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Dialectical Behavior Therapy in the Treatment of Borderline Personality Disorder

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Abstract

Dialectical Behavior Therapy (DBT) is the first and the most studied Cognitive Behavioral Therapy (CBT) approach in the treatment of Borderline Personality Disorder (BPD). It is a modular manualized treatment program developed for suicidal women most of who were noticed to meet the criteria for borderline personality disorder. The theory behind DBT is called the biosocial theory. The theory suggests that biological factors such as being born with an emotionally vulnerable temperament along with social and environmental factors play roles in the development of BPD. DBT attend to the balance of acceptance-based and change-based strategies. This is the "teeter-totter" on which the therapist rests. DBT consists of five modes of treatment, which are the individual therapy, skills training, telephone consultation, therapist consultation team and ancillary treatments. If we think CBT as a technology of change based on the techniques of field of learning, DBT is more like balancing change with acceptance. On the other hand, cognitive modification program applied in DBT is driven from CBT. DBT can be applied to various settings and populations successfully. The main advantage of DBT is its low drop-out rates. Even though more research should be conducted on its generalizability, it proved itself as one of the successful treatments since it has been widely used by therapists with different treatment approaches.

Keywords: Borderline Personality Disorder, Dialectical Behavior Therapy, Cognitive Behavioral Therapy, suicidal ideation, harm reduction

Öz

Sınırda Kişilik Bozukluğu Tedavisinde Diyalektik Davranışçı Terapi

Diyalektik Davranışçı Terapi (DBT) Sınırda Kişilik Bozukluğu (SKB) tedavisinde öncelikli olarak ve en çok çalışılan BDT yaklaşımıdır. DBT SKB kriterlerini karşıladığı anlaşılan intihar eğilimi olan kadınlar için geliştirilen modüler ve manuelize edilmiş bir tedavi programıdır. DBT biyososyal teoriye dayanır. Bu teoriye göre, duygusal olarak hassas bir mizaçla doğma gibi biyolojik etmenler ile birlikte sosyal veya çevresel etmenler SKB'nin gelişiminde rol oynar. DBT kabul temelli ve değişime dayalı stratejilerin dengesine dikkat eder. Bu, terapistin üzerinde dengede durmaya çalıştığı bir tahterevalli gibidir. DBT, bireysel terapi, beceri eğitimi, telefonla danışma, terapist danışma ekibi ve yardımcı tedaviler olmak üzere beş tedavi modundan oluşur. BDT'yi öğrenme alandaki tekniklerine dayanan bir değişim yöntemi olarak düşünürsek, DBT daha çok değişimi kabul ile dengeleyen bir tedavi türüdür. Öte yandan, DBT'de uygulanan bilişsel değişim programı BDT'den alınmıştır. DBT, çeşitli ortamlara ve popülasyonlara başarıyla uygulanabilir. DBT'nin en temel avantajı, düşük terapiyi bırakma oranlarıdır. Genellenebilirliği konusunda daha fazla araştırmaya ihtiyaç duyulmasına rağmen, özellikle farklı ekollerdeki terapistler tarafından da yaygın olarak kullanıldığı için başarılı tedavilerden biri olduğunu kanıtlamıştır.

Anahtar Kelimeler: Sınırda Kişilik Bozukluğu, Diyalektik Davranışçı Terapi, Bilişsel Davranışçı Terapi, intihar düşüncesi, zarar azaltma

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INTRODUCTION

Borderline Personality Disorder is a devastating disorder and characterized by "a pervasive pattern of instability of interpersonal relationships, self-image, and affects and marked impulsivity that begins by early adulthood and is present in a variety of contexts" (DSM-V, 2013, p. 663). Three out of four BPD patients are female. Patients with BPD often experience comorbid disorders such as depression (95 %), anxiety disorders (90 %), substance abuse, and other Axis II disorders (Chapman, & Gratz, 2007; Zanarini, Frankerburg, Hennen, Reich, & Silk, 2004; Zeyrek-Rios, & Emiral, 2019; Temes, & Zanarini, 2019). One out of ten BPD patients die as a result of suicide and around 70–75 % has a history of non-lethal self-injurious act (Nysaeter, & Nordahl, 2008).

