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# Feasibility of standard Dialectical-Behavioral Therapy for Borderline Personality Disorder: a real-world study in Italian outpatient services

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## Abstract

*Background:* Dialectical-Behavioral Therapy (DBT) is an effective multimodal psychotherapeutic intervention for patients with Borderline Personality Disorder (BPD). However, there is limited evidence regarding the feasibility and effectiveness of DBT in Italian outpatient public mental health services.

*Methods:* This retrospective, longitudinal observational study presents preliminary data on the feasibility (assessed through patient enrollment compared to initial referrals, dropout, and participation rates) of a one-year standard DBT program implemented in three Community Mental Health Centers in Bologna, Italy, from 2013 to 2020. An additional outcome includes exploring the effectiveness of this intervention, evaluated by comparing the incidence of non-suicidal self-harm behaviors, unplanned outpatient visits, emergency department (A&E) admissions, and hospitalizations (frequency and duration) in the year before and after the DBT program. Participants were outpatients aged 18–45 years who met DSM-5 criteria for BPD. Data were analyzed using descriptive statistics, unpaired and paired t-test, Chi-square tests, logistic regression, and McNemar's test.

*Results:* Of 132 initial referrals, 51 outpatients were enrolled in the standard DBT program, and 37 completed it. The enrollment gap was primarily due to low motivation, negative attitudes toward psychotherapy, and scheduling conflicts with personal, work, or study commitments. High participation among completers (72.5%) and low dropout rate (27.5%) indicate good feasibility of standard DBT. Dropouts were significantly older than completers (35.4 ± 8.2 vs. 29.8 ± 8.0; $p = 0.032$), with age emerging as a significant predictor of dropout (OR = 1.15; $p = 0.039$). Regarding effectiveness, significant reductions in self-harm behaviors, unscheduled outpatient visits, and hospitalizations are consistent with prior research findings.

*Conclusions:* Our findings suggest that standard DBT may be a feasible treatment for outpatient mental health services as part of a stepped-care approach. Furthermore, this study supports the effectiveness of DBT while providing valuable insights into its real-world applicability.

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## 1. Introduction

Borderline Personality Disorder (BPD) is a debilitating personality disorder characterized by a persistent and pervasive pattern of instability in interpersonal relationships, self-image, affect, and behavioral dysregulation (American Psychiatric Association [APA], 2022). Introduced in the Diagnostic and Statistical Manual of Mental Disorders, Third Edition (DSM-III) in 1980, BPD's description was based on Kernberg's concept of borderline personality organization and the research by Gunderson and colleagues (Gunderson & Kolb, 1978; Gunderson & Singer, 1975). The etiology of BPD is multifaceted, rooted in the interplay between genetic predispositions and adverse childhood experiences (Leichsenring et al., 2024). Core components of psychopathology include childhood maltreatment, emotional dysregulation, and interpersonal dysfunction (Bortolla et al., 2022; Sesar et al., 2022).

Emotional processing deficits, such as heightened physiological reactivity to interpersonal scenarios and hypervigilance toward emotionally charged stimuli, are consistently linked to adverse early life experiences (Bortolla et al., 2020). Studies examining attentional mechanisms reveal a dichotomy in BPD patients: while they exhibit hypervigilance toward emotionally charged stimuli and difficulty disengaging from certain cues (e.g., erotic stimuli), they tend to avoid prolonged engagement with negative stimuli. This interplay between heightened sensitivity and avoidance reflects the complexity of emotional and interpersonal dysfunction in BPD (Bortolla et al., 2023). These emotional and cognitive impairments commonly manifest as risky behaviors, including impulsive digital interactions and maladaptive coping strategies, exacerbating relational instability and feelings of abandonment (Sesar et al., 2023). Deficits in mentalization (i.e., the ability to interpret one's and others' behaviors through intentional mental states) further contribute to the pervasive interpersonal and emotional challenges characteristic of BPD (Borroni et al., 2024). Advances in dimensional models, such as the Alternative Model for Personality Disorders (AMPD) in the DSM-5, have enriched the understanding of BPD by emphasizing the interplay of personality functioning and dysfunctional traits. These frameworks are particularly effective in addressing severe personality pathologies marked by high aggression, social deviance, and interpersonal dysfunction, which are often shared among personality disorders (Somma et al., 2024).

In Western countries, the prevalence of BPD in adults ranges from 0.4% to 5.9% (Gunderson et al., 2018; Winsper et al., 2020). Higher prevalence rates are observed in psychiatric inpatient units, ranging from 15% to 25%, compared to 10% in psychiatric outpatient services (Gunderson et al., 2018; Torgersen, 2014).

Despite the generally positive prognosis for BPD, with 85% of patients recovering within 10 years of diagnosis, the overall burden remains significant (McGlashan et al., 2000). BPD is associated with high levels of psychosocial and occupational impairment, as well as elevated

rates of comorbidity with other mental disorders, including depression, anxiety, substance use disorder, and other personality disorders (PDs). Unhealthy lifestyles of BPD patients result in a deterioration in their physical health conditions (Bellino et al., 2014; Martino et al., 2014; Shen et al., 2017; Zanarini et al., 2018).

Consequently, BPD is associated with high utilization of healthcare services (Keuroghlian et al., 2013), including primary care, specialist visits (Sansone et al., 1996), and medication prescriptions (Sansone et al., 1996, 1998). Additionally, patients are frequently admitted to the emergency department (A&E) due to self-harm behaviors and suicide attempts, resulting in an increased number of hospitalizations (Black et al., 2006). BPD is also associated with low occupational and educational attainment, a lack of long-term romantic relationships and friendships, increased partner conflict, sexual risk-taking, low levels of social support, low life satisfaction, and a high burden on family members (Bohus et al., 2021).

Given the relevance of the above, finding an efficient treatment for BPD is a fundamental priority. A systematic review (SR) and cost-offset analysis demonstrated that evidence-based psychological interventions significantly reduced the economic burden of mental health services (Meuldijk et al., 2017). No medications have been approved for treating BPD and psychotherapy is widely considered the gold standard treatment (APA, 2022; National Institute for Health and Care Excellence [NICE], 2009; National Health and Medical Research Council [NHMRC], 2013). Specifically, Dialectical Behavior Therapy (DBT) proved to be an effective treatment in reducing the severity of BPD, alleviating symptoms, and improving functioning (Barnicot & Crawford, 2019; Feigenbaum et al., 2012; Koons et al., 2001; Linehan et al., 1991, 1999; van den Bosch et al., 2002, 2005; Verheul et al., 2003).

The primary functions of DBT are to enhance motivation for change, teach effective skills for emotional and behavioral regulation, support individuals in applying these skills in different areas of their lives, and create an environment that encourages the consistent use of these skills. These functions are implemented through four key components: individual psychotherapy, a skills training group, telephone coaching, and a therapist consultation team. Further details on DBT functions and components are presented in Box 1.

Several SRs showed that DBT has favorable outcomes in addressing core features of BPD, such as irritability, anger, and affect instability, as well as depressive and anxiety symptoms (Binks et al., 2006; Stoffers-Winterling et al., 2012; Storebø et al., 2020). However, nearly 50% of patients fail to achieve substantial improvement, underscoring the need for further research on its effectiveness (Leichsenring et al., 2024). Additionally, there is limited data on the feasibility of DBT within real-world public mental health services (Blennerhassett et al., 2009). Despite a few studies demonstrating the effectiveness of DBT in public outpatient settings (Comtois et al., 2007; Pasieczny & Connor, 2011; Turner, 2000), the short duration of only six months

(Pasieczny & Connor, 2011), modifications to the standard DBT model (Turner, 2000), and small sample sizes (Comtois et al., 2007) limit the applicability of these findings in the real-world. Implementing DBT in the real-world presents various challenges, including establishing a DBT program and identifying suitable patients for treatment. Additionally, clinicians often face time constraints and may struggle to integrate DBT within their clinical practice (Carmel et al., 2014; Swales et al., 2012).

Therefore, this study aims to assess the feasibility and effectiveness of a one-year standard DBT program in a real-world setting. To the best of our knowledge, this is the first research to explore these outcomes within the Italian healthcare setting. It is fundamental to determine whether interventions developed and disseminated in Anglo-Saxon countries can also be effectively implemented in our country. We hypothesize that implementing a one-year standard DBT program in Italian outpatient mental health services will be both feasible and effective. Specifically:

1) The DBT program will achieve high participation and low dropout rates, reflecting its feasibility in a real-world clinical setting.

2) Following the completion of the DBT program, participants will show significant reductions in self-harming behaviors, unscheduled outpatient visits, A&E admissions, and hospitalizations in inpatient psychiatric services, demonstrating its effectiveness.

