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To what extent are specific psychotherapies for borderline personality disorders efficacious? A systematic review of published randomised controlled trials

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Introduction: Over the past 20 years, several studies have established the efficacy of different forms of psychotherapy for borderline personality disorders (BPD). However, existing research has used a wide range of outcomes measures which makes it difficult to quantify data and to compare interventions. This review has been designed to analyse the evidence from randomized controlled trials (RCT) through a qualitative approach.

Methods: A systematic review of published RCT on specific psychotherapies for BPD has been undertaken to find relevant literature from online PsycINFO, ISI Web of Knowledge and Medline databases. An analysis of variability in primary outcomes, dropout patients and those who do not enter treatment has been conducted to assess if a wide range of variation could show any potential bias.

Results: There is a substantial variation between the studies in primary outcomes, such as suicide attempts (7.4–33.9%), and specially in dropout patients (6.7–47.4%) and those who do not enter treatment (17.6–63.6%). Globally, specific psychotherapy for BPD, at least in a 40% of patients who demand treatment, would not be efficacious.

Conclusions: The overall efficacy of specific therapies for BPD is promising. However, the variability of results raise questions about potential bias. Future studies should investigate new therapeutic approaches to allow the management of more severe and refractory patients.

Key Words: Borderline Personality Disorder, Psychotherapy, Review, Randomized Controlled Trial

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¿Hasta qué punto las psicoterapias específicas para el trastorno límite de la personalidad son eficaces? Una revisión sistemática de los estudios controlados aleatorizados publicados

Introducción: Durante los últimos 20 años, varios estudios han establecido la eficacia de diferentes formas de psicoterapia para el trastorno límite de la personalidad (TLP). Sin embargo, la investigación existente ha utilizado una amplia gama de medidas de resultado que hace difícil cuantificar los datos y comparar las intervenciones. Esta revisión ha sido diseñada para analizar la evidencia procedente de los estudios controlados con asignación aleatoria (ECA) mediante un abordaje cualitativo.

Metodología: Se ha llevado a cabo una revisión sistemática de los ECA publicados sobre las psicoterapias específicas del TLP para encontrar la literatura relevante recogida en las bases de datos online PsycINFO, ISI Web of Knowledge y Medline. Se ha realizado un análisis de la variabilidad en las variables principales de resultado, los pacientes que abandonan y aquellos que no entran en tratamiento para evaluar si un rango de variación amplio podría indicar algún sesgo potencial.

Resultados: Hay una substancial variación entre los estudios en las variables principales de resultado, como los intentos de suicidio (7,4–33,9%), y especialmente en los pacientes que abandonan (6,7–47,4%) y en aquellos que no entran en tratamiento (17,6–63,6%). Globalmente, la psicoterapia específica para el TLP, al menos en un 40% de los pacientes que demandan tratamiento, no sería eficaz.

Conclusiones: La eficacia global de las psicoterapias específicas para el TLP es prometedora. Sin embargo, la variabilidad de los resultados, plantea interrogantes sobre potenciales sesgos. Los estudios futuros deberían investigar nuevos abordajes terapéuticos que permitan el manejo de

los pacientes más severos y refractarios.

Palabras clave: Trastorno límite de la personalidad, Psicoterapia, Revisión, Estudio Controlado Aleatorizado

INTRODUCTION

Borderline personality disorder (BPD) has a 1-2% prevalence,¹ considerable morbidity and mortality, whether due to premature death or suicide,² and it generates important and usage of the Health Care Services.³⁻⁴ However, up to a few years ago, BPD was considered to be an untreatable condition.⁵ This negative predisposition partially explains the lack of satisfaction of patients and their families about the care received⁶ and the permanent debate of the professionals to optimize the treatment.^{2,6} It would be well to clarify that this pessimism is no longer justified.⁷ During the last 20 years, several prospective studies have shown the utility of different psychotherapy models within different care settings.⁸⁻¹⁴ Nine of these settings¹⁴⁻²² have been supported by at least one randomized controlled trial (RCT).

All of these therapeutic advances have undeniably improved the prognoses of persons with BPD. However, different authors are demanding a replication of these studies to be performed in larger samples by investigators who are independent from the group that designed the psychotherapy and under conditions of daily clinical practice.^{5,23} They are also demanding that the required training and supervision not be too long or expensive so that the benefits can be disseminated to all of the BPDs.¹⁷ Nonetheless, some authors have gone even further. They maintain that quite a few patients have a chronic and unstable course and even become worse and enter into an escalation of self-destructive behaviors and do not benefit from the therapies,^{24,25} even though they frequently consult the Health Care Services, many times erratically and over long periods of time.^{3,4} Then, what is the current status of psychotherapies for BPD?