As a very debilitating disorder with high costs to the health system as well as to society, various treatment methods have been utilized in the treatment of BPD. American Psychological Association's practice guideline suggests psychotherapy as the main modality for the treatment of BP which can be supported by pharmacotherapy especially while managing the cognitive-perceptual symptoms, affective symptoms and impulsive-behavioral dyscontrol (Leichsenring, Leibing, Kruse, New, & Leweke, 2011; APA, 2001).

The extant research examining the results of randomized-control trials of psychotherapies in patients with BPD include cognitive behavior therapy, schema-focused therapy, mentalisation-based treatment, transference-focused therapy, psychodynamic therapy and dialectical behavior therapy (Leichsenring, et al., 2011). A meta-analysis comparing the efficacy of psychodynamic and cognitive psychotherapies for personality disorders suggested that both are effective long term (Leichsenring, & Leibing, 2003). An integrative review of the present psychotherapy options for BPD recommended psychodynamic and dialectical treatments as being equally effective (Reeves-Dudley, 2017). The shorter-terms of dedication, cost effective nature and very low to zero dropout rates of DBT makes it a key treatment method for BPD. The DBT targets self-harm behavior and is shown to be effective in reducing suicidality which is a life threatening problem among BPD patients.

The current paper focuses on explaining the theoretical roots of DBT, the structure and the modes of the treatment and presents empirical evidence and research findings. The reviews generally provide empirical evidence for the effectiveness of DBT and compare the outcome improvements with other type of therapies. The unique contribution of this paper is to provide a through theoretical background and emphasize the place and significance of DBT among Cognitive behavioral therapies by presenting their similarities and differences.

Dialectical Behavioral Therapy

Starting from 1970's and 1980's Dr Marsha Linehan had been struggling to develop an effective treatment for suicidal women most with a concurrent borderline personality disorder (BPD). The main motive behind the process of development of this treatment is to find a way to help these people to develop lives that are worth living (Linehan, 1993). Combining the literature on effective treatments for other type of disorders and the information gathered through the session observations lead to the birth of the DBT.

Dialectical-Behavior Therapy is the first and the most studied Cognitive Behavioral Therapy (CBT) approach in the treatment of BPD. It is a modular manualized treatment program developed for suicidal women most of who were noticed to meet the criteria for borderline personality disorder. It is an adaptation of cognitive-behavioral therapy combined with observation and many other methods that are borrowed from eastern philosophies, mainly mindfulness and meditation, which are effective in helping the patient achieve a state of emotional regulation that in turn increase his/her life quality.

Establishing a strong, positive interpersonal relationship with the patient from the very first session is crucial in DBT as the relationship with the therapist is the only motivator for the patient to change the maladaptive behavior as reported in most cases. Thus therapist characteristics are especially important. They need to have compassion, persistence, patience, a belief in the efficacy of the therapy that will outlast the patient's belief in its inefficacy, and a certain willingness to take risks (Linehan, 1993; Koons, 2008; Chapman, & Gratz, 2007; Paris, 2008; Gershon, 2007; O'Donohue, Fowler, & Lilienfeld, 2007; Kreisman, & Straus, 2004; Bateman, & Fogany, 2006).

DBT has its theoretical roots in the biosocial theory. The theory suggests that biological factors such as being born emotionally vulnerable along with social and environmental factors play roles in the development of BPD. According

to the biosocial theory both invalidating environment and emotional vulnerability are important in the development of certain problematic behaviors. According to the theory, invalidation is to communicate that the individual's thoughts and feelings are not valid, reasonable, understandable or true. While receiving an accurate feedback that mirrors one's feelings or thoughts about herself/himself is essential for a healthy development, hearing something that doesn't fit, even contradict with the internal experience can lead to a lack of skill to understand, label, regulate and manage one's own emotions. As children we learn to understand and label our emotions with the help of the adults around us, specifically the primary care giver. If one cannot learn accurately to understand and label his/her emotions, regulating these emotions will even be harder. Any gesture, action may hold an invalidating message and can be perceived as punishing for experiencing and or expressing one's emotions. Finally the individuals who benefit from DBT mostly have histories of childhood sexual, physical or emotional abuse which are considered as harsh examples of an invalidating environment.