**Box 1.** Functions and components of standard DBT intervention.

**FUNCTIONS**

- Increase motivation to change and use skills provided.
- Teach skills for more effective emotional and behavioral regulation.
- Support the individual in generalizing these skills to the wider environment.
- Help shape an environment that reinforces the use of the skills.
- Increase the therapist's own skills and motivation to keep working with the client.

| **COMPONENTS** | |
|---|---|
| **Individual Therapy (pre-treatment)** | Weekly individual therapy sessions last 50-60 minutes. |
| **Skills Training Group** | Each group, consisting of 2 to 8 participants, is led by two co-therapists and meets weekly for 2 to 2.5 hours. It is divided into four modules—mindfulness, emotion regulation, interpersonal effectiveness, and distress tolerance—over approximately six months, completing one treatment cycle. At the end of the first cycle, participants had the option to attend or not a second cycle. |
| **Telephone Coaching** | Patients can contact their individual therapist between sessions in cases of severe psychological distress or difficulty managing daily life events. |
| **Therapist Consultation Team** | Weekly 2-hour meetings. |

## 2. Materials and methods

### 2.1 Study design

This is a retrospective, longitudinal observational study aimed at evaluating the feasibility and effectiveness of a one-year standard DBT program in Italian mental health outpatient services.

According to previous pilot studies that evaluated the feasibility of DBT in patients with marijuana use disorder and justice-involved veterans (Davoudi et al., 2021; Edwards et al., 2023), we assessed feasibility through various parameters, including number of patients enrolled compared to initial referrals, as well as dropout and participation rates. Treatment completion was defined as consistent attendance through the entire one-year DBT program, with patients missing three or more consecutive group or individual therapy sessions classified as dropouts.

Effectiveness was assessed using multiple outcome measures over the year before and after treatment. These measures included the incidence of non-suicidal self-harm behaviors, unscheduled outpatient service admissions, A&E admissions, and hospitalizations in inpatient psychiatric services, along with their respective durations.

The study protocol was developed in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) and it was approved by the local Ethical Committee (#0101574- 22/09/2023), as a retrospective study. This approval enabled the analysis of data collected between 2013 and 2020, which had initially been gathered as part of standard clinical practice. According to the protocol, written informed consent was obtained from all participants involved in the study.

Setting and participants

The study was conducted at three Community Mental Health Centers (CMHCs) services in the western part of Bologna, Italy, during two periods: November 2013 to December 2014 and December 2017 to December 2020. The interruption in recruitment was due to staff turnover, with the gap between the two phases necessary to allow for the required training of new therapists.

Since 2013, the DBT program has been implemented in these CMHCs according to the Emilia Romagna Regional Guidance for the Treatment of Severe Personality Disorders ( Regione Emilia Romagna [RER], 2013), which is based on the National Institute for Care and Health Excellence for BPD (NICE, 2009).

The standard DBT program was offered to outpatients aged 18-45 years who met the DSM-5 criteria for BPD. Exclusion criteria included: 1) a diagnosis of schizophrenia spectrum disorders (SSD) or bipolar disorder (BD); 2) intellectual disability (IQ < 75); 3) substance use disorder (SUD); 4) neurological diseases; 5) limited proficiency in Italian; and 6) current participation on other psychotherapy.

No restrictions were placed on the use of pharmacotherapy.

**2.2 Baseline assessment**

The DBT team used various psychometric tools to diagnose and evaluate different psychopathological features of BPD. Specifically, the Italian version (Cronbach's alpha 0.73 to 0.91) (Somma et al., 2024) of the Structured Clinical Interview for DSM-5 Personality Disorders (SCID-5-PD) (First et al., 2016) and the Italian version (Cronbach's alpha 0.71 to 0.94) (Maffei et al., 1997) of the Structured Clinical Interview for DSM-IV- Axis II Personality Disorders (SCID – II) (First & Gibbon, 1997) were administered for categorical diagnosis of BPD. To assess symptom domains and functioning related to BPD, the following self-reported questionnaires were administered: 1) The Italian adaptation (Cronbach's alpha =0.9) (Sighinolfi et al., 2010) of the Difficulties in Emotion Regulation Scale (DERS): a 36-item Likert-type questionnaire evaluating difficulties in emotion regulation across six domains, including lack of emotional awareness and impulsive responses (Gratz & Roemer, 2004)(Cronbach's alpha 0.93; test-retest reliability 0.88); 2) the Italian adaptation (Cronbach's alpha = 0.79) (Fossati et al., 2001) of the Barratt Impulsiveness Scale (BIS-11) (Cronbach's alpha= 0.81): a 30-item scale assessing three dimensions of impulsivity (i.e., attentional, motor, and non-planning impulsivity) (Patton et al., 1995); 3) the Italian adaptation (Cronbach's alpha= 0.86) (Fossati et al., 2003) of the Aggression Questionnaire (AQ) (Cronbach's alpha= 0.89, test-retest reliability 0.80): a 29-item tool measures physical aggression, verbal aggression, anger, and hostility (Buss & Perry, 1992); 4) the Self-Harm Inventory (SHI): a 22-item yes/no, self-report, questionnaire which measures the tendency toward self-mutilation as well as its severity, including eating disorders, highly lethal behaviours and medical issues. While no specific Italian validation was identified, the SHI was included for its broad applicability in clinical populations (Sansone et al., 1998); 5) The Work and Social Adjustment Scale (WSAS): a 5-item measure assesses functional impairment in work, social activities, and personal relationships (Cronbach's alpha =0.70 to 0.94; test-retest reliability 0.73) (Mundt et al., 2002). Despite the absence of an Italian validation, its utility for assessing functional impairment warranted its inclusion.

Following this initial assessment, the DBT team carefully examined the participants to determine their eligibility based on the inclusion and exclusion criteria. Importantly, although some patients met the inclusion criteria, they were ultimately not selected to participate in the standard DBT program due to either little or no motivation to change or because of their negative attitude toward psychotherapy.

**2.4 DBT intervention**

The DBT team consisted of nine healthcare professionals, including psychiatrists, nurses, psychologists, and psychiatry and psychology trainees, working within the three CMHCs. All DBT therapists attended a three-day introductory workshop on DBT, followed by an intensive

training offered by the Italian Society for DBT (SIDBT). This included a five-day initial training, approximately ten months of intervention implementation with mentorship monitoring, and an additional five-day training over the course of a year, in both residential and online formats. Moreover, regular supervision sessions conducted by a certified DBT supervisor were held to ensure that all therapists adhered to the treatment protocols (SIDBT, 2011).

Patients who agreed to participate in the standard DBT program started with a pre-treatment phase, consisting of three or four sessions with the individual therapist. The main goals were to establish a therapeutic alliance, introduce the core aspects of the treatment, identify key emotional triggers and dysfunctional behavioral patterns, and set primary treatment goals. Upon completing this pre-treatment phase, patients then progressed to the one-year standard DBT, which consists of several components, as detailed in Box 1.

### 2.5 Data analysis

Analyses were performed using an intention-to-treat approach, retaining data from individuals who dropped out of treatment in the models.

Descriptive analyses were employed to characterize the sample (both completers and dropouts). Mean and standard deviation or median and interquartile range, and absolute and relative frequencies were used for quantitative and categorical data, respectively. Participation and dropout rates were computed among completers and dropouts, respectively.

To assess homogeneity between completers and dropouts' groups, unpaired t-test and Pearson's Chi-Square test (with Yates' correction) were applied to compare continuous and dichotomous variables, respectively. Then, a logistic regression model was built to further assess if any dropout factors could have affected completion.

To compare the trend of outcome indices in the completers' group before and after the intervention, paired t-test and McNemar's test were employed for continuous and dichotomous variables, respectively.

All statistical analyses were performed using SPSS (Statistical Package for the Social Sciences) software, version 25, and reported results adhere to a significance threshold of $p < 0.05$.

## 3. Results

### 3.1 Clinical sample

A total of 132 patients with BPD were referred to the standard DBT program. Of these, 9 (6.8%) did not meet the inclusion criteria. Additionally, 39 (29.5%) individuals, despite meeting the inclusion criteria, were not considered eligible for DBT due to little or no motivation to change or negative attitude toward psychotherapy (Jennissen et al., 2018; Roback, 2000). Instead, they were offered alternative interventions such as individual different psychotherapy approaches and/or psychoeducation for families, as recommended by the Emilia Romagna

Regional Guidance for the Treatment of Severe Personality Disorders (RER, 2013). Hence, 84 (63.7%) patients were considered eligible for standard DBT treatment. However, 33 (39.2%) of these eligible patients refused to participate for various reasons, including scheduling conflicts with personal or work commitments. Finally, 51 (60.8%) individuals were enrolled in the standard DBT treatment. Of these, 37 (72.5%) completed the treatment, and 27 (73.0%) participated in the follow-up assessment at one year.

The detailed progression of participants is presented in Figure 1, while the baseline sociodemographic and clinical characteristics of the enrolled patients are summarized in Tables 1 and 2.