On the one hand, systematic reviews have investigated the efficacy of the treatment and on the other treatment adherence. The *Health Technology Assessment*²⁶ review as well as the Cochrane meta-analysis²³ or the recent guidelines of the *National Institute for Health and Clinical Excellence*² and the AIAQS Agency of Catalonia⁶ have coincided that some specific therapies can be recommended with a good to regular confidence level for BPD. However, they have stated that these conclusions should be interpreted with caution since the therapies were still experimental, the studies were

too few, small, and they used many different ways of evaluating the results. Furthermore, treatment adherence was considered scarce, this being less than 40% in the first studies.²⁷ A recent metaanalysis²⁷ has shown that the problem was that the initial studies evaluated any psychological treatment of BPD. If the analysis is limited to the psychotherapies that have demonstrated efficacy in at least one RCT, 75% completed the shorter therapies and 71% the longer ones, although warning is given to a potential bias towards the publication of the studies with better adherence.

Besides the lack of efficacy and/or non-adherence, there is another reason why some patients do not benefit from the psychotherapy. These involve patients who after the screening do not enter treatment. This aspect is included in the publications in the section "excluded patients" of the random allotment, a term that is mistaken because this information is the result of two different decisions. On the other hand, there is the decision of the investigators to exclude certain patients based on some criteria. On the other is the position of the patient who at any time may refuse to enter treatment whether because the patient has changed his/her mind, does not accept the randomized method or due to the endless evaluations, or because, passively, the patient disappears and cannot be located. The great emotional instability that characterizes BPD converts the screening period into a challenge and tests the clinician-investigator's capacity to maintain the commitment of a person who has low tolerance to frustration.⁹ Thus, the rigidity in the protocol application and in conflict resolving during the evaluation could also condition the number and type of rejections. In fact, it has been published²⁸ that the clinical characteristics of the BPDs who refuse to enter into a RCT are different from those who accept. In any case, it is interesting to compare the results of the pre-treatment selection in the different studies.

As the successive reviews have coincided that the important differences between the studies hinder the quantitative analysis of the data, a qualitative systematic review could provide additional and complementary information. Thus, the objective of this review is to describe and analyze three fundamental aspects of the RCT of specific psychotherapies for the BPD: pre-treatment selection, adherence to the therapy and efficacy of the intervention.

METHODOLOGY

A systematic search was performed in the online databases PsycINFO, Pubmed (Medline) and ISI Web of Knowledge from 1990 to May 2012 with the combination of the keywords "borderline personality disorder," "randomized controlled trial" and "psychotherapy." Previous reviews of prestige were also consulted, these being those performed by *Health Technology Assessment International*²⁶ and the

Cochrane²³, as well as reviews^{7,29-31} and recent clinical guidelines.²⁻⁶ Inclusion criteria were the following: a) a study that evaluated the effect of a psychotherapy; b) a controlled study with random allotment; c) the psychotherapy investigated had a manual; d) the sample only included patients with BPD according to the DSM criteria;^{32,33} e) subjects over 18 years of age; f) original sample, no subanalysis or follow-up of the initial patients. The following exclusion criteria were applied so that the study selected would be more homogenous and to facilitate comparison: a) the sample fundamentally included patients with eating behavior disorders or substance dependence; b) the group psychotherapy was the principal intervention; c) the intervention group and control group received the same psychotherapy with some modification, and d) sample size was less than 15 subjects in each group, due to the potential bias this supposes²⁷ and according to that suggested by Richy et al.³⁴ Data extraction was performed by one of the authors and another author supervised it. The articles selected were classified by two independent evaluators in accordance with the quality scale of the Cochrane Collaboration³⁵ to evaluate the risk of bias that classifies each domain in accordance with the three categories of low risk, high risk and unclear risk. Discrepancies were resolved by consensus

The variables investigated were: a) descriptives of the studies reviewed: specific psychotherapy for BPD, treatment it was compared with, study duration, frequency and type of evaluation; b) those regarding pre-treatment selection: number of patients evaluated for subsequent random allotment, number of patients excluded because they did not meet BPD criteria, number of patients excluded due to having schizophrenia, bipolar disorder or substance consumption, number of patients who refused to enter into treatment and total number of patients who did not enter into treatment for any reason (Table 1); c) those regarding treatment adherence: number of patients who abandon therapy in one year; d) principal outcome variables: number of patients for psychiatric admissions (hereinafter, admissions), number of patients with suicide attempts (hereinafter, suicides), number of patients with self-injuries without suicidal purpose (hereinafter, self-injuries), durations of the admissions, number of suicides and number of self-injuries; the outcome variables present the data of one year of therapy and it is stated when this did not occur.

