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Mindfulness Component in a Dialectical Behavioural Therapy Group Intervention for Family Members of Borderline Personality Disorder Patients

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ABSTRACT

Background: Family members of people with borderline personality disorder (BPD) are seriously affected by the disease and it is common for them to ask for professional help. The main objective of this study is to assess, in an open clinical trial, a treatment protocol based on Dialectical Behaviour Therapy (DBT) strategies for relatives of individuals with BPD, compared to the same protocol plus a mindfulness component (DBT-M). **Method:** The interventions were conducted in a sample of 108 relatives of 83 patients diagnosed with BPD from a Specialized Unit for Personality Disorders. Relatives and patients completed the assessment protocol before and after the intervention. **Results:** Significant improvements in almost all the relevant variables tested were observed after the treatment in both the relatives and the patients. However, there were only statistically significant differences between the groups in the negative attitude towards the illness, where relatives in the DBT-M condition showed greater improvement than those in the DBT condition. **Conclusions:** The results indicate that the intervention helps both patients and relatives to improve on key issues. It is essential to consider and offer support to the families of people with severe psychological disorders.

Mindfulness en una Intervención Grupal de Terapia Dialéctica Conductual para Familiares de Pacientes con Trastorno Límite de la Personalidad

RESUMEN

Antecedentes: Los familiares de las personas con trastorno límite de la personalidad (TLP) son unos de los grandes afectados por el trastorno, y resulta frecuente que soliciten ayuda profesional. El objetivo estudio es evaluar un protocolo de tratamiento basado en estrategias de Terapia Dialéctica Conductual (DBT) para familiares de personas con TLP, en comparación con el mismo protocolo más un componente de mindfulness (DBT-M). **Método:** Las intervenciones se realizaron en una Unidad Especializada en Trastornos de la Personalidad, en una muestra 108 familiares de 83 pacientes diagnosticados de TLP. Familiares y pacientes completaron el protocolo de evaluación antes y después de la intervención. **Resultados:** Se observan mejoras significativas tanto en los familiares como en los pacientes tras el tratamiento, en casi todas las variables relevantes. Sin embargo, sólo hubo diferencias estadísticamente significativas entre las dos condiciones en la actitud negativa hacia la enfermedad, donde los familiares en la condición DBT-M mostraron una mejoría mayor que los de la condición DBT. **Conclusiones:** Los resultados indican que la intervención ayuda, tanto a los pacientes como a los familiares, a mejorar en aspectos clave. Resulta fundamental tener en cuenta y ofrecer apoyo a los familiares de personas con trastornos psicológicos graves.

Palabras clave:

Trastorno límite de la personalidad
Intervenciones psicológicas a familiares
Terapia dialéctica comportamental
Familiares
Cuidadores
Psicoeducación

Borderline Personality Disorder (BPD) is characterized by a pattern of intense and turbulent interpersonal relationships involving episodes of uncontrollable anger, poor impulse control, emotional instability, identity disturbance, and recurrent suicidal behaviours. About 2.8% of people who use the mental health system present a personality disorder, and more than half of them receive a diagnosis of BPD (Newton-Howes, et al., 2021). This percentage is similar in the world population, with 30.1% presenting subthreshold levels of BPD symptoms (Ten Have et al., 2016) and 2.7% suffering from BPD (Tomko, et al., 2014; Quirk et al., 2017). Patients with BPD are at a greater risk of developing other psychological problems, such as self-injury, suicide, drug addiction, eating disorders, intra-family conflicts, and school or work absenteeism, producing large public health and/or social expenditures due to continuing crises and relapses (Caballo, 2009). Several treatments have demonstrated their efficacy in patients with BPD (Fonseca-Pedrero, 2021). Dialectical Behaviour Therapy (DBT), developed by Linehan (1993), is the most empirically supported treatment to date. DBT has been shown to be effective in treating key aspects of the disorder by improving emotional regulation and reducing suicidal ideation and suicide attempts, hospital admissions, associated psychopathology, and the dropout rates commonly found in BPD (Andreasson et al., 2016; Carter, et al., 2010; Linehan, 1993; Navarro-Haro et al., 2018; Soler et al., 2009). However, other interventions that are based on psychoanalysis or have a psychoanalytic background have shown their efficacy, such as Mentalization Based Treatment (MBT) (Bateman & Fonagy, 2004) or Transference-Focused Psychotherapy (TFP) (Kernberg, 2004). In sum, currently, there are several evidence-based treatments for people with BPD that have demonstrated, to a greater or lesser extent, their ability to contribute to the personal, emotional, social, and physical well-being of people with BPD. But what about their relatives? Who takes care of the caregiver?