The second key factor in the development of BPD is the emotional vulnerability which has three components, namely emotional sensitivity, emotional reactivity, and slow return to baseline. If individuals with these characteristics are exposed to invalidating environments, they develop certain problematic behaviors such as drug abuse, binge eating, risky behavior and self-harming behaviors and one can intensify another (Chapman, & Gratz, 2007, Linehan, 1993).

Core Strategies of DBT

As previous research and clinical findings suggest that change-based therapies can contribute to the patient's self-invalidation and may elicit fear, anger, and/or shame which in return cause aversive reactions such as avoidance or resistance of the patient. On the other hand, urging the patient to accept and validate him/herself can be perceived as an invalidation of the patient's personal experience of having an unbearable life, thus it is hard for these patients to benefit from unconditional acceptance based therapeutic approaches either. DBT lies in between acceptance-based and change-based strategies. The acceptance skills include mindfulness and distress tolerance, and change skills include emotion regulation and interpersonal effectiveness. This is the "teeter-totter" on which the therapist rests. In a nutshell, acceptance based strategies represent validation which highlight the wisdom of the patient's point of view, and change-based strategies represent problem-solving strategies which highlight the therapist's (Linehan, 1993). Thus DBT applies two core strategies, validation, and problem-solving together.

Validation strategies are the most obvious and direct acceptance strategies in DBT. The therapist communicates the patient in a clear way that his/her responses make sense and are understandable within the current life situation. Validation creates a context of understanding which balances the emphasis on change and allows the therapist to move forward towards the problem solving phase. Sometimes finding validity in the patient's behavior is like looking for a "nugget of gold in a bucket of sand" (Linehan, 1993, p. 24). However, DBT teaches the therapist ways to validate the patient's behaviors, thoughts or at least his/her emotional pain through acknowledging his/her current status. When the patient feels heard and understood, his/her emotional arousal will decrease and will become more willing to participate in problem solving. Therapist helps the patients accept themselves, the world, their emotions and thoughts and other people by the means of skills training such as mindfulness and techniques for accepting reality for what it is. Especially in the early stages of the treatment, validation strategies may be the principal strategies used in the therapy (Chapman, & Gratz, 2007; Linehan, 1993; Koons 2008).

Problem solving strategies are the most direct and evident change strategies in DBT. The main aim is to engage the patient in analyzing his/her own behavior, committing to change, and taking active steps to change his/her behavior. Problem solving has two key stages. The first one is to understand and accept the problem at hand, which benefits from behavioral analysis, insight strategies, and didactic strategies.

First, the problem is defined as a specific behavior either aimed to increase, decrease, or make appear in the right context and time. Behavioral analysis starts with a chain analysis of the events and the situational factors that elicit and prompt maladaptive behaviors followed by a functional analysis of the reciprocal interaction between the environment and the patient's cognitive, emotional, and behavioral responses. Insight strategies consist of observing and labeling patterns of behavior and factors that have control over them. Throughout the therapy the therapist provides didactic information about the characteristics of the patient;

people in general or the specific diagnostic group, which helps the normalization process of the patient's own behavior and presents the hypothesis about the factors contribute to the maintenance of the maladaptive behavior.