The qualitative methodological analysis supplied was that developed by the investigations on variability in the medical practice that has shown its utility as an analysis tool in the different medical settings,^{36,37} including the psychiatric one,³⁸ especially when the data were heterogeneous or disperse. According to the variation range, the following variability levels were defined: small < 50%, median = 50-100%, large > 100%. To consider that a patient did not enter the treatment, it was required that: a) the patient had attended

at least one evaluation interview prior to the random assignment, b) the patient did not attend any therapy session. To consider that a patient abandon therapy the following were required: a) the patient had attended at least one therapy session, b) the patient ended the sessions prior to that agreed on. The efficacy of the therapy was evaluated in two ways. First, the variability in the dichotomic variables was analyzed, that is, variability in the number of patients who presented at least one adverse event, whether admissions, suicides or self-injuries, independently. After, variability in the capacity of the different therapies to significantly reduce one, two or three events simultaneously was studied. In this case, both the results of the dichotomic variables as well as the discrete quantitative variables (duration of admissions, number of suicides or self-injuries) were analyzed. It was considered that a patient did not respond to therapy when the patient continued to have any of the following: a) admissions, b) suicides c) self-injuries.

The percentages, except express indication, were calculated either for all of the patients initially evaluated for random allotment or for all of the patients who initiated psychotherapy in each group. Since the statistical analysis varied greatly between the different studies, only the value of the statistical significance "p" was recorded in order to facilitate the reading of the article.

RESULTS

Studies included

Of the 211 references identified, a total of 28 studies fulfilled the inclusion criteria (figure 1). Three of these had to be excluded³⁹⁻⁴¹ in accordance with criterion "a", six^{22,42-45} according to criterion "b", three⁴⁶⁻⁴⁸ according to criterion "c" and three⁴⁹⁻⁵¹ according to criterion "d". Furthermore, two other studies were excluded after a more detailed analysis and in order to maintain the maximum possible homogeneity. The study performed with interpersonal-BPD²⁰ psychotherapy was excluded because it excluded patients with any comorbid condition on axis I. The study that compared cognitive behavioral therapy (CBT) with Rogerian therapy⁵² was excluded because the psychotherapy was performed in two groups by the same therapists, who had training in CBT. Finally, 11 studies remained (table 1) and are those used for the review. Of these, six evaluated dialectical behavior therapy^{5,8,15,18,53,54} (DBT; one of them compared DBT with general psychiatric treatment⁵ with psychodynamic orientation based on the recommendations of the *American Psychiatric Association*³³ and the other DBT with transference focused psychotherapy¹⁸ [TFP]), one the CBT,¹⁶ one schema focused therapy¹⁴ (SFT compared with the TFP), two, mentalization based therapy^{9,17} (MBT) and three TFP^{14,18,55} (one compared TFP with SFT¹⁴).