As described above, the BPD patient shows a highly dysfunctional pattern that leads to great suffering and a heavy burden for family members. It is common to observe depression, loss, high levels of anxiety, and emotional outbursts in relatives that are directly caused by caring for their family member (e.g., Bennett et al., 2019; Hoffman, et al., 2007). Nevertheless, relatives of patients with BPD are often the most important source of support for these patients because they provide emotional, logistic, and economic assistance. This situation places a great burden on relatives, who often experience clinical symptoms of anxiety and depression as a direct result of the effort and work involved in this care.

However, relatives have been somewhat forgotten in this situation. Crisis management, constant visits to the emergency room, interpersonal problems, continuous burden, and couple problems, among others, make day-to-day life with BPD patients a constant source of conflict and suffering for caregivers (Acres, et al., 2019; Kay, et al., 2018). Studies have found that caregivers experience a family atmosphere characterized by high emotional expression, critical comments, and emotional over-involvement (Bailey & Grenyer, 2014), as well as greater emotional, physical, interpersonal, and financial problems (de Mendieta et al., 2019; Goodman et al., 2011). Therefore, it is essential to direct

attention, effort, and resources to developing and evaluating effective interventions for relatives of patients with BPD.

However, to date, few treatment programmes have been developed for relatives of patients diagnosed with BPD, compared to other psychiatric disorders (McFarlane, et al., 2003). Literature has shown that patients' recovery improves when relatives' needs for information, clinical guidance, and support are met (Hoffman et al., 2007). Along these lines, several action models have been designed to address the needs of relatives of people with mental illnesses such as schizophrenia, bipolar disorder, or depression (Hoffman, et al., 2003), antisocial personality disorder (Kazdin, et al., 1992), addictions in adolescents (Barrowclough et al., 2001), or eating disorders (Treasure, et al., 2007), among others. All these studies highlight the benefits of giving relatives attention and support.

Evidence-based treatment programmes for relatives of patients with BPD can be classified into three categories: 1) Patient Programmes, when relatives are included in some sessions in order to give them specific guidelines to better help patients, for example, the treatment programmes by Rathus and Miller (2002), based on DBT strategies for adolescents, or the programme by Woodberry and Popenoe (2008). This same therapy format for patients has been used from other perspectives, such as Nancy Blum's programme "Systems Training for Emotional Predictability and Problem Solving" (STEPPS) (Blum, et al., 2002) for patients with BPD, where the "Reinforcement Team" has special importance, and relatives and friends of people with BPD are invited to a session to give them indications and information about the disorder; 2) Patient and Family Programmes, where treatment is provided for patients and relatives together. For example, the BAFT programme ("Integrative borderline adolescent family therapy"), developed by Santisteban et al., (2003; 2005) for adolescents, integrates family therapy, individual therapy, and skills training. 3) Family Programmes. This third category includes interventions focused exclusively on family members. Some of them have a psychoeducational format, and their objective is to give BPD relatives information about the disease and help them understand some of the behaviours of their ill relatives, in addition to improving the relationship and family coexistence (Greyner et al., 2018; Pearce et al., 2017). Other exclusive interventions for family members have focused on DBT adaptations, such as "Family Connections", developed by Hoffman et al. (2005), one of the programmes that has received the most empirical support (Hoffman et al., 2007; Fruzzetti & Payne, 2015; Flynn et al., 2017). It was designed to be applied directly to relatives of patients with BPD by either professionals or trained relatives, and the results show an improvement in relatives' attitudes and a reduction in caregivers' burnout, depression, loss, and tension. Other programmes for family members based on DBT adaptations are the one by Miller and Skerven (2017) and the standard DBT by Wilks et al. (2016). Thus, DBT skills training may be useful for relatives of people with BPD, given that these programmes have been helpful in reducing levels of depression (Hoffman et al., 2007; Flynn et al., 2017; Miller and Skerven, 2017), stress (Wilks et al., 2016), burden (Hoffman et al., 2005; 2007; Flynn et al., 2017; Wilks et al., 2016), and grief (Hoffman et al., 2005; 2007; Flynn et al., 2017) and improving mastery

(Hoffman et al., 2005; 2007; Flynn et al., 2017), hope (Miller and Skerven, 2017), and interpersonal relationships (Miller and Skerven, 2017; Wilks et al., 2016). Finally, other programmes also focus on skills training from other perspectives, such as the programme by Bateman et al. (2018), based on the Mentalization Based Therapy developed by Bateman and Fonagy (2004).

In summary, all these studies show that treatments for relatives of people with BPD begin to play an important role in patients' recovery and in improving family dynamics. They provide relatives with strategies that help them interact with patients with BPD and behave effectively in crisis situations. However, studies are still scarce, and so it is necessary to advance in this line of research by designing and assessing intervention strategies to help and support families.