Later, an attempt is made to generate, evaluate, and implement alternative solutions that could be used in similar problematic situations, which benefits from the solution analysis, orienting strategies, and commitment strategies. Once all the factors influencing the problem are analyzed the patient and the therapist can work together to find solutions, which might include learning new skills, changing the distorted cognitions, the associations between stimuli in the environment and the reinforcing and punishing consequences of problematic behavior. The process starts with the generation and evaluation of the alternative solutions that can be used in similar situations followed by the orientation to the change phase which is to review what is required to implement the change procedures. Final step is the commitment to the implementation of the solutions (Koons 2008, Linehan, 1993).

Structure of the Treatment

The therapy consists of four main stages. At the pre-treatment stage therapist orients the patient to the treatment and introduces the contract. At the first stage, the main goals are to decrease the suicidal behaviors, therapy and life quality interfering behaviors, and to increase the adaptive behavioral skills. During the second stage, the main goal is to help patients experience emotions. They might have become emotion phobic or inhibit normal healthy grieving. At the third stage the main goal is to improve functioning by addressing acute comorbid disorders and help with marital and/or work related problems. And at the final stage, increasing self-respect and achieving individual's goals are intended through reducing feelings of emptiness (Linehan, 1993; Kreisman, & Straus, 2004; Linehan, & Wilks, 2015).

Table 1: Stages of DBT

	Goals
Stage 1	Eliminate high-risk behaviors (e. g. suicidality, self-harm behaviour, heroin addiction etc.)
Stage 2	Experience emotions
Stage 3	Improve functioning (e. g. addressing Axis 1 disorders, marital or work problems)
Stage 4	Feeling free and complete (e. g. reducing feelings or emptiness and loneliness)

The treatment plan is developed based on the responses of 4 main questions. If the patient doesn't have the capacity to engage in more adaptive responses, the treatment plan focuses on the skills training procedures. Later, the therapist identifies the reinforcement contingencies. Depending on the reinforcers of maladaptive behaviors and the punishers of adaptive behaviors, certain contingency management strategies are applied. Here the aim is to reinforce and increase the positive and punish and extinguish the negative behaviors. Then depending on the specific reasons of why adaptive behaviors were inhibited certain strategies are followed in the treatment. If the person is an emotion phobic, an exposure therapy is suggested, if the person has distorted beliefs and assumptions, a cognitive modification program is suggested.

Modes of Treatment

DBT consists of five modes of treatment. In DBT each patient has an individual therapist who is in charge of the treatment. All other modes are secondary and revolve around the individual therapy. Individual therapist is responsible for applying the aforementioned validation and problem solving strategies to inhibit the maladaptive behaviors and replace them with adaptive and skillful responses.

The therapist mainly keeps the focus on the target hierarchy, reinforces the use of skills and establishes a strong, accepting relationship with the patient. The sessions are usually held once a week, except for the crises situations which might be held twice, and each session lasts for 50–60 minutes. However in a single session working with the patients who have difficulty in emotionally opening up and then closing up might be hard, thus the therapist might have a double session which lasts 90–120 minutes (Linehan, 1993).

The second mode of treatment in DBT is the skills training. It is conducted in a psycho-educational format which is usually provided by two co-teachers and held once a week for 2,5 hours. Each group can have 2 to 12 members. All patients are required to take the structured skills training during the first year of their therapy. The main goal is to learn and refine skills in changing behavioral, emotional, and thinking patterns associated with their problems that are causing misery and distress.

There are four core skills to cover, namely mindfulness, interpersonal effectiveness, emotion regulation, and distress

tolerance. Mindfulness module is two weeks in length and is repeated in the beginning of each module. Other modules last for eight weeks each.

Mindfulness skills are the psychological versions of meditation skills gathered from Eastern spirituality, mainly rooted in the Zen practice. Mindfulness means the state of being awake and aware of the present moment as well as one's inner and outer worlds including thoughts, sensations, emotions, actions, or surroundings.

