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Factors predicting early dropout from dialectical behaviour therapy in individuals with borderline personality disorder

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Background. Dialectical behaviour therapy skills training (DBT-ST) has proven effective to treat individuals with borderline personality disorder (BPD). However, therapy still faces the problem of early dropout. The aim of the present study is to examine which factors are associated with early dropout from DBT-ST in a sample of subjects with BPD.

Method. 118 subjects with BPD diagnosis were included in the study. Apart from socio-demographic and clinical variables, childhood trauma history, personality dimensions, and comorbidities with other psychiatric disorders were collected. Differences in regards to the aforementioned variables were compared between individuals who dropped out prematurely from therapy and those who finalized it.

Results. Significant differences between groups regarding socio-demographic and clinical variables, including childhood trauma history and comorbid personality disorders, were not found. Both groups differed significantly in regards to trait impulsiveness and in comorbidity with Eating Disorders (ED) and Cocaine Use Disorder (CUD). The regression analyses showed that ED and CUD significantly predicted drop-out ($p=0.011$ and $p=0.031$ respectively), while scores in trait impulsivity showed a tendency towards significance ($p=0.063$).

Conclusions. Comorbidities between BPD and axis I disorders (i.e., ED and CUD) should be taken into account when referring patients to DBT-ST.

Keywords: Borderline Personality Disorder, Dialectical Behaviour Therapy, Dropout

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Factores predictores de abandono prematuro de terapia dialéctica conductual en pacientes con trastorno límite de la personalidad

Introducción. El entrenamiento en habilidades de la terapia dialéctica conductual (TDC) ha mostrado eficacia para el tratamiento de individuos con trastorno límite de la personalidad (TLP). Sin embargo, una de sus principales dificultades es el abandono prematuro de la psicoterapia. El objetivo del presente estudio es evaluar factores asociados con el abandono prematuro de una terapia grupal de entrenamiento en habilidades de la TDC en sujetos con TLP.

Método. Se incluyeron 118 sujetos con TLP. Además de factores sociodemográficos y clínicos, se evalúan otros factores como la presencia de antecedentes traumáticos en la infancia, rasgos dimensionales de personalidad y comorbilidad con otros trastornos psiquiátricos. Se analizan las diferencias entre aquellos sujetos que finalizan la terapia con los que abandonan prematuramente.

Resultados. No se observan diferencias significativas en variables sociodemográficas, de gravedad clínica, la presencia de antecedentes traumáticos en la infancia ni otros trastornos de personalidad comórbidos. Sí se encuentran diferencias significativas en la subescala de impulsividad así como en la comorbilidad con Trastorno de la Conducta Alimentaria (TCA) y Trastorno por Consumo de Cocaína (TCC). En el análisis de regresión, las variables predictoras de abandono fueron la comorbilidad con TCA ($p=0,011$) y con TCC ($p=0,031$), las puntuaciones en impulsividad mostraron una tendencia a la significación ($p=0,063$).

Conclusiones. La comorbilidad con trastornos del Eje I y la impulsividad son factores que se deberían tener en cuenta para valorar a priori el riesgo de abandono prematuro de terapia y optimizar el tratamiento más idóneo para cada paciente.

Palabras clave: Trastorno Límite de la Personalidad, Terapia Dialéctica Conductual, Abandono

INTRODUCTION

Borderline Personality Disorder (BPD) is a severe mental disorder characterized by instability in emotion regulation, self-image and interpersonal relationships, and impulsivity¹⁻³. This disorder affects approximately between 0.5 and 5.9% of the general population. In Spain the esteemed year prevalence is 0.7% and it is associated with high direct and indirect economic costs⁴.

Dialectical behaviour Therapy (DBT)³ is the therapy with most proven efficacy to treat BPD⁵, entailing low economic costs⁷ and less dropout percentage when compared with treatment as usual⁶. During the last decades shorter and more economic adaptations of DBT have emerged. For example, Soler et al.⁸ proved that a brief intervention of 3 months that only included the DBT's group skills training module (DBT-ST) was effective to reduce the core symptoms of BPD. Also in a controlled and randomized clinical trial conducted by Marsha M. Linehan and colleagues⁹ no significant differences were found between the DBT-ST and the full format. These results, together with other studies that show that the skills training module improves suicidal behavior, depression and angry management, point out that the skills training¹⁰ module is a nuclear aspect involved in DBT's efficacy.