At the same time, the practice of mindfulness is emerging as an important construct in mental health research as part of different psychotherapies and as an intervention for treating emotional problems and dysfunctional behaviours (Rosselló, et al., 2016). Different studies have shown the efficacy of mindfulness in reducing depression and anxiety symptoms (Linares, et al., 2016) and helping with anger and stress management (Rosselló et al., 2016). Mindfulness has also been shown to be effective in programmes focused on family members who are caregivers of elderly people with dementia, cancer, or other problems (Li, et al., 2016). To our knowledge, no specific mindfulness treatment has been used for relatives of patients with a personality disorder or for relatives of patients with BPD.

In some of the studies cited above, based on a brief adaptation of the DBT, some mindfulness strategies are provided within the general treatment protocol, which usually include awareness, emotional regulation, tolerance of discomfort, and interpersonal efficacy. However, no study has used mindfulness as a transversal strategy throughout the entire treatment. From our point of view, teaching mindfulness skills to relatives could be a good way for them to learn strategies for managing the patient's momentary crises from a state of calm and alleviating the day-to-day tension and burden, which, in turn, would help to improve family relationships, the family atmosphere, and the patient.

The main objective of this study is to assess, in an open clinical trial, a treatment protocol based on DBT strategies for relatives of individuals with BPD, compared to the same protocol plus a mindfulness component (DBT-M), in order to determine the added value of incorporating this mindfulness component into the DBT protocol. Thus, the first hypothesis is that both programmes will produce improvements in family members after the treatment, but the mindfulness component will achieve better results in the family members than the protocol based only on DBT. Specifically, in the DBT-M group, family members are expected to show a greater reduction in the perception of expressed emotions, a greater reduction in their psychosocial burden, and an increase in their general tendency to continue with mindfulness.

A second objective is to study whether interventions with the relatives will also produce changes in the patients. Thus, the second hypothesis is that an improvement in the clinical situation of the relatives will produce an improvement in the patients in both groups.

Method

Participants

The sample was composed of relatives of patients who were receiving treatment at a Specialized Unit for Personality Disorders with three care facilities in the Valencian Community (Castellón, Valencia, and Alicante). The sample of relatives consisted of 108 participants, 71.3% women, $n = 77$, and 28.7% men, $n = 31$. Their ages ranged from 18 to 76 years old, with an average of 54.31 ($SD = 9.73$); 30.6%, $n = 33$, did not have a partner (i.e., single, separated, divorced, or widowed), and 69.4%, $n = 75$, had a partner (lived with a partner or were married). They spent an average of 9.36 hours with the patient daily ($SD = 7.73$). Table 1 shows the sociodemographic characteristics of the sample of relatives in the two treatment conditions.

The patient sample consisted of 83 participants, 83.1% women, $n = 69$, and 16.9% men, $n = 14$. Their ages ranged from 18 to 52 years old, with an average of 25.08 ($SD = 8.79$); 33.7%, $n = 55$, did not have a partner (single, widowed, or divorced), and 66.3%, $n = 28$, had a partner (were in a relationship or married). Table 2 shows the sociodemographic characteristics of the sample of patients in the two treatment conditions, in terms of gender, marital status, and age.

Table 1.
Sociodemographic characteristics of relatives in the two treatment conditions.

		DBT $n = 56$	DBT - M $n = 52$
Gender	Women	45 (80.4%)	32 (61.5%)
	Men	11 (19.6%)	20 (38.5%)
Marital Status	Single	7 (12.5%)	3 (5.8%)
	In partnership or married	34 (60.7%)	41 (78.8%)
	Separated	11 (19.6%)	6 (11.5%)
	Widowed	4 (7.1%)	2 (3.8%)
Caregiver's relationship	Mother/father	46 (82.1%)	47 (90.4%)
	Children	3 (5.4%)	-
	Sibling	4 (7.1%)	2 (3.8%)
	Partner	1 (1.8%)	2 (3.8%)
	Grandparent	2 (3.6%)	1 (1.9%)
Daily hours spent with the patient	$M = 9.14$ $(SD = 6.26)$	$M = 9.60$ $(SD = 9.11)$	
Age	$M = 53.21$ $(SD = 10.34)$	$M = 55.57$ $(SD = 8.9)$	

Note: DBT= Dialectical Behaviour Therapy for Caregivers; DBT - M= Dialectical Behaviour Therapy plus Mindfulness.

Table 2.
Sociodemographic characteristics of patients.

		DBT $n = 45$	DBT - M $n = 38$
Gender	Women	37 (82.2%)	32 (84.2%)
	Men	8 (17.8%)	6 (15.8%)
Marital Status	Single	4(8.9%)	2 (5.3%)
	In partnership or married	26(57.8%)	29 (76.3%)
	Separated	11(24.4%)	5 (13.2%)
	Widowed	4(8.9%)	2 (5.3%)
Age		$M = 24.70$ $(SD = 8.9)$	$M = 26.55$ $(SD = 9.6)$

Note: DBT= Dialectical Behaviour Therapy for Caregivers; DBT - M= Dialectical Behaviour Therapy plus Mindfulness.