The interpersonal response patterns taught in DBT are very similar to the ones thought in assertiveness and interpersonal problem solving classes. The main goals to achieve with this training are, keeping one's relationship specific goals in mind, effectively asking others to do things or saying no to others when needed, coping with interpersonal conflict without being too passive or aggressive, being honest, and fair with others and finally validating other people's feelings (McKay, Wood, & Brantley, 2007). As mentioned in various theoretical perspectives borderline individuals are affectively intense and liable, and their major issue is difficulty managing their emotions. Emotion regulation skills are mainly about managing emotions in ways that works for the patient without causing any problems. The core skills include regulating emotions effectively, observing or accepting one's own emotions, changing (increasing or decreasing) emotional experience, making one's self less vulnerable to be affected by the destructive emotions by increasing the pleasant events in life, taking care of one's self and meeting emotional/physical needs.

The main aim of the distress tolerance skills training is to teach patients the skills to help them get through difficult situations, upsetting events, thoughts, and feelings without making things worse. This includes four sets of crises survival strategies, namely distraction (with activities, comparing oneself to people less well off, opposite emotions, pushing away painful situations, other thoughts, and intense other sensations), self-soothing (via vision, hearing, smell, taste, and touch), improving the moment (with imagery, meaning, prayer, relaxation, focusing on one thing at the moment, taking vacations, and self-encouragement) and thinking of pros and cons.

The third mode of DBT is the telephone consultation which is an important part of the individual treatment. It is not a therapy on the phone; it should be brief, focused on applying the skills to get through the crises without engaging in maladaptive behaviors. The key rule is calling the therapist before engaging in any problematic behavior and calling is forbidden for 24 hours if they engage in self-injurious behavior. The main goals are to decrease suicide crises behaviors, increase generalization of behavioral skills, and decrease the sense of conflict, alienation, and distance from the therapist (Bateman, & Fonagy, 2006; Linehan, 1993; Koons, 2008; Chiesa, & Malinowski, 2011, Chapman, & Gratz, 2007).

The third mode is the therapist consultation team. Mental health professionals report feelings of stress and burnout while treating borderline patients especially with self-destructive and suicidal tendencies. Therapists might feel under pressure and unwillingly engage in therapy interfering behaviors. The problems that arise in the therapy are handled in DBT case consultation meetings that are held weekly. The group includes all therapists (group or individual) currently doing DBT or seeing patients with BPD or related problems such as, emotion regulation problems, and suicidal behavior. The team members monitor, support and encourage each other, give feedback and enhance the therapist's capacity to treat effectively (Perseius, Kaver, Ekdahl, Asberg, & Samuelsson, 2007).

The last mode in DBT is the application of ancillary treatments which include the additional professional or non-professional treatments a patient might need. These might be pharmacotherapy, day treatment, vocational counseling, acute hospitalizations, or groups such as Alcoholics Anonymous. Linehan specifically advised against hospitalization (Linehan, 1993; Paris, 2008).

Similarities and Differences with CBT

Dr. Linehan had been using CBT with suicidal women, however she realized that most of the patients reacted negatively, they reported that sessions distress them more, most quit therapy or didn't show up for their sessions. Even though the ones stayed in the therapy stop cutting themselves or attempting suicides, they didn't like the treatment, they repeatedly stated that they felt invalidated and misunderstood. On the other hand, DBT has the lowest drop-out rates even working with one of the hardest diagnostic group, suicidal BPD patients (Chapman, & Gratz, 2007).

Unlike most forms of CBT, the main focus in DBT is not only the truth or falsity of propositions, beliefs, and generalizations. The empirical logic which is highly emphasized in CBT is seen as helpful especially in problem-solving; however it is never used as a sole means of reasoning. Since the mindset behind dialectics is never to accept a final truth, an immobile and unquestionable fact, DBT adopts a balanced approach with the dialectical method of reasoning and empirical approach. If we think CBT as a technology of change based on the techniques in the field of learning, DBT is more like balancing change with acceptance. One of the main reasons why these therapeutic approaches differ from each other is the DBT's focus on acceptance and validation of the patient's behavior as it is in the moment along with its emphasis on therapy-interfering behaviors, putting the therapeutic relationship in the core of the treatment and its focus on dialectical processes.