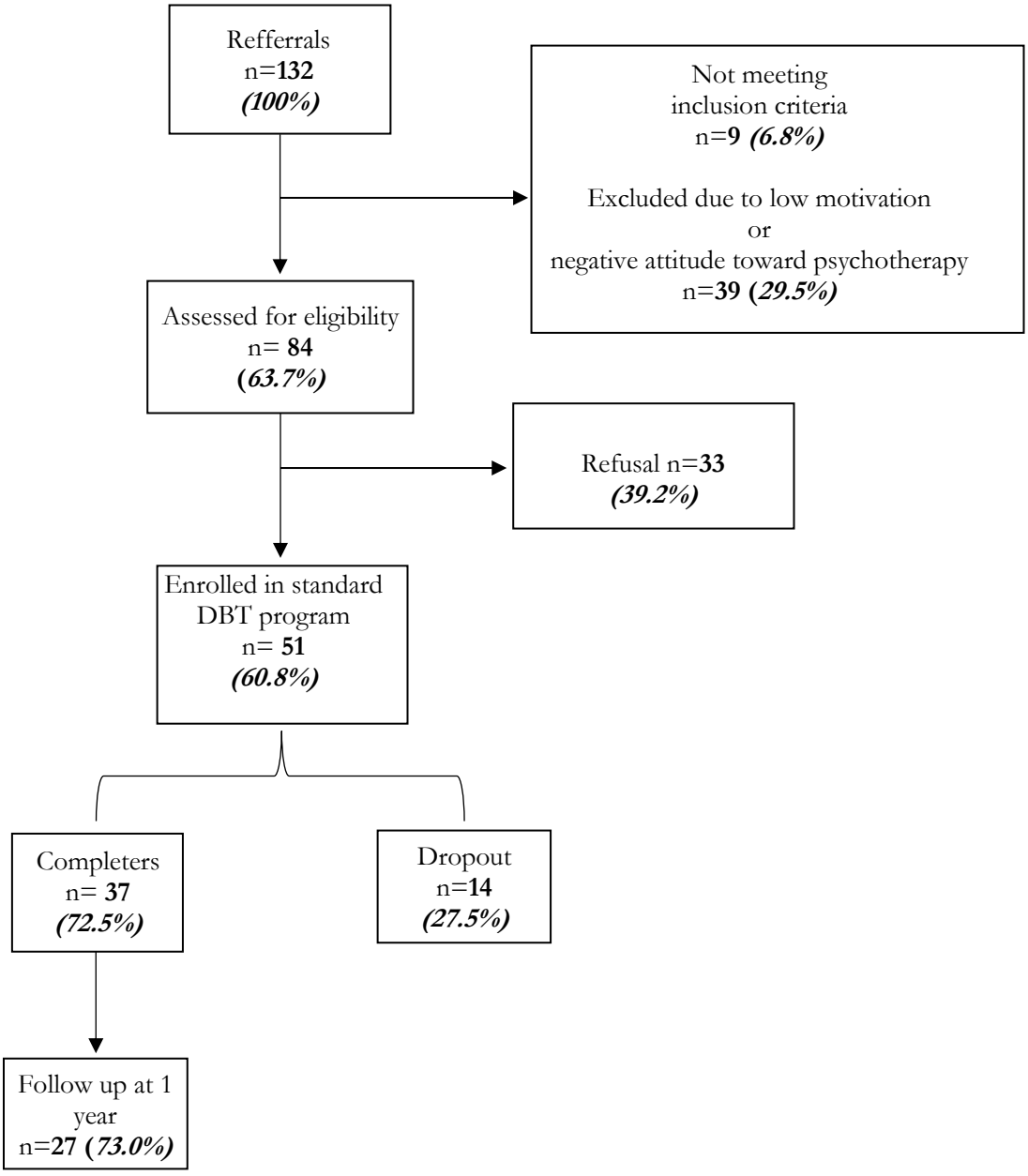


**Figure 1.** Flow diagram illustrating patients' progression through the study.

**Table 1.** Baseline participant sociodemographic characteristics (n= 51)

| | | | |
|---|---|---|---|
| **Education N (%)** | Secondary School Diploma | | 18 (35.3) |
| | High School Diploma | | 30 (58.8) |
| | Graduation | | 3 (5.9) |
| **Marital Status N (%)** | Bachelor/Unmarried | | 35 (68.8) |
| | Cohabitant | | 5 (9.8) |
| | Married | | 3 (5.9) |
| | Separated/divorced | | 8 (15.7) |
| **Employment N (%)** | Employed | | 27 (53) |
| | Unemployed | | 13 (25.5) |
| | Student | | 11 (21.6) |
| **Living Situation N (%)** | Alone | | 13 (25.5) |
| | With parents | | 14 (27.5) |
| | Friends/partner | | 19 (37.3) |
| | Other | | 5 (9.8) |
| **Co-occurring Mental Disorders N (%)** | None, n. (%) | | 32 (62.7) |
| | Depressive Disorders, n. (%) | | 9 (17.6) |
| | Anxiety Disorders, n. (%) | | 1 (2.0) |
| | Eating Disorders, n. (%) | | 4 (7.8) |
| | Other, n. (%) | | 5 (9.8) |
| **Other DP N (%)** | **Cluster A** | Paranoid, n. (%) | 2 (3.9) |
| | **Cluster B** | Narcissistic, n. (%) | 2 (3.9) |
| | | Histrionic, n. (%) | 1 (2.0) |
| | **Cluster C** | Avoidant, n. (%) | 4 (7.8) |
| | | Dependent, n. (%) | 1 (2.0) |
| | | Obsessive-Compulsive, n. (%) | 1 (2.0) |

**Table 2**: Baseline clinical characteristics of the subjects (n=51)

| Variable | Cut off | Mean | DS |
|---|---|---|---|
| **DERS** | 90 | 116.06 | 23.54 |
| **AQ** | 74.7 | 81.98 | 17.6 |
| **SHI** | 5 | 9.3 | 4.16 |
| **BIS-11** | 64.11 | 69.04 | 9.74 |
| **WSAS** | 10 | 19.1 | 8.64 |

**Abbreviations:** AQ= Aggression Questionnaire; BIS-11= Barratt Impulsiveness Scale-11; DERS= Difficulties in Emotion Regulation Scale; DS= standard deviation; SHI= Self-Harm Inventory; WSAS= Work and the Social Adjustment Scale.

### 3.2 Feasibility

Of the 132 patients initially referred to the standard DBT program, only 51 were enrolled, highlighting potential barriers to initial engagement. Among those enrolled, 37 (72.5%) completed the treatment, demonstrating the program's feasibility in retaining the majority of participants. The dropout rate of 27.5% (14 patients) was primarily attributed to external factors, including work or family issues reported by 5 patients (35.7%), exclusion due to missing three consecutive sessions for 7 patients (50%), and dissatisfaction with the treatment expressed by 2 patients (14.3%).

The mean participation rate in group therapy sessions for the 51 patients was 66.5% (14.3 sessions ± 6.3). This rate increased to 79.5% (17.1 sessions ± 4.3) among the 37 completers. These findings demonstrate sustained engagement, particularly among completers, thereby reinforcing the program's feasibility.

The results also highlight age as a significant predictor of dropout. Patients who discontinued DBT were significantly older than completers (35.4 ± 8.2 vs. 29.8 ± 8.0; $p = 0.032$). A logistic regression model confirmed that age remained a significant predictor (OR=1.15; $p=0.039$), indicating that older participants may face unique challenges in sustaining engagement in the standard DBT.

### 3.3 Effectiveness

Analysis comparing the year before and the year after completing the standard DBT program demonstrated significant improvements for participants, in accordance with the second hypothesis. Specifically, non-suicidal self-injurious behaviors markedly decreased from 74.3% to 14.3% after treatment ($p < 0.001$), demonstrating a substantial reduction in self-harming tendencies. Hospitalizations, a key metric for inpatient service utilization, also decreased significantly, with the mean number of admissions dropped from 0.4 ± 0.8 to 0.1 ± 0.3 ($p < 0.001$), and the mean number of hospitalization days reduced from 5.6 ± 13.0 to 0.5 ± 1.8 ($p < 0.001$). Outpatient service use, measured by the number of unplanned visits to mental health services decreased from 5.8 ± 6.6 to 3.5 ± 3.7 ($p=0.004$), indicating improved stabilization and reduced crisis intervention in outpatient settings. However, A&E admissions showed no significant changes, with mean admissions remaining comparable ($p = 0.63$). Despite this, the overall trends highlight the effectiveness of the DBT program in reducing key markers of acute service utilization and self-harming behaviors.