Inclusion criteria for relatives' participation in the intervention programme were: a) The person had to be a relative of a patient who met the DSM-5 criteria for BPD (APA, 2013); b) The patient had to be receiving treatment in the clinical centre; and c) The relative had to give his/her signed informed consent to participate voluntarily in the study. The exclusion criterion was having a pathology that would interfere with the intervention (psychosis, schizophrenia, substance dependence, etc.).

For the patients, the following inclusion criteria were established: a) They had to meet the criteria for Borderline Personality Disorder; b) If they were receiving pharmacological treatment, they had to maintain the same treatment during the study; c) They had to give their signed informed consent to participate voluntarily in the study, and in the case of minors, the consent also had to be signed by the parents. The exclusion criterion was having another serious pathology, such as psychosis, schizophrenia, etc.

Instruments

Measures - Relatives.

- **Level of Expressed Emotion Scale (LEE-S)** (Cole & Kazarian, 1988; Sepúlveda, et al., 2012; Sepúlveda et al., 2012). This is a self-report questionnaire designed to evaluate the negative emotional climate at home through four types of caregiver perceptions: negative attitude towards the illness (14 items, e.g., item 33 'I support him/her when he/she needs it'); intrusiveness (8 items, e.g., item 34 'I (don't) butt into his/her private matters'); hostility toward the patient (14 items, e.g., item 6 'I (don't) make him/her feel guilty for not meeting my expectations'); and absence of tolerance or coping strategies (9 items, e.g., item 12 'I (don't) panic when things start to go wrong'). The Spanish version consists of 45 items with a dichotomous response format, with a score of 0 for True and 1 for False. The total scale score ranges from 0 to 45, with higher scores indicating higher levels of expressed emotion. The Spanish Validation by Sepúlveda et al. (2012) indicates that the scale shows good psychometric properties when administered to relatives, obtaining a Cronbach's α of .86. The subscales showed good internal consistency for Negative Attitude toward the illness ($\alpha = .81$), Intrusiveness ($\alpha = .81$), Hostility ($\alpha = .79$), and Absence of Tolerance ($\alpha = .78$) in our sample.
- **Involvement Evaluation Questionnaire (IEQ)** (González et al., 2012; Schene & van Wijngaarden, 1992). This self-reported questionnaire measures the psychosocial burden of caregiving. It contains 27 items rated on a five-point Likert scale. It contains four factors: tension in the relationship between the patient and the caregiver, supervision of the patient, worrying about the patient's safety, and urging. For this study, we only utilized the tension, supervision, and worrying subscales. On this questionnaire, high scores indicate high levels of psychosocial burden. The Spanish validation by González et al. (2012) in caregivers of patients with eating disorders obtained a Cronbach's α of .7. The subscales showed good internal consistency for Supervision ($\alpha = .70$), Tension ($\alpha = .80$), Urging ($\alpha = .77$), and Worrying ($\alpha = .82$).

- **Five Facets of Mindfulness Questionnaire (FFMQ)** (Baer, Smith, Hopkins, Krietemeyer & Toney, 2006; Cebolla et al., 2012). The FFMQ contains 39 self-reported items that assess the general tendency to proceed with mindfulness, based on five skills: observing, describing, acting with awareness, non-judging, and non-reactivity. This questionnaire shows adequate psychometric properties. Higher scores indicate greater mindfulness. The Spanish validation shows adequate internal consistency, with a Cronbach's α of .8 (Cebolla et al., 2012). The subscales in our sample showed good internal consistency for Observing ($\alpha = .77$), Describing ($\alpha = .84$), Acting ($\alpha = .88$), Non-judging ($\alpha = .90$), and Non-reactivity ($\alpha = .74$).

Measures - Patients.

- **Structured clinical interview for DSM-IV axis II personality disorders** (SCID II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997). This is an interview for making DSM-IV-TR (APA, 2000) Axis II Personality Disorder diagnoses. It includes 119 questions. This instrument shows adequate reliability, with a Kappa of .74 (First et al., 1997).
- **LEE- Patient** (LEE-P; Level of Expressed Emotion Scale; Cole & Kazarian, 1988) (Sepúlveda et al., 2012). This version requires patients to assess their relationship with their relative or caregiver, the extent to which they feel that the caregiver understands their problem, whether the caregiver is helping them to cope with the problem or interfering, how much they value the relationship, the care and attention they get from relatives, etc. It has the same scales as the relatives' version. The original LEE report demonstrated high internal consistency for both the total scale and the subscales, as well as high test-retest reliability in patients with schizophrenia (Cole & Kazarian, 1988). The subscales showed good internal consistency for Negative attitude towards illness ($\alpha = .79$), Intrusiveness ($\alpha = .80$), Hostility ($\alpha = .76$), and Absence de tolerance ($\alpha = .80$).