On the other hand, there are similarities as well as shared techniques. The cognitive modification program applied in DBT is driven from CBT. Also the focus of DBT on the non-dialectical thinking is very similar to the focus of CBT on dysfunctional thinking. In DBT the task of the therapist is to help the patient be aware of his/her extreme and rigid thought patterns, and also test the validity of his/her conclusions and beliefs. There are numerous common problematic thinking patterns targeted both in CBT and DBT. In both therapies arbitrary inferences or conclusions based on insufficient or contradictory evidence, overgeneralizations, magnification and exaggeration of the meaning or significance of events, inappropriate attribution of all blame and responsibility for negative events to oneself or to others, or the application of negative trait labels, catastrophizing or the presumption of disastrous results if certain events do not either continue or develop, hopeless expectations, or pessimistic predictions based on selective attention to negative events in the past or present rather than on verifiable data are intended to work on to modify, and replace with adaptive cognitions.

Research Findings

DBT is a very promising treatment especially for individuals with BPD. Many studies conducted, mostly on females with borderline personality disorder show remarkable decrease in their psychopathology. The first randomized-control trial (RCT) showed that DBT reduced the incidence and medical severity of self-harm behavior, client anger, suicide attempts, hospital and emergency room visits, the number of hospitalizations, and length of stay, besides increased the patient's social functioning and treatment compliance (Linehan, Armstrong, Suarez, Allmon, Heard, 1991). Other studies conducted on suicidal women with BPD demonstrated similar results (Robins, & Chapman, 2004; Linehan, et al., 2015). Studies comparing DBT with treatment as usual (TAU) showed that the former is more effective in reducing symptoms of self-harm, parasuicidal behavior and suicidal ideation (Leichsenring, et al., 2011). When compared with client-centered therapy, DBT is shown to be more effective in reducing suicidality and parasuicidal behavior as well as the severity of psychiatric symptoms (Turner, 2000). However, the same outcome wasn't observed for anxiety.

As the results of a study of the RCT of DBT showed that suicidality, number of visits to ER, inpatient psychiatric admissions were reduced significantly followed by DBT compared to the treatment provided by community mental health leaders nominated experts (Linehan, et al., 2006). The drop-out rate for DBT was again shown to be lower compared to CTBE. Van den Bosch, et al (2005) found that DBT is effective in lowering impulsive behaviors, self-mutilation and alcohol consumptions even after an 18 month-follow up compared to TAU. However, certain studies couldn't replicate the outcomes obtained from earlier RCTs (Carter, Willcox, Lewin, Conrad, & Bendit, 2010) which is suggested to be due to the inadequacy of the DBT training that the therapists of the mentioned study have received (O, Connell, & Dowling, 2014). These results once again highlight the importance of the quality and the adequacy of the DBT training.

When more recent research is examined, 12-month intensive DBT program is shown to reduce BPD related and non-BPD related psychiatric symptoms, use of dysfunctional coping strategies and increased the life quality among male and female BPD patients in Canada (Robinson, et al., 2018). A meta-analysis of 18 controlled trials showed that DBT effectively reduced self-directed violence and use of psychiatric emergency services among adult and pediatric patients who received the treatment in both inpatient and outpatient settings. The same result wasn't observed for the suicidal ideation (DeCou, Comtois, & Landes, 2019).

DBT is originally developed for outpatients with BPD. The review of the studies conducted to examine the utility of DBT for inpatients with BPD show that DBT is