Despite DBT's clinical efficacy, premature dropout from therapy is still a problem when treating BPD's populations. Compared with individuals with other mental disorders, BPD patients have showed the highest dropout rates^{11,12}. Some studies have found dropout ratios of 64%¹³. Premature termination of therapy is not only a problem for patients, limiting the therapy efficacy, but also for mental-health providers, preventing other patients to benefit from the therapy, for clinicians rebounding in its motivation, and also for researchers reducing the statistical power of the studies.

The difference found in dropout rates could be due to the dropout definition itself. Linehan³ considers that a patient has dropped out if he does not attend to four consecutive sessions of any of the therapy components. Other authors are laxer, for example, Prebe et al.¹⁴ defined dropout as not attending to four consecutive sessions of individual therapy, group therapy or any combination of the two, finding dropout rates of 52%. The context where the therapy is imparted can also influence dropout. It is not the same imparting the therapy in inpatient units, part time hospitals or ambulatory services¹⁵. In outpatient services from our socio-cultural frame, dropout rates of DBT-ST are estimated to be between 31 and 34%^{16,8}.

Numerous studies have analyzed possible factors associated with early dropout in BPD. For example, using the stages of change from the trans-theoretical model (TTM)¹⁷, pa-

tients with BPD who were on the pre contemplation stage were more prone to dropout from treatment¹⁸. In a recent meta-analysis that studied dropout in BPD, the following variables were associated with dropout: impulsivity, anger, experiential avoidance, low compromise with treatment, low motivation to change, and low therapeutic alliance. However, sociodemographic variables such as age, sex, education, work and marital status were not associated with dropout¹⁹. Another study compared DBT with treatment as usual and found that anger, comorbidity with axis I disorders, poor therapeutic alliance and high number of previous suicidal gestures predicted early dropout²⁰.

There are other factors that might be associated with dropout in BPD patients and have not been explored, such as the presence of childhood trauma. In the case of Eating Disorders (ED), higher dropout rates were found in patients who reported history of childhood trauma²¹. Childhood trauma is clearly associated with BPD, between 30 and 90% of individuals with BPD report having experienced childhood trauma. Moreover, some studies show that the presence of childhood trauma influences the severity and the course of BPD²²⁻²⁵.

The aim of the present study is to examine which factors are associated with early dropout of a group skills training module of DBT in BPD subjects. We assess sociodemographic and clinical factors, as well as the presence of childhood trauma, dimensional personality traits and comorbidity with axis I and II disorders.

METHODS

Participants

The total sample consisted of 118 outpatients diagnosed with BPD who were attended in the Borderline Personality Unit of the Hospital de la Santa Creu i Sant Pau (Barcelona).

Inclusion criteria were the following: 1) being diagnosed with BPD according to two semi-structured interviews (SCID-II and DIB-R); 2) being between 18 and 50 years old; 3) understanding the language. Exclusion criteria were: 1) being diagnosed with schizophrenia or other psychotic disorders, bipolar disorder, neurocognitive disorder, mental retardation or other disorders that could difficult the understanding of the sessions; 2) taking part in other psychotherapies during the study; 3) having received DBT in the past. Participants could have comorbidities with other axis I and II disorders. If participants took medication prior to inclusion, they could continue their pharmacological therapy; however type and dose could not be modified during the study.