Full details on the effectiveness of the standard DBT treatment are provided in **Table 3.**

**Table 3:** Outcome of effectiveness for completers (n=37) assessed one year before and one year after the standard DBT program. The t-value (F) represents the results of a paired-sample Student's t-test for continuous variables. McNemar's Test was used to measure dichotomous variables

| Variable | Variable specification | pre | post | F | *p* |
|---|---|---|---|---|---|
| **Non sucidial self-harm behaviors** n (%) | | 26 (74.3) | 3 (14.3) | | **< 0.001** |
| | **hospitalizations** n (%) | 9 (25) | 3 (10.7) | | 0.180 |
| | numbers *mean (±DS)* | 0.4 (0.81) | 0.1 (0.32) | - 5.256 | **< 0.001** |
| | days *mean (±DS)* | 5.6 (13.02) | 0.5 (1.77) | - 14.99 | **< 0.001** |
| **Methods of access to services** | **A&E admissions** n. (%) | 10 (29.4) | 4 (13.3) | | 0.63 |
| | number *mean (±DS)* | 0.4 (0.82) | 0.50 (1.59) | 0.206 | 0.838 |
| | **outpatient service unscheduled visits** n. (%) | 24 (82.8) | 20 (76.9) | | 0.727 |
| | number *mean (±DS)* | 5.8 (6.55) | 3.5 (3.69) | - 3.176 | **0.004** |

## 4. Discussion

This real-world study presents novel findings on the feasibility and effectiveness of a one-year standard DBT treatment across three CMHCs in the city of Bologna, Italy.

Although DBT has been extensively studied and implemented worldwide, its feasibility and effectiveness in real-world clinical settings have rarely been explored in mental health services for adult patients. Recent real-world studies included justice-involved veterans (Edwards et al., 2023) or exclusively focused on the skills training group (Keng et al., 2021; Vasiljevic et al., 2023). Notably, there are only two studies on the skills training group conducted in Italian outpatient services (Giordano et al., 2021; Maffei et al., 2018). In the first study, patients had an alcohol dependence, with only half of the sample presenting comorbid BPD (Maffei et al.,

2018), whilst the second one consists of a preliminary study involving 28 patients diagnosed with BPD undergoing a 16-session DBT program (Giordano et al., 2021). Similar to our findings, their study demonstrated significant reductions in emotion dysregulation and impulsiveness post-treatment, highlighting the potential of DBT in real-world settings. However, their reported dropout rate (39.3%) exceeded ours (27.5%), possibly reflecting differences in program duration and structure. Nevertheless, both rates remain higher than the mean dropout rate of 16.7% reported in DBT trials (Linehan, 2014), likely due to the challenges associated with group interventions in real-world clinical settings. Hence, it is fundamental to explore the feasibility and effectiveness of the complete standard DBT program in real-world healthcare settings.

### 4.1 Feasibility

Regarding feasibility, the first notable observation is that out of 132 referred patients, only 84 were eligible for the treatment. Of those, 51 (i.e., just over a third) accepted and started the DBT program.

Beyond the inclusion criteria, this gap was largely attributed to several factors, including the lack of motivation to change, a negative attitude toward psychotherapy, and a significant number of patients refusing to participate due to scheduling conflicts with personal, work, or study commitments. These barriers are consistent with those reported in the literature, where patient engagement in DBT has been shown to be influenced by similar factors, including logistical challenges, readiness for change, and practical constraints (Blennerhassett et al., 2009; Pasieczny & Connor, 2011).

Three key considerations arise in this context.

First, individuals with low motivation or a negative attitude toward psychotherapy find it difficult to be involved in group settings compromising the therapeutic process for themselves and others (Jennissen et al., 2018; Middlehurst et al., 2024; Roback, 2000). Unlike psychotherapy, which requires personal commitment, taking medication daily, as in drug trials, often demands less effort and can be influenced by external factors, such as legal requirements or family pressure (Soler et al., 2009). Patient motivation to change and commitment to treatment play a crucial role in the overall success of DBT treatment. Individuals with poor insight attending CMHCs often seek symptom relief and prefer medication over psychotherapy for reducing emotional crises (Carmel et al., 2014). To address these challenges, it may be necessary to extend the pre-treatment phase or provide other interventions, such as psychoeducation, case management, or family involvement, before initiating standard DBT to help patients develop stronger motivation for their treatment.

Second, an identified barrier that may have contributed to the gap between initially referred patients and those ultimately enrolled in DBT was the initial poor cohesion between the DBT team and other psychiatrists of the CHMCs. As a result, patients who were less inclined to be involved in psychotherapy were still referred to the team. Previous research on the DBT program's sustainability has shown that these programs are vulnerable to closure in the early years due to organizational issues and a lack of cohesion with the rest of the service (Flynn et al., 2020; Swales et al., 2012). In line with this, as our program progressed, improvements in communication and support between the DBT team and other clinicians led to more targeted and precise referrals, thereby enhancing the program's feasibility.

Third, the DBT program was perceived as complex and demanding in terms of time and commitment. Shorter-duration psychotherapies are generally perceived as more effective and more likely to be started (De Geest & Meganck, 2019; Knekt et al., 2015). Given that current research emphasizes the effectiveness of specific DBT components in reducing emotional dysregulation (Kramer, 2017; Soler et al., 2009), focusing on specific components, such as skills training groups, could make the treatment more accessible. Specifically, a shorter, 20-week program of DBT was effective in reducing self-harm behaviors and improving emotional regulation in BPD (McMain et al., 2017). This approach also aligns with the concept of personalized psychological interventions (Nye et al., 2023).

Noteworthy, the high participation (72.5%) and low dropout rates (27.5%) of patients starting the intervention suggest that standard DBT is feasible, with a completion rate comparable to findings of the literature (71% for year-longer interventions) (Barnicot et al., 2011). This is considered a highly positive outcome, as one of the primary objectives of DBT is to enhance treatment retention (Linehan et al., 1991).

Interestingly, age significantly predicted dropout rates, contrasting with some individual studies that suggested otherwise (Barnicot et al., 2011). Patients who discontinued DBT were significantly older than completers. This can be interpreted from a psychopathological perspective. Although emotional dysregulation is a stable feature of BPD over time (Martino et al., 2020), young patients often experience more intense emotional crises, impulsivity, and behavioral dysregulation, leading to higher rates of self-harm and greater use of health services (Leichsenring et al., 2024). In contrast, older adults more commonly experience affective symptoms, such as depression and emptiness (Galione & Oltmanns, 2013; Morgan et al., 2013). Additionally, higher dropout risk in DBT is typically associated with lower baseline psychopathology symptoms, including less suicidal ideation and behavior (Gunderson et al., 1989; Landes et al., 2016; Rüsch et al., 2008). Our study supports this, as dropouts had lower rates of self-harm, fewer unscheduled ambulatory visits, and shorter hospitalizations in the year

before enrollment compared to completers. This pattern is consistent with the older age of dropouts and the provided DBT appears to be more feasible for young patients, who may have higher motivation and engagement in DBT due to the acute nature of their symptoms and a greater willingness to adopt new coping strategies.

To achieve these favorable outcomes in feasibility, it is essential to recognize the crucial role of comprehensive training and the commitment from healthcare personnel. It is well-known that inadequate training and resources for clinicians hinder the implementation of psychotherapy in public healthcare systems (Carmel et al., 2014). Additionally, the therapist consultation team was crucial for maintaining clinician motivation, as provided support, opportunities for reflection, and assistance with regulating emotions (Walsh et al., 2018).

Finally, the acceptability of the DBT program was extremely high, as shown by positive feedback from both clinicians and participants, as well as high retention rates in DBT sessions, particularly among young participants.

**4.2 Effectiveness**

The current study also presents promising preliminary evidence on the effectiveness of DBT in a real-world setting characterized by high demand and limited resources.

Following DBT, we observed reductions in the utilization of public health services, including fewer and shorter hospitalizations and a decrease in unscheduled outpatient visits. These findings are consistent with results from previous randomized clinical trials (RCTs) (Carter et al., 2010; Koons et al., 2001; Linehan et al., 1991, 2006) and open-label studies, although many of these used adaptations of the standard DBT (Brassington & Krawitz, 2006; Comtois et al., 2007; Flynn et al., 2017; Heerebrand et al., 2021; Keng et al., 2021; Pasieczny & Connor, 2011). Additionally, consistent with the results of previous research, our DBT program confirmed to reduce self-injurious behaviors, a core concern of BPD (Chen et al., 2021; Hernandez-Bustamante et al., 2024; Kliem et al., 2010; Oud et al., 2018; Panos et al., 2014). Specifically, an RCT reported that participants undergoing a three-month DBT showed significant decreases in self-harm compared to those receiving treatment as usual (Bohus et al., 2004).

We suggest two main factors that might have contributed to these positive clinical outcomes in a real-world setting, although future studies should further explore them.

First, we hypothesize that nonjudgmental acceptance, a mindfulness "how skill", played a crucial role in helping patients reduce their tendency to self-judgment and, consequently, their engagement in self-harm behaviors (Mehlum, 2021). This nonjudgmental stance can diminish the intensity of negative emotions and reduce impulsive behaviors, such as self-harm, which are commonly employed as maladaptive coping strategies (Soler et al., 2012). Considering that self-

harm episodes represent a primary reason for healthcare utilization among individuals with BPD (Lundahl et al., 2018), the observed reduction in healthcare demand could be associated with a decrease in these behaviors.