effective in reducing self-harm behaviors, suicidality, depression and anxiety. More importantly the effects last even up to 21 months post-treatment. The effect of DBT on violence and anger are mixed. The review concludes that for inpatient populations, despite variations in the administration of DBT, an intensive orientation would have promising benefits (Bloom, Woodward, Susmaras, & Pantaline, 2012). The results of a 5 week course of DBT in a German psychiatric inpatient unit showed that even the very short version of DBT is found to be effective in reducing BPD symptoms and improving emotion regulation skills. These results show that especially for patients experiencing acute and severe symptoms independent of their regular mode of treatment in the long term, a short 5 week course of DBT can significantly improve their symptoms and as their emotion regulation skills improve these patients can benefit more from the therapy (Probst, et al., 2019). DBT is also found superior compared to Community Treatment by Experts (CTBE) in terms of reducing expressed anger and experiential avoidance. BPD patients suffer from heightened negative affectivity which underlie some of their dysfunctional reactions and self-harm behaviors. Thus DBT provides promising results specifically targeting negative affects which is a significant characteristic of BPD patients. In terms of guilt, anxiety, anger suppression, both treatments were found to be equally effective (Neacsiu, Lungu, Harned, & Rivzi, 2014).

Standard DBT has been adapted for other treatment delivery settings, and populations, such as inpatient and day treatments, vocational rehabilitation, juvenile and adult residential and forensic settings, case management and crises services (Swenson, Sanderson, Dulit, & Linehan, 2001; Koons, 2008; Trupin, Stewart, Beach, & Boesky, 2002; van den Bosch, Hysaj, & Jacobs, 2012). And it is adapted to different populations, such as families, adolescents, substance and or alcohol dependent, multi disordered women, veteran females, elderly with depression, women with bulimia nervosa, women with binge eating disorder (Chapman, & Gratz, 2007; Hoffman, Fruzetti, & Swenson, 1999). Some studies have shown reductions in depression and hopelessness in female veterans (Koons, et al., 2001), suicidality, non-suicidal self-injurious behavior, emotion dysregulation, depression, and number of psychotropic medications used among adolescents (McDonell, Tarantino, Dubose, Matestics, et al., 2010; Fleischaker, Bohme, Sixt, Bruck, et al., 2011) depression in elderly (Lynch, Morse, Mendelson, & Robins, 2003) impulsivity, binge eating, purging, weight, shape, and eating concerns, impulsive behavior, self-mutilating and self damaging behavior in patients with eating disorders (Carbaugh, & Sias, 2010, Telch, Agras, & Linehan, 2001), and drug abuse among substance dependent women (van den Bosch, Koeter, Verheul, & van den Brink, 2005; Carbaugh, & Sias, 2010; Linehan, Schmidt, Dimeff, Craft, Kanter, & Comtois, 1999). DBT was combined with prolonged exposure (DBT-PE) to treat comorbid PTSD with BPD. The outcomes of the treatment show that patients with comorbid PTSD, BPD and acute self-harming behavior benefit more from DBT-PE compared to DBT alone. The majority of these patients didn't meet the PTSD criteria after the treatment. And both treatments were found to be effective in anxiety, depression, and dissociation (Harned, Korslun, Foa, & Linehan, 2012). The results suggest that specific populations suffering from complex comorbidities which make them high-risk, can benefit from modified versions of DBT for their needs. Complex patient populations can be treated with DBT tailored for their specific needs. When DBT and DBT-PE were compared in terms of their effects on functioning, the results suggest that DBT-PE was superior in improving social adjustment, health related quality of life and global functioning. The same superiority was not observed in interpersonal domains or quality of life (Harned, Wilks, Schmidt, & Coyle, 2018).

An adolescent version of DBT (DBT-A) was formed to treat adolescents with a history of chronic self-harm and suicidality. The families are also included in the therapy and skills trainings. DBT-A is shown to reduce self-harm, suicidality and depressive symptoms (Mehlum, et al., 2014). Almost all studies investigating the efficacy of DBT utilized behavioral measurement and show decreases and increases in certain behaviors associated with BPD. Davenport, Bore, & Campbell (2010) focused on a different aspect of the effect of DBT in BPD patients. They examined the changes in personality which are measured by the Big 5 Personality Scale. The results showed that there is significant improvement in the Agreeableness and Conscientiousness traits of the BPD patients after receiving DBT. However, there is no reduction in the Neuroticism scores, which is attributed to the biological nature of the disorder. The innate traits which make one vulnerable for developing DBT if exposed to certain environmental and social factors are accounted for high and stable scores in Neuroticism. Furthermore,