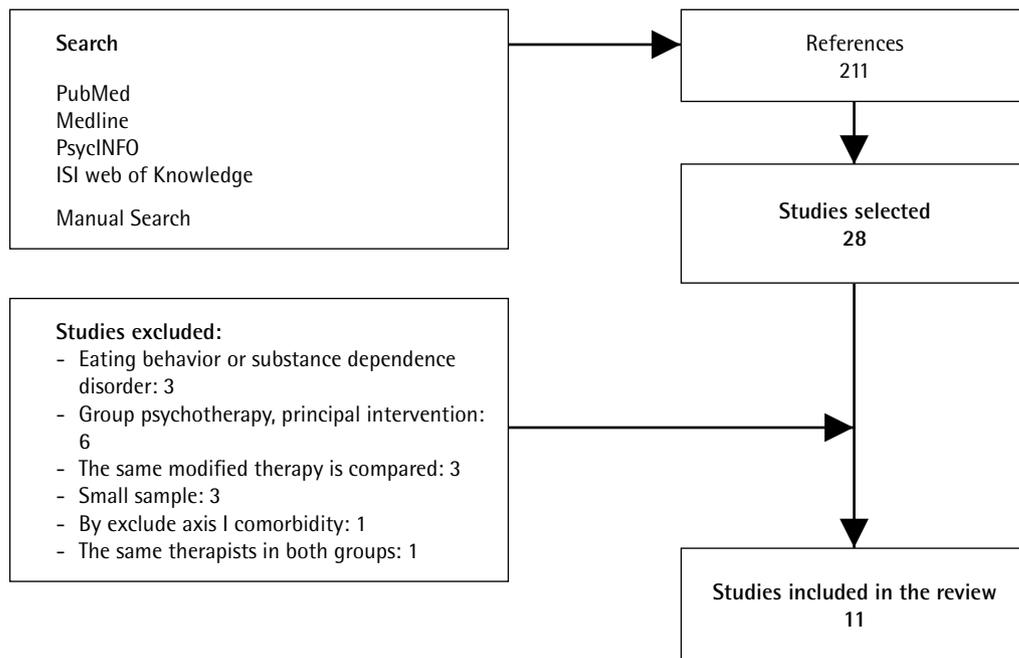


Figure 1

Flow chart for the selection of studies

Quality of the studies

The results in the six domains established in the Cochrane manual were the following: a) generation of the randomization sequence, low risk of bias 6 studies^{5,14-17,54}, unclear risk of bias 5 studies^{8,9,18,53,55}; b) blinding of the random allotment, low risk of bias 5 studies^{5,14,16,17,54}, high risk of bias 3 studies^{8,9,53}, unclear risk of bias 3 studies^{15,18,55}; c) blinding of the participants and staff to the interventions, high risk of bias 11 studies; d) blinding of the evaluators to the intervention assigned, low risk of bias 6 studies^{5,15-17,54,55}, unclear risk of bias 5 studies^{8,9,14,15,53}; e) incomplete result data, low risk of bias 10 studies, unclear risk of bias 1 study¹⁸; f) selective notification of the results, low risk of bias 7 studies^{5,9,14,16,17,54,55}, unclear risk of bias 4 studies^{8,15,18,53}.

Pre-treatment selection

The total percentage of patients who did not enter into treatment varied widely (17.6-63.6%) among the different studies (Table 1) due to, above all, the great variability among the patients who refused treatment (4.4-49.4%).

However, the variation dependent on exclusion criteria also had an effect. These, although standardized, were not equally applied in all of the studies. Thus, some excluded bipolar disorder^{8,9,14-16,53-55} and others only type I bipolar disorder^{5,17,18} or sometimes psychoses^{5,14,15,17,18,53,54} and others only schizophrenia.^{8,9,16,55}

Adherence to therapy

In the patients assigned to any of the specifically designed therapies for BPD, abandonments may be minimum, 6.7% in the SFT study,¹⁴ or may reach 47.4% in only six months of DBT.⁵¹ However, if there is a person who originally designed the therapy among the authors of the study, abandonments may also vary. Thus, in the DBT studies published by the creator of the model,^{9,16} the percentage of abandonments varied from 11.5% to 16.7%, while in the others^{1,13,50,51} it ranged from 37% to 47.4%. Another source of variation is related to the theoretical orientation of the authors when two or more therapies are compared. In this way, in a three-arm study designed by a group having psychoanalytic orientation,¹³ the percentage of abandonments from the two psychodynamic therapies, the TFP and supportive therapy (23.3% and 26.7%, respectively), is much less than that suffered by DBT (43.3%) that it is compared with. However, up to 37.2% of the patients abandoned TFP in another study¹⁴ designed by authors trained in SFT, a therapy in which abandonments did not exceed 6.7%. Regarding patients assigned to the treatments used as control, the abandonment percentage varied widely from 11.4% to 77.4% (usual treatment, UT) and 25.4% and 56.4% (treatment by experts).

Most of the authors only report the abandonments of patients who have initiated the therapy. However, some authors, knowing the result of the randomization, offer all of the data of the patients who abandon therapy and/or refuse to enter into it. Two works^{16,55} published these data