Second, developing a strong therapeutic alliance, characterized by high levels of validation and evidenced by high session attendance, significantly enhanced patients' psychological resilience, enabling them to better manage their reactions and cope with stressful situations (Barnicot et al., 2011; Mehlum, 2021; O' Toole et al., 2012;). Research highlights the therapeutic alliance as a key predictor of successful outcomes in psychotherapy for BPD (Barnicot et al., 2011; Spinhoven et al., 2007). A robust alliance empowers patients to effectively apply DBT skills in daily life, reducing self-harm and improving emotional regulation. Additionally, feeling understood and accepted by the therapist enhances self-esteem and resilience, fostering better coping mechanisms (Bender, 2005).

Notably, the standard DBT program improved clinical outcomes for BPD even within a heterogeneous group of patients, despite differences in demographic characteristics and the number of suicide attempts or nonsuicidal self-injuries at baseline. This diversity represents the typical composition of therapy groups at the CMHCs.

**5. Limitations and future directions**

Despite the positive findings of our study, results must be interpreted in light of several limitations. Firstly, the lack of a control group and the observational design limit the internal validity of the study in assessing DBT effectiveness, preventing definitive conclusions about this outcome. Secondly, since enrolled patients were also receiving concurrent treatments during the study, such as medications and individual consultations with their psychiatrists, the observed outcomes may not be solely attributable to the standard DBT treatment. Third, the mean participation rates refer only to the DBT therapy sessions and not to individual sessions. Additionally, the predominance of female patients in our sample limits the generalizability of the findings to male subjects. Fifth, we did not formally assess the normality of data distributions before applying parametric tests. Although the robustness of parametric methods and the size of the sample provide a reasonable justification, future research should incorporate formal normality testing to ensure statistical rigor. Finally, we did not explore factors such as clinician turnover and time constraints related to balancing DBT with other clinical responsibilities. These issues represent significant challenges in healthcare settings that may compromise feasibility (Swales et al., 2012).

Therefore, future research should implement these limitations to fully understand the feasibility and effectiveness of standard DBT programs. Integrating neuropsychological assessments might also be crucial for reducing dropout rates. Recent studies suggest that lower executive

control and compromised visual memory performance are predictors of dropout in patients with BPD (Fertuck et al., 2012). Considering that impaired neurocognitive performance is more common in older adults (Murman, 2015), age could be a significant predictor of dropout, as observed in our study.

Additionally, to enhance attendance rates, the following suggestions could be considered. First, forming more homogeneous groups could be beneficial. This would allow a more tailored use of skills and targeted attention to specific issues, unlike heterogeneous groups, which require a more generalized approach. In homogeneous groups, patients also benefit from validation of other individuals facing similar challenges (Linehan, 2014). Second, focusing on the experiences of individuals who have dropped out of DBT treatment, particularly men, could help identify gender differences and personal perceptions of the therapy. This understanding could be advantageous in determining the most effective timing for proposing DBT to patients and preventing dropouts (Middlehurst et al., 2024).

## 6. Conclusions

Given the complex needs of individuals diagnosed with BPD and their significant reliance on mental health services, it is crucial to evaluate the real-world application of evidence-based treatments like DBT. Our study demonstrates the feasibility of a one-year standard DBT treatment in public psychiatric outpatient units in the western region of the metropolitan area of Bologna, conducted without financial support. Our preliminary findings are encouraging, showing a low dropout rate, high participation in DBT treatment, and reductions in self-harming behaviors, hospital admissions, and unscheduled outpatient visits. Future research should aim to replicate our findings in Italy.

## Ethical approval

The study protocol was developed in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) and it was approved by the local Ethical Committee (#0101574- 22/09/2023), as a retrospective study. This approval enabled the analysis of data collected between 2013 and 2020, which had initially been gathered as part of standard clinical practice. According to the protocol, written informed consent was obtained from all participants involved in the study.

## Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

## Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon request.

**Conflict of Interest Statement**

The authors declare that the research was conducted in the absence of any potential conflict of interest.

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**Authors' Contribution**

M.M. (last author), B.B, and S.G. designed the study. M.S. (first author), S.L. (first author), B.B., S.G., and F.M. managed the literature searches. All the authors selected the sample, evaluated patients and contributed in some aspects of the study design and in the interpretation of results. S.L. (first author) and B.B. undertook the statistical analysis. M.S. (first author), S.L. (first author), B.B., and F.M. wrote the first draft of the manuscript. All authors contributed to and have approved the final manuscript. The first two authors (M.S. and S.L.) contributed equally to this work and share the first authorship.

## References


1. American Psychiatric Association. (2022). Diagnostic and Statistical Manual of Mental Disorders, 5th Ed., Text Revision. Washington, DC.
2. Barnicot, K., & Crawford, M. (2019). Dialectical behaviour therapy v. Mentalisation-based therapy for borderline personality disorder. *Psychological Medicine*, *49*(12), 2060–2068. https://doi.org/10.1017/S0033291718002878
3. Barnicot, K., Katsakou, C., Marougka, S., & Priebe, S. (2011). Treatment completion in psychotherapy for borderline personality disorder - a systematic review and meta-analysis: Treatment completion in BPD. *Acta Psychiatrica Scandinavica*, *123*(5), 327–338. https://doi.org/10.1111/j.1600-0447.2010.01652.x
4. Bellino, S., Bozzatello, P., De Grandi, E., & Bogetto, F. (2014). La psicoterapia interpersonale: Un modello di intervento per il disturbo borderline di personalità. *Rivista di Psichiatria*, *49*(4), 158-163. https://doi.org/10.1708/1600.17450
5. Bender, D. S. (2005). The therapeutic alliance in the treatment of personality disorders. *Journal of Psychiatric Practice*, *11*(2), 73–87. https://doi.org/10.1097/00131746-200503000-00002
6. Binks, C., Fenton, M., McCarthy, L., Lee, T., Adams, C. E., & Duggan, C. (2006). Psychological therapies for people with borderline personality disorder. *Cochrane Database of Systematic Reviews, (1),* CD005652. https://doi.org/10.1002/14651858.CD005652
7. Black, D. W., Blum, N., Letuchy, E., Doebbeling, C. C., Forman-Hoffman, V. L., & Doebbeling, B. N. (2006). Borderline Personality Disorder and Traits in Veterans: *Psychiatric Comorbidity, Healthcare Utilization, and Quality of Life Along a Continuum of Severity*. *CNS Spectrums*, *11*(9), 680–689. https://doi.org/10.1017/s1092852900014772
8. Blennerhassett, R., Bamford, L., Whelan, A., Jamieson, S., & O'Raghaillaigh, J. W. (2009). Dialectical behaviour therapy in an Irish community mental health setting. *Irish Journal of Psychological Medicine*, *26*(2), 59–63. https://doi.org/10.1017/S0790966700000227
9. Bohus, M., Haaf, B., Simms, T., Limberger, M. F., Schmahl, C., Unckel, C., Lieb, K., & Linehan, M. M. (2004). Effectiveness of inpatient dialectical behavioral therapy for borderline personality disorder: A controlled trial. *Behaviour Research and Therapy*, *42*(5), 487–499. https://doi.org/10.1016/S0005-7967(03)00174-8
10. Bohus, M., Stoffers-Winterling, J., Sharp, C., Krause-Utz, A., Schmahl, C., & Lieb, K. (2021). Borderline personality disorder. *The Lancet*, *398*(10310), 1528-1540. https://doi.org/10.1016/S0140-6736(21)00476-1
11. Borroni, S., Rutolo, G., Geminiani, C., Masci, E., & Fossati, A. (2024). DSM-5 Personality Dysfunction in a mentalization perspective: the interplay among personality dysfunction, emotion dysregulation and mentalization ability in a sample of Italian community dwelling-adults. *Mediterranean Journal of Clinical Psychology, 12*(1). https://doi.org/10.13129/2282-1619/mjcp-3977
12. Bortolla, R., Cavicchioli, M., Rivaldi, J. S., Mateos, J. C. P., Verschure, P. F. M., & Maffei, C. (2020). Hypersensitivity or hyperreactivity? An experimental investigation in Borderline Personality Disorder. *Mediterranean Journal of Clinical Psychology*, *8*(1). https://doi.org/10.6092/2282-1619/mjcp-2297