Wilk and her colleagues (2016) examined the effects of DBT in the patients' lives beyond the symptomatic improvements, and showed that suicidal BPD patients experienced statistical and clinical improvements in their psychosocial functioning. On the contrary, a research comparing the clinical and functioning outcomes among BPD patients after either receiving a one-year DBT or a general psychiatric management show that patients independent of the treatment they received, still showed high levels of functional impairment despite showing significant clinical improvements (McMain, Gimond, Streiner, Cardish, & Links, 2012).

In summary DBT is shown to be an effective treatment option for BPD patients with life endangering comorbidities. The improvements also last long after the treatment completion. Furthermore, considering the high dropout rates of BPD patients from conventional treatments the very low drop out rates make DBT a unique alternative to other treatment options.

DISCUSSION

DBT has been welcomed with considerable interest around the world because it was the first psychotherapy shown in a randomized control trial (RCT) to have significant effects on the symptoms of BPD (Bateman, & Fogany, 2006). One interesting finding was the low sometimes even close to zero drop-out rates, which has remarkable implications in a patient population infamous for low treatment compliance rates. On the other hand, the samples in some studies might not fully represent the borderline population and their compliance rates might be biased, as they are willing to participate in a research and receiving free-treatment as opposed to the ones receiving treatment as usual (TAU) (Linehan, 1993). As similar results obtained from many replication studies most of which are free of these confounding factors, the effectiveness of DBT in this population is highly supported (van den Bosh, et al., 2005). Furthermore, patients going through DBT treatment reported high levels of satisfaction and motivation (Hodggets, Wright, & Gough, 2007).

Among the treatments for BPD, DBT might be the one with the strongest research support; however it is not enough to demonstrate the specificity of DBT as a treatment for BPD. Although DBT is the first and mostly studied CBT approach for the treatment of BPD with positive outcomes, recent studies show that long-term treatments of Young's Schema-focused therapy produced promising results as well. (O'Donohue, Fowler, & Lilienfeld, 2007). Although research findings show that DBT has many superiorities compared to treatment as usual, some studies have shown that DBT is not superior to the standard therapy concerning the improvements in depression and anger symptoms. Also, some suggest that it should be taken into consideration that the significant differences between DBT and TAU might be due to the incompetency and lack of a well-structured treatment plan in the TAU (Paris, 2008; Kreisman, & Straus, 2004). This might no longer be the case though, in recent studies trying to eliminate this possibility, therapists who were nominated by community mental health leaders as experts in the treatment of BPD patients were picked to deliver the comparison treatment (Paris, 2008). One disadvantage of DBT is the long-waiting list, which might be due to the time an average treatment takes. It is also a complex, time-consuming, difficult to learn and challenging treatment to implement in many settings. Some third party payers such as insurance companies aren't willing to commit to the costs over time. Also, if the selection and the training of the staff is not done thoroughly, DBT will not yield the positive improvements that are intended to be achieved in the lives of BPD patients (Toms, Williams, Rycroft-Malone, Swales, & Feigenbaum, 2019).

Further research should be conducted with longer follow-ups to see whether the improvements in the symptoms last for significant periods after the treatment termination (Kreisman, & Straus, 2004). Also more research is needed to identify the parts of DBT that are essential and which can be skipped for the sake of a more efficient and less time consuming therapy. In fact, Linehan (1993) showed that skills training group is not effective on its own. More cross-cultural and real-life practice research should be conducted outside the Western societies to assess the generalizability of the treatment.

Nonetheless in the treatment of severely disturbed individuals with BPD, with that level of promising outcomes, it is worth the effort and the time it takes to learn, and implement DBT (Koons, 2008). Also whether practicing formal DBT or not, therapists from various theoretical backgrounds benefited a great deal from DBT techniques while treating patients with BPD, which is already enough to make it a successful treatment approach.

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