Procedure

The interventions were carried out in the Personality Disorder Unit. This unit offers individualized, integral, and multidisciplinary treatment (psychological, psychiatric, socio-occupational, etc.) for people who suffer from BPD. Relatives of patients diagnosed with BPD who were undergoing treatment at the clinical centre were offered the opportunity to participate in the study. After the study had been explained to them, they completed and signed the informed consent, and several clinical psychologists, experts in BPD from the centre, assessed the relatives to verify that they met the inclusion and exclusion criteria. Relatives filled in the Level of Expressed Emotion Scale (LEE-S), the Involvement Evaluation Questionnaire (IEQ), and the Five Facets of Mindfulness Questionnaire (FFMQ) at two points in time: PRE and POST. The relatives were assigned to one of two experimental conditions, depending on the centre where their patients were receiving treatment. The relatives of patients treated in Castellon and Alicante were assigned to the Dialectical Behaviour Therapy strategies condition, whereas relatives of patients treated in

Valencia were assigned to the Dialectical Behaviour Therapy strategies for relatives plus Mindfulness condition:

- Intervention Protocol based on Dialectical Behaviour Therapy strategies for relatives (DBT): psychoeducation strategies, validation, acceptance, problem-solving for relatives, and contingency management (Guillen et al., 2018).

Table 3 shows the specific contents of each treatment session.

- Intervention Protocol based on Dialectical Behaviour Therapy strategies for relatives plus Mindfulness (DBT-M): psychoeducation strategies, validation, acceptance, problem-solving for relatives, contingency management, and mindfulness.

Table 3.
Treatment components based on DBT strategies.

Contents added to the DBT+M group per session (DBT-M).	
<p>Session 1. Treatment Program Overview Introduction of group members and therapists. Understanding BPD and the impact on the family. It is important for family members to understand the extent of the problem and learn strategies to deal with it.</p> <p>Session 2. Comprehension and acceptance of the problem: Psychoeducation What is personality? What is a personality disorder? BPD clinic, epidemiology, course, prognosis, importance of the family atmosphere. Evidence-based treatments. DBT model. Reorganization of diagnostic criteria according to problematic areas in BPD. DBT treatment proposal. Objective: To know the available treatments for BPD and the best attitude of relatives to help BPD patients.</p> <p>Session 3. The importance of creating a validating environment Invalidating vs. validating environment. Consequences of an invalidating vs. validating environment. Importance of not blaming patients. Consequences of Blaming vs. Accepting. Developing effective, non-judgmental communication strategies, learning to validate. Validation skills for family members.</p> <p>Session 4. The importance of generating reality acceptance skills What role do families play? Are there other ways to deal with problems? Radical Acceptance Skills. Objective: To learn radical acceptance strategies to decrease levels of tension in the family.</p> <p>Session 5. Establishment of a healthy patient-relative relationship. How can you help patients? Importance of family modelling to help to reduce family stress and improve personal relationships. Learning and supporting skills to promote change. Objective: Importance of attitude in family members: modelling, an enormously powerful tool.</p> <p>Session 6. Learning to set limits: 1.- Being connected with your friends and family, taking holidays, etc. "Parents must take care of their own needs". 2.- Learn to respond in a more assertive way, establishing limits and clear rules. Objective: To learn and support skills to promote change: to place limits on patients, and to attend to their needs.</p> <p>Session 7. Problem management How to manage conflict in everyday situations (e.g. anger management, secondary gains, extreme behaviours, etc.) Guidelines for confronting unacceptable behaviour. "Do not turn a blind eye", "Learn to communicate without hurting".</p> <p>Session 8. Crisis management Crisis management What is a crisis like? What should you do during a crisis? How can you prevent them? How do you manage self-harm? How do you manage suicidal behaviours? What significance do suicidal behaviours have for patients and their families? Management of hospitalization. Management of suicide.</p>	<p>Session 1. Introduction to mindfulness The potential benefits of mindfulness for caregivers</p> <p>Session 2. Ways to practice mindfulness Mindfulness for caregivers Resources to learn more and support your practice</p> <p>Session 3. Mindfulness training for short meditation</p> <p>Session 4. Training in breathing with contemplation of physical sensations</p> <p>Session 5. Techniques to promote positive affect, such as gratitude and forgiveness</p> <p>Session 6. Training in self-compassion and compassion toward family members.</p> <p>Session 7. Informal mindfulness to learn to bring attention to the present at any time of day</p> <p>Session 8. Review and practice of everything learned</p>

Table 4.
Measures of relatives before and after treatment in the two treatment conditions.