13. Bortolla, R., Spada, G. E., Galli, M., Visintini, R., Talè, C., & Maffei, C. (2022). Psychophysiological aspects of Borderline Personality Disorder reactivity to interpersonal stimuli: Associations to components of childhood abuse. *Mediterranean Journal of Clinical Psychology*, *10*(2). https://doi.org/10.13129/2282-1619/mjcp-3435
14. Bortolla, R., Spada, G. E., Lazzarino, E., & Maffei, C. (2023). Eye-tracking patterns in borderline personality disorder: findings from a relational dot-probe task. *Mediterranean Journal of Clinical Psychology*, *11*(1). https://doi.org/10.13129/2282-1619/mjcp-3638
15. Brassington, J., & Krawitz, R. (2006). Australasian Dialectical Behaviour Therapy Pilot Outcome Study: Effectiveness, Utility and Feasibility. *Australasian Psychiatry*, *14*(3), 313–318. https://doi.org/10.1080/j.1440-1665.2006.02285.x
16. Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology*, *63*(3), 452–459. https://doi.org/10.1037//0022-3514.63.3.452
17. Carmel, A., Rose, M. L., & Fruzzetti, A. E. (2014). Barriers and Solutions to Implementing Dialectical Behavior Therapy in a Public Behavioral Health System. *Administration and Policy in Mental Health and Mental Health Services Research*, *41*(5), 608–614. https://doi.org/10.1007/s10488-013-0504-6
18. Carter, G. L., Willcox, C. H., Lewin, T. J., Conrad, A. M., & Bendit, N. (2010). Hunter DBT Project: Randomized Controlled Trial of Dialectical Behaviour Therapy in Women with Borderline Personality Disorder. *Australian & New Zealand Journal of Psychiatry*, *44*(2), 162–173. https://doi.org/10.3109/00048670903393621
19. Chen, S. Y., Cheng, Y., Zhao, W. W., & Zhang, Y. H. (2021). Effects of dialectical behaviour therapy on reducing self-harming behaviours and negative emotions in patients with borderline personality disorder: A meta-analysis. *Journal of Psychiatric and Mental Health Nursing*, *28*(6), 1128-1139. https://doi.org/10.1111/jpm.12797
20. Comtois, K. A., Elwood, L., Holdcraft, L. C., Smith, W. R., & Simpson, T. L. (2007). Effectiveness of Dialectical Behavior Therapy in a Community Mental Health Center. *Cognitive and Behavioral Practice*, *14*(4), 406–414. https://doi.org/10.1016/j.cbpra.2006.04.023
21. Davoudi, M., Allame, Z., Foroughi, A., & Taheri, A. A. (2021). A pilot randomized controlled trial of dialectical behavior therapy (DBT) for reducing craving and achieving cessation in patients with marijuana use disorder: Feasibility, acceptability, and appropriateness. *Trends in Psychiatry and Psychotherapy*, *43*(4). https://doi.org/10.47626/2237-6089-2020-0123
22. De Geest, R. M., & Meganck, R. (2019). How Do Time Limits Affect Our Psychotherapies? A Literature Review. *Psychologica Belgica*, *59*(1):206-226. https://doi.org/10.5334/pb.475
23. Edwards, E. R., Epshteyn, G., Snyder, S., Gorman, D., Coolidge, B., Marcano, E., Tsai, J., & Goodman, M. (2023). Dialectical behavior therapy for justice-involved veterans: Changes in treatment targets in a small, pre–post design clinical trial. *Psychological Services*, *20*, 98–107. https://doi.org/10.1037/ser0000766

24. Feigenbaum, J. D., Fonagy, P., Pilling, S., Jones, A., Wildgoose, A., & Bebbington, P. E. (2012). A real-world study of the effectiveness of DBT in the UK National Health Service: Effectiveness of DBT for Cluster B personality disorder. *British Journal of Clinical Psychology*, *51*(2), 121–141. https://doi.org/10.1111/j.2044-8260.2011.02017.x
25. Fertuck, E. A., Keilp, J., Song, I., Morris, M. C., Wilson, S. T., Brodsky, B. S., Stanley B. (2012). Higher executive control and visual memory performance predict treatment completion in borderline personality disorder. *Psychotherapy and Psychosomatics*, *81*(1):38-43. https://doi.org/10.1159/000329700
26. First, M. B., & Gibbon, M. (1997). Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II). Washington, DC: American Psychiatric Press.
27. First, M. B., Williams, J. B. W., Benjamin, L., & Spitzer, R. L. (2016). Structured Clinical Interview for DSM-5 Personality Disorders (SCID-5-PD). Washington, DC: American Psychiatric Publishing.
28. Flynn, D., Joyce, M., Gillespie, C., Kells, M., Swales, M., Spillane, A., Hurley, J., Hayes, A., Gallagher, E., Arensman, E., & Weihrauch, M. (2020). Evaluating the national multisite implementation of dialectical behaviour therapy in a community setting: a mixed methods approach. *BMC Psychiatry, 20*(1), 235. https://doi.org/10.1186/s12888-020-02610-3
29. Flynn, D., Kells, M., Joyce, M., Corcoran, P., Gillespie, C., Suarez, C., Weihrauch, M., & Cotter, P. (2017). Standard 12 month dialectical behaviour therapy for adults with borderline personality disorder in a public community mental health setting. *Borderline Personality Disorder and Emotion Dysregulation*, *4*(1), 19. https://doi.org/10.1186/s40479-017-0070-8
30. Fossati, A., di Ceglie A., Acquarini E., & Barratt E.S. (2001). Psychometric properties of an Italian version of the Barratt Impulsiveness Scale-11 (BIS-11) in nonclinical subjects. *Journal of Clinical Psychology, 57*(6), 815–28. https://doi.org/10.1002/jclp.1051
31. Fossati, A., Maffei, C., Acquarini, E., & Di Ceglie, A. (2003). Multigroup confirmatory component and factor analyses of the Italian version of the Aggression Questionnaire. *European Journal of Psychological Assessment*, *19*(1), 54–65. https://doi:10.1027//1015-5759.19.1.54
32. Galione, J. N., & Oltmanns, T. F. (2013). The Relationship Between Borderline Personality Disorder and Major Depression in Later Life: Acute Versus Temperamental Symptoms. *The American Journal of Geriatric Psychiatry*, *21*(8), 747–756. https://doi.org/10.1016/j.jagp.2013.01.026
33. Giordano, C., Iannuzzi, V., Danesi, F., & Poletti, M. (2021). Feasibility and effectiveness of Dialectical-Behavior Therapy for patients with borderline personality disorder in Italian mental health services: a preliminary study. *Rivista di Psichiatria, 56*(1),43-45. https://doi.org/10.1708/3546.35219
34. Gratz, K. L., & Roemer, L. (2004). Multidimensional Assessment of Emotion Regulation and Dysregulation: Development, Factor Structure, and Initial Validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41–54. https://doi.org/10.1007/s10862-008-9102-4
35. Gunderson, J. G., & Kolb, J. E. (1978). Discriminating features of borderline patients. *American Journal of Psychiatry*, *135*(7), 792–796. https://doi.org/10.1176/ajp.135.7.792
36. Gunderson, J. G., Herpertz, S. C., Skodol, A. E., Torgersen, S., & Zanarini, M. C. (2018). Borderline personality disorder. *Nature Reviews Disease Primers*, *4*(1), 18029. https://doi.org/10.1038/nrdp.2018.29

37. Gunderson, J. G., Prank, A. F., Ronningstam, E. F., Wachter, S., Lynch, V. J., & Wolf, P. J. (1989). Early Discontinuance of Borderline Patients from Psychotherapy. *The Journal of Nervous and Mental Disease*, *177*(1), 38–42. https://doi.org/10.1097/00005053-198901000-00006
38. Gunderson, J. G., & Singer, M. T. (1975). Defining borderline patients: An overview. *American Journal of Psychiatry*, *132*(1), 1–10. https://doi.org/10.1176/ajp.132.1.1
39. Heerebrand, S. L., Bray, J., Ulbrich, C., Roberts, R. M., & Edwards, S. (2021). Effectiveness of dialectical behavior therapy skills training group for adults with borderline personality disorder. *Journal of Clinical Psychology*, *77*(7), 1573–1590. https://doi.org/10.1002/jclp.23134
40. Hernandez-Bustamante, M., Cjuno, J., Hernández, R. M., Ponce-Meza, J. C. (2024). Efficacy of Dialectical Behavior Therapy in the Treatment of Borderline Personality Disorder: A Systematic Review of Randomized Controlled Trials. *Iran Journal of Psychiatry*, *19*(1), 119-129. https://doi.org/10.18502/ijps.v19i1.14347
41. Jennissen, S., Huber, J., Ehrenthal, J. C., Schauenburg, H., & Dinger, U. (2018). Association Between Insight and Outcome of Psychotherapy: Systematic Review and Meta-Analysis. *American Journal of Psychiatry*, 175(10), 961–969. https://doi.org/10.1176/appi.ajp.2018.17080847
42. Keng, S. L., Mohd Salleh Sahimi, H. B., Chan, L. F., Woon, L., Eu, C. L., Sim, S. H., & Wong, M. K. (2021). Implementation of brief dialectical behavior therapy skills training among borderline personality disorder patients in Malaysia: Feasibility, acceptability, and preliminary outcomes. *BMC Psychiatry*, *21*(1), 486. https://doi.org/10.1186/s12888-021-03500-y
43. Keuroghlian, A. S., Frankenburg, F. R., & Zanarini, M. C. (2013). The relationship of chronic medical illnesses, poor health-related lifestyle choices, and health care utilization to recovery status in borderline patients over a decade of prospective follow-up. *Journal of Psychiatric Research*, *47*(10), 1499–1506. https://doi.org/10.1016/j.jpsychires.2013.06.012
44. Kliem, S., Kröger, C., & Kosfelder, J. (2010). Dialectical behavior therapy for borderline personality disorder: a meta-analysis using mixed-effects modeling. *Journal of Consulting and Clinical Psychology*, *78*(6) 936-951. https://doi.org/10.1037/a0021015
45. Knekt, P., Heinonen, E., Härkäpää, K., Järvikoski, A., Virtala, E., Rissanen, J., & Lindfors, O., Helsinki Psychotherapy Study Group. (2015). Randomized trial on the effectiveness of long- and short-term psychotherapy on psychosocial functioning and quality of life during a 5-year follow-up. *Psychiatry Research*, *229*(1-2), 381-388. https://doi.org/10.1016/j.psychres.2015.05.113
46. Koons, C. R., Robins, C. J., Tweed, J. L., Lynch, T. R., Gonzalez, A. M., Morse, J. Q., Bishop, G. K., Butterfield, M. I., & Bastian, L. A. (2001). Efficacy of dialectical behavior therapy in women veterans with borderline personality disorder. *Behavior Therapy*, *32*(2), 371–390. https://doi.org/10.1016/S0005-7894(01)80009-5
47. Kramer, U. (2017). The Role of Coping Change in Borderline Personality Disorder: A Process-Outcome Analysis on Dialectical-Behaviour Skills Training. *Clinical Psychology & Psychotherapy*, *24*(2), 302-311. https://doi.org/10.1002/cpp.2017