Table 1		Specific psychotherapies for BPD: pre-treatment selection and adherence							
Authors Year-City	Psychotherapy duration and design	N	Evaluated for random assignment						Abandon (1st year) n/N (%)
			They do not enter treatment				They initiate therapy		
			Refusal n (%)	No BPD n (%)	SPS n (%)	Others n (%)	total n (%)	total n (%)	
Linehan et al ^a 1991-Seattle ⁸	1 yr. DBT vs UT	63	17 (27.0)	-	-	-	17 (27.0)	46 (73.0)	DBT 4/24 (16.7) UT 12/22 (54.6)
Bateman & Fonagy ^b 1999-London ⁹	18 months MBT vs UT	60	16 (26.7)	-	-	-	16 (26.7)	44 (73.3)	MBT 3/22 (13.6) UT 3/22 (13.6)
Verheul et al 2003-Amsterdam ^{53,56}	1 yr. DBT vs UT	92	20 (21.7)	12 (13.0)	2 (2.2)	0 (0)	34 (37.0)	58 (63.0)	DBT 10/27 (37.0) UT 24/31 (77.4)
Linehan et al ^c 2006-Seattle ¹⁵	1 yr. DBT vs ECT	186	22 (11.8)	-	-	63 (33.9)	85 (45.7)	101 (54.3)	DBT 6/52 (11.5) ECT 14/49 (28.6)
Davidson et al ^d 2006-G. Britain ^{13,16}	1 yr. CBT+ vs UT	125	7 (5.6)	-	-	15 (12.0)	22 (17.6)	103 (82.4)	CBT 4/51 (7.8) UT 9/52 (17.3)
Giesen-Bloo et al 2006-Holland ¹⁴	3 years SFT vs TFP	173	40 (23.1)	22 (12.7)	20 (11.6)	3 (1.7)	85 (49.1)	88 (50.9)	TCE 3/45 (6.7) TFP 16/43 (37.2)
Clarkin et al ^e 2007-N. York ¹⁸	1 yr. DBT vs TFP vs DST	207	9 (4.4)	34 (16.4)	25 (12.1)	49 (23.7)	117 (56.5)	90 (43.5)	DBT 13/30 (43.3) TFP 7/30 (23.3) DST 8/30 (26.7)
Bateman & Fonagy 2009-London ¹⁷	18 months MBT vs SCM	168	25 (14.9)	5 (2.9)	4 (2.4)	0 (0)	34 (20.2)	134 (79.8)	MBT 19/71 (26.8) MCE 16/63 (25.4)
MacMain et al 2009-Toronto ⁵	1 yr. DBT vs GPT	271	25 (9.2)	12 (4.4)	39 (14.4)	15 (5.5)	91 (33.6)	180 (66.4)	DBT 35/90 (38.9) TPG 34/90 (37.8)
Doering et al ^f 2010-Munich/Viena ⁵⁵	1 yr. TFP vs ECT	231	114 (49.4)	-	-	33 (14.3)	147 (63.6)	84 (36.4)	TFP 13/45 (28.9) ECT 22/39 (56.4)
Carter et al ^g 2010-N. Zealand ⁵⁴	6 months DBT vs UT+WL	96	5 (5.2)	16 (16.7)	-	2 (2.1)	23 (24.0)	73 (76.0)	DBT 18/38 (47.4) UT 4/35 (11.4)

DBT= dialectical behavior therapy. CBT+= cognitive behavioral therapy plus UT. SFT= schema focused therapy. TFP= transference focused psychotherapy. DST: Dynamic supportive therapy. MBT= mentalization based therapy. GPT= general psychiatric treatment. UT= usual treatment. ECT= experts community treatment. SCM: structured clinical management WL= waiting list. SPS: schizophrenia, psychosis, bipolar or substance consumption disorder

a Those excluded because they did not fulfill inclusion criteria are not stated; 2 cases who abandoned the DBT before the fourth session have been included because they initiated the therapy, although the authors excluded them from the outcome analysis. b Those excluded because they did not fulfill the inclusion criteria are not stated; three cases abandoned UT and initiated MBT after a serious suicide attempt (demanded by ethics committee). c Ten cases used for training (8 DBT and 2 ECT; it is not indicated how they were selected) and excluded from the outcome analysis have been included among those who did not enter training. d 54 cases (CBT) and 52 cases (UT) were assigned; three cases did not attend any session of CBT have been considered as not entering treatment, although the authors included them in the analysis. Data was lost in 4 cases (1 CBT, UT, 3) not included in the outcome analysis. e Included among those who did not enter treatment were 19 cases who fulfilled criteria but it was not explained why they were not assigned any therapy. f It was considered that 7 cases (TFP) and 13 cases (ECT) that did not ever come to therapy did not enter the therapy, although they were included in the analysis. g Data at 6 months

and it was possible to calculate it in three others.^{8,14,53} In these five studies, the percentage of patients who abandoned and/or refused treatment, both specific therapies (6.7-45.2%) and UT (17.3-78.8%), showed great variability.

Efficacy of the therapy

Important difficulties are found for the independent analysis of the variables of the dichotomic results (Table 2). When the number of patients with admissions is reviewed, it

is seen that five publications do not provide these data and only two studies^{9,17} that evaluate this variable during the last 6 months and three others^{8,15,16} that evaluate it during the entire year of treatment are comparable - the variability is moderate. In regards to the number of patients with suicides, three studies do not provide these data and two only provide data for para-suicides (patients who present suicides and/or self-injuries). In the two studies^{9,17} on MBT, the variation in 6 months is moderate and in the four other studies^{15,16,53,55} that were comparable, there is great variability (7.4-33.9%). When the therapies that lead to significant improvement in

more than one adverse event were investigated, wide variability was seen. Four studies^{5,8,9,17} published significant improvement in the variables that investigated admissions, and suicides and self-injuries. One study¹⁵ only published admissions and suicides and three others^{16,53,55} only in an event and one⁵⁴ in none although it modified one component of the original DBT.