	DBT		DBT - M		Pre-post F(1,87)	η^2	DBT Cohen's d	DBT-M Cohen's d	Between groups	
	Pre-treatment M (SD)	Post-treatment M (SD)	Pre-treatment M (SD)	Post-treatment M (SD)					F(1,87)	η^2
Negative Attitude towards illness (LEE)	1.21(1.45)	1.07(1.41)	2.19(2.35)	1.00(1.30)	12.29***	.17	0.09	0.62	7.70**	.12
Intrusiveness (LEE)	2.94(2.46)	2.48(2.19)	3.88(2.40)	2.88(2.01)	13.88***	.17	0.19	0.45	1.92	.03
Hostility (LEE)	2.30(2.46)	2.07(2.69)	3.22(3.71)	2.33(3.18)	2.83	.06	0.08	0.25	1.02	.02
Absence of tolerance (LEE)	4.00(2.27)	2.85(2.11)	4.39(2.63)	3.51(2.27)	12.21***	.19	0.52	0.35	.28	.01
Supervision (IEQ)	1.83(0.91)	1.88(0.72)	1.77(0.74)	1.84(0.76)	0.44	.01	0.06	0.06	0.01	.01
Tension (IEQ)	1.95(0.58)	1.85(0.43)	2(0.71)	1.8(0.43)	6.81*	.08	0.2	0.34	0.71	.01
Worrying (IEQ)	3.41(1.07)	3.19(0.85)	3.34(0.99)	3.06(0.89)	6.57*	.08	0.23	0.29	0.12	.01
Observing (FFMQ)	2.86(0.74)	2.91(0.73)	2.92(0.73)	3.13(0.64)	3.51	.05	0.07	0.30	1.4	.02
Describing (FFMQ)	3.43(0.80)	3.49(0.75)	3.18(0.76)	3.29(7.11)	1.76	.18	0.08	0.02	0.10	.01
Acting (FFMQ)	3.53(0.88)	3.62(0.72)	3.53(0.80)	3.30(0.89)	0.12	.01	0.11	0.11	1.85	.01
Non-judging(FFMQ)	3.52(0.94)	3.72(0.89)	3.37(0.92)	3.51(0.96)	3.42	.05	0.16	0.14	0.09	.01
Non-reactivity (FFMQ)	3.02(0.77)	2.92(0.59)	3.05(0.58)	3.13(0.54)	0.01	.01	0.15	0.13	1.41	.23

Note: DBT= Dialectical Behaviour Therapy for Caregivers; DBT+M= Dialectical Behaviour Therapy plus Mindfulness; LEE= Level of Expressed Emotion Scale; IEQ = Involvement Evaluation Questionnaire; FFMQ= Five Facets of Mindfulness Questionnaire * p < .05 ** ; p < .01 ; *** p < .001

The procedure was similar in the three clinical centres where the study was carried out. Each group was directed by two psychologists (a therapist and co-therapist), with a total of 12 therapists in the three facilities. All the therapists were experts in the treatment of personality disorders and had more than 10 years of experience, and all of them had received mindfulness training. They all had at least a master's degree in clinical psychology. The therapists had received training in DBT, and they had been administering it for at least 10 years. The intervention in both experimental conditions lasted two months and consisted of two-hour group sessions held once a week, with a total of eight sessions. The same intervention protocol was used in both cases, but DBT-M included a mindfulness component in order to provide greater support to relatives and help them better regulate their emotions. This component was taught transversally throughout the entire intervention, with about 10 minutes dedicated to it in each session. In the DBT condition, this time was used to further engage in practical exercises or clarify doubts or concepts that arose in each session.

The Mindfulness component was the traditional mindfulness component present in the DBT patient protocol. As Table 4 shows, Sessions 1 to 4 begin with an introduction to mindfulness and its benefits. They show different ways of practising mindfulness through different resources, and they emphasize mindfulness for caregivers. Sessions 5-8 consist of engaging in a guided meditation on contemplative mindfulness, including sentences about gratitude, forgiveness, self-compassion, or compassion toward family members. Participants were provided with audio recordings of formal practices (e.g., observing thoughts, focusing on breathing) and strongly encouraged to engage in informal mindfulness practices (i.e., practicing mindfulness by focusing on daily life activities such as taking a shower or brushing their teeth).

The patients' treatment continued with the routine treatment provided in the Unit for Personality Disorders, that is, the administration of standard DBT (Linehan, 1993), which consisted of one hour of individual therapy and two hours of skills training in a group every week for six months. Patients with BPD received a total of 24 sessions of skills training in a group. There were no differences depending on the centre they attended. Patients completed the Level of Expressed Emotion Scale (LEE-S) for patients twice, once before their relatives performed the intervention protocol and again when they had finished the intervention. Several expert clinical psychologists performed the assessment to ensure that patients met the criteria for BPD before receiving treatment in the clinical centre.

Data analysis

First, to verify that there were no differences between the two groups before starting the treatment, Student's *t* tests or χ^2 were carried out on the sociodemographic characteristics. Second, to compare the efficacy of the two treatment conditions, repeated-measures analyses of variance (MANOVA) were conducted and Cohen's *d* were calculated. Data were analysed using SPSS.24 (SPSS, Chicago, IL).