Instruments

- *McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD)*: is a self-report questionnaire composed of 10 yes/no items used to screen BPD. Spanish validation shows a sensibility of 0.71 and a specificity of 0.68^{26,27}.
- *Revised Diagnostic Interview for Borderlines (DIB-R)*: is a semi-structured interview composed of 125 items. It assesses four BPD dimensions in the last two years: affectivity, cognition, impulsivity, and interpersonal relationships. The total score ranges from 0 to 10, being 6 the cutoff point to diagnose BPD in Spanish validation^{28,29}.
- *Structured clinical interview for DSM IV axis II personality disorders (SCID II)*. is a semi-structured interview to assess DSM-IV personality disorders^{30,31}.
- *Zuckerman-Kuhlman Personality Questionnaire (ZKPO)*: is a self-administered 99 item scale to evaluate temperamental traits. It has five subscales: Neuroticism – Anxiety, Impulsive – Sensation Seeking, Aggression – Hostility, Activity and Sociability³²⁻³⁴.
- *Childhood trauma questionnaire –short form (CTQ-SF)*: this questionnaire was designed to retrospectively assess adverse childhood experiences. The short form contains 28 items. It has proven validity in both clinical and nonclinical populations. It assesses five kinds of trauma: sexual abuse, physical abuse, emotional abuse, physical neglect and emotional neglect. Items are rated on a 5-point Likert scale. The questionnaire gives a total score and an specific score for each subscale^{35,36}.

Procedure

First we screened individuals who attended the BPD unit of our hospital with the MSI-BPD questionnaire. Participants who scored above 6 were interviewed using DIB-R and SCID-II. An experienced psychiatrist interviewed them in order to collect clinical and sociodemographic data including: age, gender, education, employment status and living status. Clinical data included: axis I and axis II disorders, number of previous hospitalizations, number of suicide attempts and current psychopharmacological treatment. Before the beginning of the psychotherapy, participants completed the CTQ-SF and ZKPO. This is a naturalistic study carried out in usual clinical practice, without control group and without the need of being "blind", as the main outcome is a hard variable (dropout YES/NO).

Participation was voluntary and did not involve any economic benefit. Written informed consent was obtained from all participants. The study was carried out in accordance with the Declaration of Helsinki and was approved by

the Clinical Research Ethics Committee at the Hospital de la Santa Creu i Sant Pau.

The psychotherapy consisted in a short adaptation of the skills training group of DBT³. It consisted of 13 weekly sessions of 150 minutes each. Each group had from 9 to 11 participants and was led by two DBT-trained therapists.

The main variable of the study was early dropout from therapy. In accordance with previous studies³, we considered that a participant dropped out if she/he missed 4 consecutive sessions of therapy, regardless of the reason. The dropout variable was dichotomous YES/NO without analyzing the possible causes. The notion that we used in this study in regard to dropout must be differentiated from "lack of adherence", which refers to the fact that the patient does not actively accept psychotherapy norms or prescriptions. Instead dropout refers to ending the therapy before it is finished, the cause of dropout might be lack of adherence or other external reasons such as distance from the center, job availability, lack of transport or social problems.

RESULTS

Participants

Demographical and clinical variables are shown in table 1. The final sample included 118 patients, most of them women (87.5%) and with a mean age of 29.84 (standard deviation: 7.76). Most of the patients lived with their origin family, finished secondary studies and were not working or studying at the moment of inclusion. Clinical severity was moderate to severe according to DIB-R scores (Table 2).

Differences between subjects who finished therapy and subjects who dropped out

In the present study we found a dropout rate of 30% (n=36). Table 2 shows differences between subjects who dropped out and subjects who did not. No significant differences were found between the two groups in most of the studied variables, including sociodemographical variables (age, gender, education level, employment and living status), clinical severity (DIB-R, number of previous hospitalizations, number of suicidal gestures, pharmacological treatment), the presence or absence of childhood trauma or comorbidity with other personality disorders.

We found significant differences between groups in axis I disorders comorbidity, specifically with ED and Cocaine Use Disorder (CUD). Participants who dropped out had more comorbidity with ED or CUD. Regarding personality traits, assessed with ZKPO, we observed significant differences in the

impulsiveness subscale, with higher scores in the drop out group.

Table 3 shows regression analysis. The variables included in the regression model were comorbidity with ED ($p=0.011$) and with CUD ($p=0.031$). Although we observed a tendency towards signification ($p=0.063$), impulsiveness was not a significant predictor.