A more detailed analysis of these studies shows that only the last work of Bateman and Fonagy¹⁷ reported significant differences in all the primary outcome variables, both independently as well as grouped (table 2). Thus, at the initiation of the MBT and structured clinical management, 100% of the patients were hospitalized or had suicides or self-injuries. After 18 months of MBT, 73% of the patients (42% in 1 year) were not included in any of these three situations compared to 43% (24% in 1 year; $p < 0.04$) of those who had received structured clinical management ($p < 0.0007$). Two other studies offered grouped data of suicides and self-injuries, expressed as para-suicides: that of McMain et al.,⁵ - the DBT and general psychiatric treatment improved significantly the number of para-suicides without differences between them, and that of Linehan et al.,⁸ -the DBT significantly reduced the dichotomic and quantitative variables of para-suicide, also in the last 4 months of therapy.

The remaining publications only offered data for the three outcome variables independently and only the MBT⁹ applied in the day hospital significantly reduced admissions, suicides and self-injuries. The DBT, in the work of Verheul et al.,^{53,56} only reduces the number of self-injuries, while in that of Linehan et al.¹⁵ it improved the number of patients with admissions and suicides. However, the results varied when considering the year of therapy or year of follow-up. The same occurred in the Davidson et al. study,¹⁶ since the CBT (27 sessions plus UT) only significantly reduced the number of suicides if the year of follow-up was included. Finally, in the work of Doering et al.,⁵⁵ the TFP only improved the days of admissions. The authors considered that it also reduced the number of patients with suicides, but the calculation was questioned by another independent statistical analysis.⁵⁷

DISCUSSION

The reviews of psychotherapy for BPD stress the differences existing between the studies and how difficult it is to compare the results. With all this, the analysis improves if the studies selected are more homogenous. In the first place, the variability of the patients who do not enter into treatment stands out, especially in regarding to that depending on the factors related to refusal of the patient (4.4-49.4%). However, the results of the application of the inclusion and exclusion criteria by the clinician-investigator are important. Mention has already been made that these

criteria differ from one study to another as well as the great difficulty entailed in the management of unstable emotions of BPD during the evaluation and how this may condition the final result: how many patients who do not enter into the treatment. This aspect of the RCT has been investigated less, but it may cause a selection bias which, although it equally affects all the groups, conditions the complexity of the sample and external validity of the results. Although the requirements of a RCT are more demanding than the mere application of the therapy in the daily practice, it is clear that some studies combine good methodological quality with adequate adaptation to the special needs of these patients, minimize refusals and that the therapy is more accessible, also for the most serious cases.

Although most of the authors defend the hypothesis that greater adherence to therapy is indicative of its efficacy, the great variability found (6.7-47.4%) opens the way to another hypothesis. Given that the therapists are not blind to the treatment and that greater stay in therapy is associated with the psychotherapy model used by the authors, it could be questioned how this characteristic affects the bonding process of the patients. It has been noted that followers of new therapies tend to be more enthusiastic and to cope with the adversities with greater energy. They could perform with greater competence than those applying the standard treatment.² This hypothesis would agree with the important variability also found in the abandonments of UT (11.4-77.4%) and with the opinion of some authors³⁴ who consider it more as a problem of the therapy than of the patient, that is, related with the efforts to adapt oneself to the difficulties and needs of the person with BPD. Therefore, it could be questioned if all of the studies work with the same attention regarding the control of the treatment and consequently if the differences with the specific therapy are due to the goodness or lack of the UT. Although the criterion to consider that a patient abandons therapy is different in the different studies,¹⁶ it seems that it would be unlikely that this alone could explain such an extensive variation or be able to justify the bias caused by study sponsor.

As already mentioned, most of the studies only reported abandonments of patients who had initiated the therapy, since there was great interest in demonstrating its superiority compared to the control. However, the combined calculation of refusals to enter treatment and abandonments of the therapy maintains the previous conclusions because the variability is equally large. Both data would be of interest. The combined data offer a more holistic view. The independent analysis of abandonments would make it possible to evaluate if the specific therapy improves adherence, if the treatment of the control group has a minimum quality and to investigate the differences between the BPDs who agreed to or refused to enter treatment. The initial data indicate that those who refused had lower

functioning, a background of more attempts for previous treatment and who frequently lived alone.²⁸ As functioning has been related with suicide risk⁵⁸ it appears useful to continue investigating it.