48. Landes, S. J., Chalker, S. A., & Comtois, K. A. (2016). Predicting dropout in outpatient dialectical behavior therapy with patients with borderline personality disorder receiving psychiatric disability. *Borderline Personality Disorder and Emotion Dysregulation*, *3*(1), 9. https://doi.org/10.1186/s40479-016-0043-3
49. Leichsenring, F., Fonagy, P., Heim, N., Kernberg, O. F., Leweke, F., Luyten, P., Salzer, S., Spitzer, C., & Steinert, C. (2024). Borderline personality disorder: a comprehensive review of diagnosis and clinical presentation, etiology, treatment, and current controversies. *World Psychiatry*, *23*(1):4-25. https://doi.org/10.1002/wps.21156
50. Linehan. M. M., Armstrong HE, Suarez A, Allmon D, & Heard HL (1991). Cognitive-Behavioral Treatment of Chronically Parasuicidal Borderline Patients. *Archives of General Psychiatry*, *48*(12), 1060. https://doi.org/10.1001/archpsyc.1991.01810360024003
51. Linehan, M., Schmidt, H., & Linda, A. M. (1999). Dialectical Behavior Therapy for Patients with Borderline Personality Disorder and Drug-Dependence. *American Journal on Addictions*, *8*(4), 279–292. https://doi.org/10.1080/105504999305686
52. Linehan, M. M., Comtois, K. A., Murray, A. M., Brown, M. Z., Gallop, R. J., Heard, H. L., Korslund, K. E., Tutek, D. A., Reynolds, S. K., & Lindenboim, N. (2006). Two-Year Randomized Controlled Trial and Follow-up of Dialectical Behavior Therapy vs Therapy by Experts for Suicidal Behaviors and Borderline Personality Disorder. *Archives of General Psychiatry*, *63*(7), 757. https://doi.org/10.1001/archpsyc.63.7.757
53. Linehan, M. M. (2014). *DBT Skills Training Manual* (2nd ed.). New York, NY: Guilford Press.
54. Lundahl, A., Helgesson, G., & Juth, N. (2018). Psychiatrists' motives for practising in-patient compulsory care of patients with borderline personality disorder (BPD). *International Journal of Law and Psychiatry, 58*, 63-71. https://doi.org/10.1016/j.ijlp.2018.03.005
55. Maffei, C., Cavicchioli, M., Movalli, M., Cavallaro, R., & Fossati A. (2018). Dialectical Behavior Therapy Skills Training in Alcohol Dependence Treatment: Findings Based on an Open Trial. *Substance Use & Misuse*, *53*(14), 2368-2385. https://doi.org/10.1080/10826084.2018.1480035
56. Maffei, C., Fossati, A., Agostoni, I., Barraco, A., Bagnato, M., Deborah, D., Namia, C., Novella, L., & Petrachi, M. (1997). Interrater reliability and internal consistency of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II), version 2.0. *Journal of Personality Disorders*, *11*(3), 279-284. https://doi.org/10.1521/pedi.1997.11.3.279
57. Martino, F., Gammino, L., Sanza, M., Berardi, D., Pacetti, M., Sanniti, A., Tangerini, G., & Menchetti, M. (2020). Impulsiveness and Emotional Dysregulation as Stable Features in Borderline Personality Disorder Outpatients Over Time. *The Journal of Nervous and Mental Disease*, *208*(9), 715-720. https://doi.org/10.1097/NMD.0000000000001204
58. Martino, F., Lia, L., Bortolotti, B., Menchetti, M., Monari, M., Ridolfi, M. E., Sanza, M., Sasdelli, A., & Berardi, D. (2014). La famiglia del paziente con disturbo borderline di personalità: Carico della malattia e interventi destinati ai caregiver. *Rivista di Psichiatria*, *49*(5), 199-206. https://doi.org/10.1708/1668.18258

59. McGlashan, T. H., Grilo, C. M., Skodol, A. E., Gunderson, J. G., Shea, M. T., Morey, L. C., Zanarini, M. C., & Stout, R. L. (2000). The Collaborative Longitudinal Personality Disorders Study: Baseline Axis I/II and II/II diagnostic co-occurrence: Collaborative longitudinal PD study. *Acta Psychiatrica Scandinavica*, *102*(4), 256–264. https://doi.org/10.1034/j.1600-0447.2000.102004256.x
60. McMain, S. F., Guimond, T., Barnhart, R., Habinski, L., & Streiner, D. L. (2017). A randomized trial of brief dialectical behaviour therapy skills training in suicidal patients suffering from borderline disorder. *Acta Psychiatrica Scandinavica*, 135(2), 138–148. https://doi.org/10.1111/acps.12664
61. Mehlum, L. (2021). Mechanisms of change in dialectical behaviour therapy for people with borderline personality disorder. *Current Opinion in Psychology*, *37*, 89–93. https://doi.org/10.1016/j.copsyc.2020.08.017
62. Meuldijk, D., McCarthy, A., Bourke, M. E., & Grenyer, B. F. S. (2017). The value of psychological treatment for borderline personality disorder: Systematic review and cost offset analysis of economic evaluations. *PLOS ONE*, *12*(3), e0171592. https://doi.org/10.1371/journal.pone.0171592
63. Middlehurst, R., Moghaddam, N., Dawson, D. L., & Reeve, A. (2024). Perceived Change Processes in Dialectical Behaviour Therapy From the Perspective of Clients With a Diagnosis or Traits of Borderline Personality Disorder: A Systematic Literature Review. *Clinical Psychology & Psychotherapy*, *31*(4), e3038. https://doi.org/10.1002/cpp.3038
64. Morgan, T. A., Chelminski, I., Young, D., Dalrymple, K., & Zimmerman, M. (2013). Differences between older and younger adults with borderline personality disorder on clinical presentation and impairment. *Journal of Psychiatric Research*, *47*(10), 1507-1513. https://doi.org/10.1016/j.jpsychires.2013.06.009
65. Mundt, J. C., Marks, I. M., Shear, M. K., & Greist, J. M. (2002). The Work and Social Adjustment Scale: A simple measure of impairment in functioning. *British Journal of Psychiatry*, *180*(5), 461–464. https://doi.org/10.1192/bjp.180.5.461
66. Murman, D. L. (2015). The Impact of Age on Cognition. *Semin Hear. 36*(3), 111-121. https://doi.org/10.1055/s-0035-1555115
67. National Health and Medical Research Council (NHMRC). (2013). *Clinical Practice Guideline for the Management of Borderline Personality Disorder*. Melbourne, Australia: NHMRC.
68. National Institute for Health and Care Excellence (NICE). (2009). *Borderline personality disorder: Recognition and management (CG78)*. London, United Kingdom: NICE.
69. Nye, A., Delgadillo, J., & Barkham, M. (2023). Efficacy of personalized psychological interventions: A systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology, 91*(7), 389-397. https://doi.org/10.1037/ccp0000820
70. O' Toole, S. K., Diddy, E., & Kent, M. (2012). Mindfulness and Emotional Well-being in Women with Borderline Personality Disorder. *Mindfulness*, *3*(2), 117–123. https://doi.org/10.1007/s12671-011-0085-y
71. Oud, M., Arntz, A., Hermens, M. L., Verhoef, R., & Kendall, T. (2018). Specialized psychotherapies for adults with borderline personality disorder: A systematic review and meta-analysis. *Australian & New Zealand Journal of Psychiatry*, *52*(10), 949-961. https://doi.org/10.1177/0004867418791257

72. Panos, P. T., Jackson, J. W., Hasan, O., Panos, A. (2014). Meta-Analysis and Systematic Review Assessing the Efficacy of Dialectical Behavior Therapy. *Research on Social Work Practice*, *24*(2), 213-223. https://doi.org/10.1177/1049731513503047

73. Pasieczny, N., & Connor, J. (2011). The effectiveness of dialectical behaviour therapy in routine public mental health settings: An Australian controlled trial. *Behaviour Research and Therapy*, *49*(1), 4–10. https://doi.org/10.1016/j.brat.2010.09.006

74. Patton, J. H., Stanford, M. S., & Barratt, E. S. (1995). Factor structure of the barratt impulsiveness scale. *Journal of Clinical Psychology*, *51*(6), 768–774. https://doi.org/10.1002/1097-4679(199511)51:6<768::aid-jclp2270510607>3.0.co;2-1

*75.* Regione Emilia Romagna (RER). (2013). *Linee di indirizzo per il trattamento dei Disturbi Gravi di Personalità, Regione Emilia Romagna.* Bologna, Italy: RER

76. Roback, H. B. (2000). Adverse outcomes in group psychotherapy: Risk factors, prevention, and research directions. *The Journal of Psychotherapy Practice and Research*, *9*(3), 113–122.

