilot study suggests that DBT is feasible and effective for patients with a BPD diagnosis in Italian mental health Services.

*Conflict of interests:* the authors have no conflict of interests to declare.

## REFERENCES

- Linehan M. Cognitive-Behavioral Treatment of Borderline Personality Disorder. New York: Guilford Press, 1993.
- Gunderson JC. Borderline Personality Disorder. *N Engl J Med* 2011; 364: 2037-42.
- Gunderson JC, Herpetz SC, Skodol AE, et al. Borderline Personality Disorder. *Nat Rev Dis Primers* 2018; 4: 18029.
- Linehan MM, Armstrong HE, Suarez A, et al. Cognitive-behavioral treatment of chronically parasuicidal borderline patients. *Arch Gen Psychiatry* 1991; 48: 1060-4.
- Linehan MM, Comtois KA, Murray AM, et al. Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. *Arch Gen Psychiatry* 2006; 63: 757-66.
- Martino F, Monari M, Beltrami MG, et al. Un protocollo di trattamento per il Disturbo Borderline di Personalità nei servizi di Salute Mentale di Bologna. *Rassegna di Studi Psichiatrici* 2017; 11: 9.
- Bianchini V, Cofini V, Curto M, et al. Dialectical Behaviour Therapy (DBT) for forensic psychiatric patients: an Italian pilot study. *Crim Behav Ment Health* 2019; 29: 122-30.
- Maffei C, Cavicchioli M, Movalli M, et al. Dialectical behavior therapy skills training in alcohol dependence treatment: findings based on an open trial. *Subst Use Misuse* 2018; 53: 2368-85.
- Linehan MM. DBT skills training manual. New York: Guilford Press, 2014.
- Gratz KL, Roemer LR. Multidimensional assessment of emotion regulation and dysregulation: development, factor structure, and initial validation of the difficulties in emotion regulation scale. *J Psychopathol Behav Assess* 2004; 26: 41-54.
- Gromini L, Velotti P, Campora G, et al. Cultural adaptation of the difficulties in emotion regulation scale: reliability and validity of an Italian version. *J Clin Psychol* 2012; 68: 989-1007.
- Patton JH, Stanford MS, Barratt ES. Factor structure of the Barratt impulsiveness scale. *J Clin Psychol* 1995; 51: 768-74.
- Sighinolfi C, Pala AN, Chiri LR, et al. Difficulties in Emotion Regulation Scale (DERS): traduzione e adattamento italiano. *Psicoterapia Cognitiva e Comportamentale* 2010; 16: 141-70.
- Glen CR, Klonsky ED. Emotion dysregulation as core feature of borderline personality disorder. *J Pers Disord* 2009; 23: 20-8.
- Rufino KA, Ellis TE, Clapp J, et al. Variations of emotion dysregulation in borderline personality disorder: a latent profile analysis approach with adult psychiatric inpatients. *Borderline Personal Disord Emot Dysregul* 2017; 4: 17.
- Southward MW, Cheavens JS. Identifying core deficits in a dimensional model of Borderline Personality Disorder features: a network analysis. *Clin Psychol Sci* 2018; 6: 685-703.
- Barker V, Romaniuk L, Cardinal RN, et al. Impulsivity in Borderline Personality Disorder. *Psychol Med* 2015; 45: 1955-64.
- Bellino S, Brunetti C, Bozzatello P. [Psychotherapy of borderline personality disorder: critical factors and proposals of intervention]. *Riv Psichiatr* 2016; 51: 11-9.
- Martino F, Menchetti M, Pozzi E, et al. Predictors of dropout among personality disorders in a specialist outpatients psychosocial treatment: a preliminary study. *Psychiatry Clin Neurosci* 2012; 66: 180-6.
- Goodman M, Carpenter D, Tang CY, et al. Dialectical behavior therapy alters emotion regulation and amygdala activity in patients with borderline personality disorder. *J Psychiatr Res* 2014; 57: 108-16.