Results

Regarding the sociodemographic variables of the relatives, there were no significant differences between the two groups

in gender ($\chi^2(1) = 4.66, p = .03$), marital status ($\chi^2(3) = 4.24, p = .23$), age of the caregiver ($t(106) = 1.24, p = .21$), the caregiver's relationship ($\chi^2(4) = 2.04, p = .72$), or the number of hours per day spent with the patient ($t(106) = .308, p = .75$) before the treatment.

Regarding other variables related to the relatives, there were no significant differences on the LEE-S subscales before the treatment: negative attitude towards illness ($t(47.73) = 1.98, p = .053$), intrusiveness ($t(67) = 1.61, p = .11$), hostility toward the patient ($t(26.89) = .93, p = .36$), absence of tolerance or coping strategies ($t(51) = .56, p = .58$). Likewise, there were no differences on the IEQ subscales: Supervision ($t(105) = .15, p = .88$), tension ($t(105) = .07, p = .94$), worrying ($t(105) = .87, p = .38$). Moreover, there were no differences on the FFMQ subscales before treatment: Observing ($t(105) = 1.31, p = .19$), describing ($t(105) = 9.90, p = .32$), acting ($t(105) = .13, p = .89$), non-judging ($t(105) = .27, p = .78$), non-reactivity ($t(105) = .16, p = .86$).

Regarding patients' sociodemographic variables, there were no differences in gender ($\chi^2(1) = 0.58, p = .81$), patient age ($t(81) = 1.15, p = .25$), or marital status ($\chi^2(3) = 3.179, p = .36$) between the two conditions before starting the treatment. On the patient measures, there were no differences in the negative attitude towards illness (LEE-P) ($t(43) = 0.41, p = .68$), intrusiveness (LEE-P) ($t(60) = 0.273, p = .79$), hostility toward the patient (LEE-P) ($t(42) = 1.12, p = .27$), or absence of tolerance or coping strategies (LEE-P) ($t(47) = 0.895, p = .38$).

As for the treatment results, as Table 4 shows, statistically significant differences were found before versus after treatment in both conditions on the following variables: negative attitude towards illness (LEE-S) ($F(1,87) = 12.29, p = .001, \mu_2 = .172$), intrusiveness (LEE-S) ($F(1,87) = 13.886, p = .000, \mu_2 = .172$), absence of tolerance or coping strategies (LEE-S) ($F(1,87) = 12.21, p = .001, \mu_2 = .193$), tension (IEQ) ($F(1,87) = 6.81, p = .011, \mu_2 = .08$), and worrying (IEQ) ($F(1,87) = 6.57, p = .012, \mu_2 = .08$). However, there were no statistically significant differences between the conditions, except on the negative attitude towards illness (LEE-S), where relatives in the DBT-M condition showed a greater statistically significant improvement than those in the DBT condition ($F(1,87) = 7.705, p = .007, \mu_2 = .116$). No changes were observed on the FFMQ subscales that assess the general tendency to continue with mindfulness before versus after treatment in either condition.

As Table 5 shows, patients showed statistically significant improvements from before to after their relatives' treatment in both treatment conditions on the following LEE-P variables: hostility toward illness and absence of tolerance or coping strategies. However, there were no statistically significant differences between the two experimental conditions, except on hostility toward illness, where patients in the DBT-M condition showed a greater statistically significant improvement than patients in the DBT condition.

Discussion

The general objective of this study was to design, develop, and assess the efficacy of a treatment programme based on DBT strategies for relatives of patients with BPD, compared to the same treatment programme plus a mindfulness component (DBT-M). The aim was to study the added value of including this mindfulness-based treatment component in the DBT protocol, from the perspective of both the relatives and the patients.

Results indicate that all the relatives improved significantly after treatment, regardless of the treatment condition they received, on fundamental variables such as their negative attitude towards their relative's illness, the intrusiveness of the illness in their lives, the tension and worry caused by the illness, and the absence of tolerance or coping strategies to manage the illness. However, no differences were observed before vs after treatment on the variables that measured awareness in either treatment condition, although relatives in the DBT-M condition presented a greater improvement in their negative attitude towards the illness, compared to those in the DBT condition. It is also worth noting that the DBT-M group initially had a higher score on this variable, which means that they had more room for improvement than the DBT group.