77. Rüsch, N., Schiel, S., Corrigan, P. W., Leihener, F., Jacob, G. A., Olschewski, M., Lieb, K., & Bohus, M. (2008). Predictors of dropout from inpatient dialectical behavior therapy among women with borderline personality disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, *39*(4), 497–503. https://doi.org/10.1016/j.jbtep.2007.11.006

78. Sansone, R. A., Sansone, L. A., & Wiederman, M. W. (1996). Borderline Personality Disorder and Health Care Utilization in a Primary Care Setting: *Southern Medical Journal*, *89*(12), 1162–1165. https://doi.org/10.1097/00007611-199612000-00006

79. Sansone, R. A., Wiederman, M. W., & Sansone, L. A. (1998). The self-harm inventory (SHI): Development of a scale for identifying self-destructive behaviors and borderline personality disorder. *Journal of Clinical Psychology*, *54*(7), 973–983. https://doi.org/10.1002/(sici)1097-4679(199811)54:7<973::aid-jclp11>3.0.co;2-h

80. Sesar, K., Dodaj, A., & Kovačević, M. (2022). Childhood Maltreatment, Aspects of Emotional Processing and Borderline Personality Disorder. *Mediterranean Journal of Clinical Psychology*, *10*(1). https://doi.org/10.13129/2282-1619/mjcp-3373

81. Sesar, K., Dodaj, A., & Vučić, M. (2023). The Relationship between Sexting, Risky Sexual Behaviour and Features of Borderline Personality Disorder. *Mediterranean Journal of Clinical Psychology*, *11*(1). https://doi.org/10.13129/2282-1619/mjcp-3660

82. Shen, C. C., Hu, L. Y., & Hu, Y. H. (2017). Comorbidity study of borderline personality disorder: Applying association rule mining to the Taiwan national health insurance research database. *BMC Medical Informatics and Decision Making*, *17*(1), 8. https://doi.org/10.1186/s12911-016-0405-1

*83.* Sighinolfi, C., Norcini, A., Chiri, L., Marchetti, I., & Sica, C. (2010). Difficulties in Emotion Regulation Scale (DERS): traduzione e adattamento italiano. *Psicoterapia Cognitiva E Comportamentale, 16(2)*, 141-170.

84. Società Italiana per la Dialectical Behavior Therapy (SIDBT). (2011). Retrieved [December 4, 2024], from Italian Society for the Dialectical Behavior Therapy website: https://www.sidbt.it/dbt/en/

85. Soler, J., Pascual, J. C., Tiana, T., Cebrià, A., Barrachina, J., Campins, M. J., Gich, I., Alvarez, E., & Pérez, V. (2009). Dialectical behaviour therapy skills training compared to standard group therapy in borderline personality disorder: a 3-month randomised controlled clinical trial. *Behaviour Research and Therapy,* 47(5):353-8. https://doi.org/10.1016/j.brat.2009.01.013

86. Soler, J., Valdepérez, A., Feliu-Soler, A., Pascual, J. C., Portella, M. J., Martín-Blanco, A., Alvarez, E., & Pérez, V. (2012). Effects of the dialectical behavioral therapy-mindfulness module on attention in patients with borderline personality disorder. *Behaviour Research and Therapy*, *50*(2), 150–157. https://doi.org/10.1016/j.brat.2011.12.002

87. Somma, A., Gialdi, G., Arioli, C., Boscaro, L., De Ciechi, A., Mastinu, L., Frau, C., & Fossati, A. (2024). Assessing Malignant Narcissism and its Associations with Dark Triad Dimensions, Social Deviance, Personality Disorders, Self-Harming Behaviors, Aggression, and Personality Functioning: A Study Among Community-Dwelling Participants and Psychotherapy Participants. *Mediterranean Journal of Clinical Psychology, 12*(2). https://doi.org/10.13129/2282-1619/mjcp-4079

88. Spinhoven, P., Giesen-Bloo, J., van Dyck, R., Kooiman, K., & Arntz, A. (2007). The therapeutic alliance in schema-focused therapy and transference-focused psychotherapy for borderline personality disorder. *Journal of Consulting and Clinical Psychology*, *75*(1), 104–115. https://doi.org/10.1037/0022-006X.75.1.104

89. Stoffers-Winterling, J. M., Völlm, B. A., Rücker, G., Timmer, A., Huband, N., & Lieb, K. (2012). Psychological therapies for people with borderline personality disorder. *Cochrane Database of Systematic Reviews*, *2020*(9). https://doi.org/10.1002/14651858.CD005652.pub2

90. Storebø, O. J., Stoffers-Winterling, J. M., Völlm, B. A., Kongerslev, M. T., Mattivi, J. T., Jørgensen, M. S., Faltinsen, E., Todorovac, A., Sales, C. P., Callesen, H. E., Lieb, K., & Simonsen, E. (2020). Psychological therapies for people with borderline personality disorder. *Cochrane Database of Systematic Reviews*, *5*(5), CD012955. https://doi.org/10.1002/14651858.CD012955.pub2

91. Swales, M. A., Taylor, B., & Hibbs, R. A. B. (2012). Implementing Dialectical Behaiour Therapy: Programme survival in routine healthcare settings. *Journal of Mental Health*, *21*(6), 548–555. https://doi.org/10.3109/09638237.2012.689435

92. Torgersen, S. (2014). *American Psychiatric Publishing Textbook of Personality Disorders* (2nd ed.). Arlington, VA: American Psychiatric Publishing.

93. Turner, R. M. (2000). Naturalistic evaluation of dialectical behavior therapy-oriented treatment for borderline personality disorder. *Cognitive and Behavioral Practice*, *7*(4), 413–419. https://doi.org/10.1016/S1077-7229(00)80052-8

94. van den Bosch, L. M. C., Koeter, M. W. J., Stijnen, T., Verheul, R., & van den Brink, W. (2005). Sustained efficacy of dialectical behaviour therapy for borderline personality disorder. *Behaviour Research and Therapy*, *43*(9), 1231–1241. https://doi.org/10.1016/j.brat.2004.09.008

95. van den Bosch, L. M. C., Verheul, R., Schippers, G. M., & van den Brink, W. (2002). Dialectical Behavior Therapy of borderline patients with and without substance use problems. *Addictive Behaviors*, *27*(6), 911–923. https://doi.org/10.1016/s0306-4603(02)00293-9

96. Vasiljevic, S., Isaksson, M., Wolf-Arehult, M., Öster, C., Ramklint, M., & Isaksson, J. (2023). Brief internet-delivered skills training based on DBT for adults with borderline personality disorder – a feasibility study. *Nordic Journal of Psychiatry*, *77*(1), 55–64. https://doi.org/10.1080/08039488.2022.2055791

97. Verheul, R., van den Bosch, L. M. C., Koeter, M. W. J., De Ridder, M. A. J., Stijnen, T., & van den Brink, W. (2003). Dialectical behaviour therapy for women with borderline personality disorder: 12-month, randomised clinical trial in the Netherlands. *British Journal of Psychiatry*, *182*(2), 135–140. https://doi.org/10.1192/bjp.182.2.135

98. Walsh, C., Ryan, P., & Flynn, D. (2018). Exploring dialectical behaviour therapy clinicians' experiences of team consultation meetings. *Borderline Personality Disorder and Emotion Dysregulation,* 5:3. https://doi.org/10.1186/s40479-018-0080-1

99. Winsper, C., Bilgin, A., Thompson, A., Marwaha, S., Chanen, A. M., Singh, S. P., Wang, A., & Furtado, V. (2020). The prevalence of personality disorders in the community: A global systematic review and meta-analysis. *The British Journal of Psychiatry*, *216*(2), 69–78. https://doi.org/10.1192/bjp.2019.166

100. Zanarini, M. C., Temes, C. M., Frankenburg, F. R., Reich, D. B., & Fitzmaurice, G. M. (2018). Description and prediction of time-to-attainment of excellent recovery for borderline patients followed prospectively for 20 years. *Psychiatry Research*, *262*, 40–45. https://doi.org/10.1016/j.psychres.2018.01.034


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