The analysis of the efficacy of the therapy entails true difficulties, since very diverse outcome measures evaluated in very different time period were used, this hindering the synthesis of the data of the different studies and comparison of the interventions.² Thus, it was decided to evaluate response to therapy based on variables that measure objectively observed adverse events, admissions, suicides and self-injuries, because it is difficult to imagine an effective therapy for BPD that does not improve them and due to the great heterogeneity of the outcome evaluation scales used. Most of the studies investigate these types of variables. Only two studies^{14,18} supported the efficacy of therapy exclusively on the basis of changes in evaluation scales. The problem lies in the fact that not all of the studies provide results of these three adverse events. Even more so, among those that do provide them, most present these data independently and therefore the percentages overlap. Only one study¹⁷ reported about the patients who continued with admissions, suicides or self-injuries, information that makes it possible to establish a reliable criterion regarding the fact that the patient has not responded to the therapy. In addition, when data of some of these events are not provided, the results are even more difficult to interpret. For example, is a therapy that reduces suicides, but in which it is not known what happens with the admissions or self-injuries, effective? Another problem consists in the fact that the absolute values are not published many times and only the statistics is provided that indicates that the change produced between the baseline and posttreatment evaluation in the specific therapy is significantly greater to that produced in the control therapy. However, this information reports the global effect of the treatment, but not how many patients respond to it. Furthermore, it may mask the deterioration occurred in a minority of patients.² Finally, some studies do not report the number of patients who have an adverse event but rather the evolution of them in each treatment, which makes it possible to compare the means, but prevents the calculation of how many have not responded.

The variability observed in the outcome variables reflects differences in the effects of the therapy. On the one hand, not all significantly reduce admissions, suicides and self-injuries, the MBT and DBT being those that obtain the best results. On the other hand, the capacity to reduce each one of these adverse events independently also varies. Thus, suicides are more consistently reduced with DBT and MBT than with CBT or TFP, while for admissions, MBT is somewhat superior to DBT and both to the rest. As most of the studies have been performed with samples of women, their conclusions are not applicable to the male population.⁶ The

variability of the response of the control group is also important. For example, the proportion of suicides widely varied between the different control treatments (table 2) and, if this is very high, it could explain some of the differences found with the intervention group. Although this variation may be attributed to many factors, one of them is the type of control group chosen, UT or treatment by experts, as stated in the two studies of MBT.^{9,17} When the control is UT, the proportion of suicides is much greater, 63%, then when the treatment is done by experts, 25%. In general, an especially poor result in the control group located in the extreme of the variability range, should be justified.

In regards to the patients who do not respond to therapy, the best result is obtained with the second study of the MBT.¹⁷ In that study, only 27% of the patients continued with admissions, suicides or self-injuries in the final stage of treatment. The remaining studies did not provide these group data and it was not possible to know the grade of response reached. For example, the first controlled study of DBT⁸ reported that in the last 4 months of therapy, 25% of the patients continued to have suicides and/or self-injuries and 13.6% admissions. However, it is not known how many subjects continued with all three. Greater difficulty is found in the analysis of the studies that did not report the results of the final months of treatment. Thus, although 45% have at least one admission or suicide after one year of CBT¹⁶ and 73% self-injuries after one year of TFP,⁵⁵ the percentage of patients who did improve may not be as elevated, since the results collect the data of an entire year and it is reasonable to suppose that in the first months, the response to the therapy was less. This occurs with the MBT^{10,59} (suicides during 18 months >50%; suicides in the last 6 months <20%).

In summary, at least 27-35% continue to have admissions, suicides or self-injuries, and therefore would not have responded to treatment. This percentage could be even greater in some therapies. However, this criterion may sometimes be too demanding and in a patient with isolated self-injuries, it may be sufficient to be free of admissions or suicides to consider that the patient has responded. Unfortunately, no publication has provided the number of patients who continue both with admissions as well as suicides during the final stage of the therapy and the only study¹⁶ that did evaluate it only reported the accumulated information for all the year (45%). Although the publications that reported the follow-up of the original samples were excluded from the initial analysis, the discussion of these results is of interest to know how many BPDs continued with admissions, suicides or self-injuries years after finishing the therapy. Of the studies available, the follow-up did not exceed 12 months and in three of them,^{15,60,61} and in three others, this was extended to 2 years⁶² (dichotomic variables were not investigated), 5 years¹⁰ (23% presented suicides and there were no admissions) and 6 years⁶³ (56% presented