Our results show that it is possible to help the relatives of patients with severe pathologies such as BPD, and they support findings from other studies about providing support for relatives of patients with BPD (Flynn et al., 2017; Fruzzetti & Payne, 2015; Grenyer et al., 2018; Hoffman et al., 2007). Mindfulness has been shown to be important for people with BPD or severe emotional regulation problems (Elices et al., 2016; Mitchell, et al., 2019), but it may not be necessary for relatives of patients with BPD. Surprisingly, our results show that including a mindfulness component in a protocol based on DBT strategies does not appear to improve the overall clinical situation of caregivers. Training family members in fundamental aspects of mindfulness might be expected to help them to manage the emotions, reactions, attitudes, and thoughts related to their relative's illness. However, the results do not support this possibility, perhaps due to the limited time spent on this component, which means that longer training sessions focusing exclusively on mindfulness might have a greater effect. In addition, because mindfulness was presented transversally, participants might not have focused on assimilating and implementing mindfulness in their lives, which could explain the lack of change on the Five Facets of Mindfulness Questionnaire. Moreover, mindfulness promotes acceptance-oriented skills based on two core processes: attention to the present and non-judgmental processing, including thoughts and feelings (Bishop et al., 2004). However, the brief adaptation of the DBT includes psychoeducation, validation, acceptance, emotional regulation, tolerance of discomfort, and interpersonal efficacy skills, and the promotion of these validation and acceptance strategies might be sufficient to help the relatives manage their problems.

The results observed in the patients follow along the same lines. A statistically significant improvement was observed at post-treatment, compared to pre-treatment, in the negative attitude towards the disease, hostility, and absence of tolerance or coping, but no statistically significant differences were detected between the two treatment conditions, except on hostility toward the illness, where patients in the DBT-M group showed a greater statistically significant improvement than patients in the DBT group.

Our data support other studies in the literature that emphasize the importance of addressing the needs of relatives of people with serious mental disorders such as schizophrenia, bipolar disorder, addictions, antisocial disorder, or obsessive-compulsive disorder (Barrowclough et al., 2001; Hoffman et al., 2003; Kazdin et al., 1992). Regarding specific interventions for relatives of patients with Personality Disorders, as pointed out above, no specific

programmes have been developed for relatives except BPD. However, in the past few years, various published interventions have focused specifically on relatives. For example, some studies have used psychoeducational programmes (Grenyer et al., 2018; Pearce et al. 2017) or treatment programmes based on brief adaptations of DBT, as in the studies by the Fruzzetti group (Flynn et al., 2017; Hoffman et al., 2005; 2007) or Miller and Skerven (2017). Our results are similar to those obtained in these studies. The treatments presented above for relatives of patients with BPD have demonstrated, to a greater or lesser extent, their ability to contribute to the personal, emotional, social, and physical well-being of both relatives and patients. However, this work also provides data on the intervention's effect on the patients themselves, which is not common in previous studies. From our point of view, the relationships established in the family nucleus tend to be very harmful to all the family members, and this requires specific strategies for family members who live with people with BPD. In addition, this influence is bidirectional because the family is affected by the patient and vice versa. It is therefore essential to focus attention, effort, and resources on designing, developing, and assessing specific intervention protocols for relatives of patients with BPD. This paper makes a modest contribution to this line of research.

Some limitations of the present study should be noted. First, in this open clinical trial, participants were not randomly allocated to each treatment condition. Optimally, a random allocation of family members would have required at least two groups per centre (DBT and DBT-M). However, the internal organisation of each centre and lack of physical space made it impossible to implement both interventions in each centre. For this reason, it was not possible to randomise family members to the two interventions. Second, the study does not offer follow-up data. It is particularly important to follow up on changes produced by DBT-based interventions over time. It has been noted that, in some cases, such as patients with eating disorders, improvements in the use of DBT skills occur after the intervention and continue to increase over time (Brown et al., 2019), and both early and later improvements in the use of DBT skills predict improvements in patients' symptomatology. In addition, other variables that have not been considered could moderate these results, such as the severity of the patients the relatives care for, the evolution in the patients' treatment, or the psychopathology of the relatives. Although this study presents a slightly larger sample size than other studies on this topic (Carmona i Farrés et al., 2019; Trichal & Kumar, 2020), another limitation could be the small sample size, which makes it harder to detect the effects of treatments. Therefore, the lack of statistical significance on some variables may be related to a lack of statistical power, which could be boosted by increasing the sample size. Nevertheless, the possibilities of generalizing the results of this study are high, given that it was carried out in a natural treatment context.

Therefore, these preliminary data are simply an attempt to show that it is necessary and possible to support relatives, thus contributing to the scarce literature on the topic. In any case, to advance in this line of research, it is necessary to carry out studies with a more rigorous methodological approach that would allow us to draw clearer conclusions about the efficacy and clinical

utility of including mindfulness in these interventions. This could be done, for example, by using a randomized design and offering follow-up data, in order to analyse the possible benefits of mindfulness in the mid and long term. It would also be useful to study the impact of other variants of mindfulness, such as mindfulness focused on relationships, or include mindfulness as an independent component rather than as a transversal strategy throughout the entire treatment, thus avoiding reductions in the time spent on each therapeutic component.

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