The Hosmer–Lemeshow test for goodness of fit was good ($\chi^2=4.727$, $gl=8$, $p=0.786$)

DISCUSSION

The main objective of the present study was to investigate clinical and socio-demographical differences between individuals with BPD that dropped out from a group of DBT-ST and individuals who finished the treatment. Against our hypothesis, we did not find significant differences between both groups neither in socio-demographical and clinical characteristics nor in history of childhood trauma. Nevertheless, we did find that high impulsivity and comorbidity with ED and CUD were significant predictors of dropout.

In the present study we observed a dropout rate of 30%, a percentage comparable with previous studies^{8,16}. That good retention might be due to the fact that we used a short DBT-ST format (three months). None of the socio-demographical variables were associated with early dropout. This is consistent with the results of the previously mentioned meta-analysis with BPD patients¹⁹. Although one could suspect that being young or having low education level could affect therapy retention, this suspicion was not confirmed by our results. Moreover, clinical severity such as number of hospitalizations or number of previous suicidal behaviors were not associated with dropout either. With these results we would have to consider selection biases when considering individuals who benefit from therapy.

Another novel result is that the presence of childhood trauma does not predict dropout from therapy. Even though childhood trauma is highly prevalent in BPD²⁴, this factor seems not to be related with dropout. This differs from studies in subjects with ED, for whom an association between childhood trauma and high dropout rates has been observed²¹.

Even though the majority of clinical severity variables of BPD that we studied did not predict dropout, the presence of ED and CUD comorbidity seems to be related to it. Similar results have been described in other studies, for example Kroger et al.³⁷ found that individuals with BPD who also used substances had a higher risk of abandoning the treatment prematurely. Another study found that comorbidity with axis I disorders predicted early dropout²⁰. These

Table 1	Socio-demographic data	
Características	(n)	(%)
<i>Gender (Woman)</i>	105	87.5
<i>Cohabitation</i>		
Alone	18	15.3
Parents / origin family	53	44.9
Partner	20	16.9
Own family	19	16.1
Other	8	3.4
<i>Educational stage</i>		
Without	9	7.6
Primary education	52	44.1
Secondary education	43	36.4
University	14	11.9
<i>Employment situation</i>		
Working	37	31.4
Studying	12	10.2
Not working nor studying	69	58.5

results suggest that BPD patients who have comorbidity with ED or with CUD might have a higher probability to finish the therapy prematurely. It has been described a high comorbidity between BPD and SUD (between 38 and 46%) and ED (between 16.9 and 53.8%) and it is also associated with poor prognosis of BPD³⁶⁻³⁸. A possible explanation might be that patients with comorbidity would prefer a more specific treatment (oriented to the comorbid symptomatology) and would think that they will not benefit of a more general skills training group. Maybe other DBT adaptations oriented to specific disorders such as DBT for ED⁴¹ or DBT-Substance⁴² might have higher therapy retention in those cases. Also we could hypothesize that individuals with comorbidity might need other kinds of interventions: more intensive (part-time hospitalization), more complete (individual and group formats) and longer (more than three months of duration). This result is also relevant for clinical practice. When a patient has comorbidity with other disorders sometimes clinicians do not know what intervention must be prioritized. Our results show that if a patient has comorbidity with ED or CUD she/he has is more prone to dropout from treatment. So we could suggest to first treating axis I comorbidities and then participating in a skills training group. In this regard, our study provides some novel and interesting data, as even though there are a lot of

Table 2		Means and standard deviations for the main independent variables				
		Non dropout		Dropout		p
<i>Age (M, SD)</i>		30.28	7.49	28.83	8.372	0.354
<i>Gender (woman; N, %)</i>		74	90.2	31	86.1	0.532
<i>DIB-R (M, SD)</i>		7.49	1.43	7.63	1.26	0.616
<i>Prev Hosp. (M, SE)</i>		0.93	1.50	1.15	1.80	0.540
<i>Suicide attempts (M, SE)</i>		1.96	2.18	1.85	1.85	0.816
<i>ZKPQ (M,SE)</i>						
Imp -ss		11.15	4.41	14.03	3.61	0.001
N -anx		15.33	4.24	16.48	2.42	0.148
Agr -host		10.51	3.16	10.87	3.71	0.574
Act		7.04	3.78	7.73	3.82	0.382
Soc		5.66	3.99	6.00	4.21	0.688
<i>CTQ (M, SE)</i>						
Emo ab		14.21	6.38	13.2	5.86	0.458
Phys ab		9.01	5.03	7.87	3.86	0.266
Sex ab		8.82	5.09	8.27	4.38	0.607
Phys neg		0.25	0.44	0.27	0.45	0.862
Emo neg		0.51	0.50	0.37	0.49	0.200
Total CTQ		47.17	24.97	44.07	20.74	0.551
<i>Axis I disorders I (N, %)</i>						
ED		21	28.4	16	55.2	0.013
MDD		8	11.0	1	3.4	0.440
CUD		5	6.8	9	31.0	0.003
Anxiety		5	7.0	0	0	0.318