Table 2		Specific psychotherapies for BPD: principal outcome variables					
Authors Therapy duration	Therapy (n)/ Control (n) Evaluation ^b	Patients PA %	Days of admission mean	Patients SA %	Number of SA mean	Patients S-I %	Number of S-I mean
Linehan et al, 1991, 1 yr.	DBT(22)/UT(22) Period 8-12m	36.4/54.5 13.6/31.8	8.5/38.9* -	63.6/95.5+ ^a 35.0/61.9*	^a 6.8/33.5* ^a 0.6/9.3*	- -	6.1/32.3# -
Bateman & Fonagy, 1999 18 months	MBT (19)/UT(19) Period 12-18m	^c 0.0/36.8+	nc/nc #	5.2/63.2#	-	36.8/84.2+	-
Verheul et al, 2003, 1 yr.	DBT(27)/UT(31) Period 6-12m	- -	- -	7.4/25.8 -	- -	^g 29.6/41.9 35/57	^f 3.3/41.6+ -
Linehan et al, 2006, 1 yr.	DBT(52)/ECT (49) 12-24m	19.6/48.9# 23.4/23.7	- -	5.8/14.3 ^d 23/46+	^{ag} 5.0/7.4	- -	6.4/16.8 -
Davidson et al, 2006, 1 yr.	CBT+(53)/UT(49) 0-24m	32.1/40.8 33.9/46.9	0.7/1.2 1.0/1.7	33.9/42.9 43.4/53.1	0.6/1.0 0.9/1.7*	- -	- -
Giesen-Bloo et al, 2006, 3 years	SFT (44)/TFP (42)	-	-	-	-	-	-
Clarkin et al, 2007, 1 yr.	DBT (30)/ TFP (30)/ DST (30)	-	-	-	-	-	-
Bateman & Fonagy, 2009 18 months	MBT(71)/SCM (63) Period 6-12m Period 12-18m	8.5/23.8* 2.8/19.0+	0.7/4.1* 0.2/1.3+	32.4/47.6 2.8/25.4 #	0.4/0.6* 0.03/0.3#	36.6/58.7* 23.9/42.9*	1.3/1.7 0.4/1.7 #
MacMain et al, 2009, 1 yr.	DBT(90)/GPT (90) Period 8-12m	-	3.7/2.2	-	^a 4.3/12.9	-	-
Doering et al, 2010, 1 yr.	TFP (52)/ECT (52)	-	11.7/18.9*	13.7/21.2	0.3/0.4	73.1/67.3	16.9/22.0
Carter et al, 2010, 6 months	DBT(38)/UT+ (35) Period 0-6m	18.4/20.0	5.1/9.5	^a 75.0/67.0	^{ac} 5.2/8.4	-	-

For the abbreviations of the therapies, see table 1. PA= psychiatric admission. SA= suicide attempt. S-I= self-injuries. The standard deviation (SD) of the mean and the mean of the absolute value (n) together with the percent do not appear to facilitate the reading of the table (see references in the bibliography). ^aPara-suicide (SA+S-I). ^bExcept when specified to the contrary, results of the first year, ^cperiod 18-24 months, ^dperiod 0-24 months, ^eperiod 3-6 months. ^fData of 22 patients in each treatment. ^gMentioned by NICE guide.
*^p<0.05, +^p<0.01, #^p<0.001

suicides), respectively. Therefore, years later, it was maintained that at least one fourth of the BPDs had some adverse event and the variability in the suicide results (23-56%). Some patients not only did not respond, but even could have become worse during these therapies as is deduced from the extensive standard deviations of some variables related with the suicide.^{5,55} In this sense, it has been proposed that the RCTs should publish the deterioration rates for both the active and control treatment.² The therapy should also be applied in accordance with a manual or standard³³ that would make it foreseeable and that it should include the common elements that seem to be responsible for the efficacy of the specific treatments for the BPD.⁶⁴ On the contrary, the final result could be worse than being on a waiting list.^{54,64}

As in other reviews,⁷ DBT and MBT achieve the best results. However, the former had been replicated on several

occasions and MBT only once and by a non-controlled study.⁶⁵ Thus, the recently published guidelines of the AIAQS⁶ agency recommend the DBT and MBT with a good and regular quality of evidence, respectively. However, in accordance with the data of this review, the global outcome of the therapy would inspire more confidence if, together with good response, the percentage of those who do not initiate treatment or abandon it is small, it being close to the lower limit of the variability range. The evidence would also be more robust if the results of the control group, including the abandonments, are not especially poor since as there are therapies that may be harmful for the BPD,⁶⁴ the comparison with the intervention group could be distorted.

In conclusion, in most of the cases, at least 40% of the persons with BPD who request specific therapy would not benefit from it. Approximately 20% would not initiate treatment. Furthermore, among those who do begin it, at

least one fourth, another 20% of the total, would not respond to the therapy. The clinician knows how difficult it is to motivate these patients to initiate and/or maintain the treatment and that some BPDs face such complex social problems that they need more predictable and continual psychosocial support, per se.²⁴ With all this, it is unquestionable that of the last 20 years, great advances have been made in the therapy of BPDs. However, it is necessary to continue investigating to know the characteristics of the patients who do not respond and to provide new therapeutic strategies.^{25,43,66} Fortunately, this task has begun and there are ongoing studies.^{24,67,68}

CONFLICT OF INTERESTS

The authors do not report any conflict of interests.

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