Act: activity; Agr -host: aggression -hostility; CTQ: Childhood Trauma Questionnaire; CUD: Cocaine Use Disorder; DIB-R: Revised Diagnostic Interview for Borderlines; ED: Eating Disorders; Emo ab: emotional abuse; Emo neg: emotional neglect; Imp -ss: Impulsivity -sensation seeking; M: Mean; MDD: Major Depressive Disorder; N -anx: neuroticism -anxiety; Phys neg: physical neglect; Prev -hosp: number of previously hospitalizations; Pys ab: physical abuse; SD: Standard Deviation; Sex ab: sexual abuse; Soc: sociability; ZKPQ: Zuckerman -Kuhlman Personality Questionnaire.

studies that analyze comorbidity of BPD in patients with CUD^{43,44} or ED^{45,46} there are just a few that analyze the opposite, the presence of CUD and ED in BPD patients samples.

Regarding personality traits, we observed that patients with high levels of impulsiveness and sensation seeking have high dropout rates. It is congruent with previous studies¹⁹

and with the mentioned meta-analysis that shows that impulsivity together with other factors (lack of compromise with treatment, low motivation to change, high experiential avoidance and low therapeutic alliance) is associated with early dropout. Probably, the tendency to act fast and without thinking could predispose individuals to abandon the therapy in front of the minimal difficulty. In a previous

Table 3		Binary Logistic Regression of Dropout			
Variables	Standard Error	Odds Ratio	Confidence Interval	P	
Imp-ss	0.065	1.129	(0.993 - 1.282)	0.063	
ED	0.521	3.772	(1.358 - 10.475)	0.011	
CUD	0.693	4.461	(1.147 - 17.394)	0.031	
Constant	0.912	0.035		0.000	

CUD: Cocaine Use Disorder; ED: Eating Disorders; Imp-ss: impulsivity-sensation seeking

study, Rüsç et al.⁴⁷ found that high anxiety traits and high hostility predicted dropout from DBT in hospitalized patients. In contrast, we apply DBT in an outpatient format and we did not find significant associations between dropout and personality traits such as neuroticism, anxiety, activity, sociability or aggressiveness. Even though we could think that high neuroticism or anxiety could interfere with the adherence of a group intervention, according to our results these factors are not significant in predicting dropout.

Our study has several limitations. First, the sample size could affect the statistical power when finding significant results. Second, we analyze dropouts from a weekly group intervention conducted in an outpatient service, limiting generalization to other interventions or services. Third, we did not use structured interviews to assess axis I comorbidity, instead we used clinical anamnesis. Fourth, the predominance of females limits extrapolation of our results to males. We did not register when exactly the patient dropped out, maybe socio-demographic and clinical characteristics could differ between patients who dropped out at the first sessions from patients who dropped out when the treatment was nearly finished. Finally, we did not assess reasons for dropout, as the aim of the study was to investigate factors associated with dropout independently of what might cause it. We did not study lack of therapy adherence, the session of dropout and the reasons to do so might be taken into account for future investigations.

To sum up, our study shows that most patients with BPD completed the DBT-ST group. According to our findings, we should not consider socio-demographical or clinical severity data when predicting dropout, instead we recommend to first treat comorbidity with ED and CUD, as it can negatively affect therapy continuation.

CONFLICT OF INTERESTS

The authors declare that they have no conflict of interests.

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