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Non-response to psychotherapy for borderline personality disorder: A systematic review

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Abstract

Highlight: This is the first systematic review to investigate non-response to psychotherapy for borderline personality disorder.

Background: Psychotherapy is the recommended treatment for borderline personality disorder. While systematic reviews have demonstrated the effectiveness of psychotherapy for borderline personality disorder, effect sizes remain small and influenced by bias. Furthermore, the proportion of people who do not respond to treatment is seldom reported or analysed.

Objective: To obtain an informed estimate of the proportion of people who do not respond to psychotherapy for borderline personality disorder.

Methods: Systematic searches of five databases, PubMed, Web of Science, Scopus, PsycINFO and the Cochrane Library, occurred in November 2020. Inclusion criteria: participants diagnosed with borderline personality disorder, treated with psychotherapy and data reporting either (a) the proportion of the sample that experienced 'reliable change' or (b) the percentage of sample that no longer met criteria for borderline personality disorder at conclusion of therapy. Exclusion criteria: studies published prior to 1980 or not in English. Of the 19,517 studies identified, 28 met inclusion criteria.

Results: Twenty-eight studies were included in the review comprising a total of 2436 participants. Average treatment duration was 11 months using well-known evidence-based approaches. Approximately half did not respond to treatment; M = 48.80% (SD = 22.77).

Limitations: Data regarding within sample variability and non-response are seldom reported. Methods of reporting data on dosage and comorbidities were highly divergent which precluded the ability to conduct predictive analyses. Other limitations include lack of sensitivity analysis, and studies published in English only.

Conclusion: Results of this review suggest that a large proportion of people are not responding to psychotherapy for borderline personality disorder and that factors relating to non-response are both elusive and inconsistently reported. Novel, tailored or enhanced interventions are needed to improve outcomes for individuals not responding to current established treatments.

Keywords

Non-response, poor response, treatment failure, treatment outcomes, psychotherapy outcomes, borderline personality disorder

Introduction

Borderline personality disorder (BPD) is a commonly occurring mental health disorder (American Psychiatric Association, 2013; Grant et al., 2008; Tyrer et al., 2010; Winsper et al., 2020). BPD can have severe and profound effects for people who live with the disorder and for those who care for them (American Psychiatric Association, 2013;

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Grenyer et al., 2019; Leichsenring et al., 2011). BPD is known to be highly comorbid with mood, anxiety, substance use and other personality disorders; furthermore, it has been associated with high rates of self-harm, suicide and long-term psychosocial dysfunction (American Psychiatric Association, 2013; Broadbear et al., 2020; Pucker et al., 2019; Soloff and Chiappetta, 2019). Due to the characteristics of the disorder, and degree of comorbidity, BPD can be associated with extensive consumption of mental health resources (Bailey and Grenyer, 2014; Comtois et al., 2003; Hörz et al., 2010; Leichsenring et al., 2011).

In recent decades, multiple BPD-specific psychotherapies have been developed and tested, resulting in a stronger evidence base (Cristea et al., 2017; Storebø et al., 2020). Furthermore, clinical guidelines recommend psychotherapy as the treatment of choice for BPD (Grenyer et al., 2015; National Health and Medical Research Council (NHMRC), 2012). Additionally, evidence-based psychological therapies for BPD have been shown to be less expensive and more effective than treatment as usual (Meuldijk et al., 2017). Accordingly, the prognosis for people living with the disorder has greatly improved (Grenyer, 2013). However, no treatment has yet consistently shown that it can lead to the remission of BPD for most consumers (Leichsenring et al., 2011), and many people with BPD continue to experience problems reaching healthy levels of social and occupational functioning, even after treatment (Zanarini et al., 2010).

The majority of research that evaluates treatment outcomes for BPD reports group statistics in the form of effect sizes. Although this methodology is useful as it enables cross study comparison, it does not allow for the investigation of treatment outcome variability within samples or reveal the proportion of participants who are not responding to treatment. Two reviews report longitudinal rates of remission. Ng et al.'s (2016) narrative synthesis reported that across 11 cohorts, who were followed for periods of 4–27 years, 33–99% of participants reached remission. Álvarez-Tomás et al. (2019) reported that across nine studies, who followed participants for up to 14 years, 50–70% of participants reached remission. Remission from BPD is typically defined as no longer meeting *Diagnostic and Statistical Manual of Mental Disorders* (DSM) criteria for BPD for 2 years (Zanarini et al., 2012). The results from these reviews indicate that remission from BPD is achievable and common for large proportions of individuals over longer periods of time. Additionally, and of equal importance, these results demonstrate that up to 50% of participants are not reaching remission (Álvarez-Tomás et al., 2019; Ng et al., 2016). However, as these reviews report results from long-term follow-up studies which examine remission across the lifespan, they do not reveal the percentage of people who do not respond to treatment by reducing their BPD symptoms. Compiling the proportion of people who do not reduce symptoms enough to no longer meet criteria or to have reliably changed their BPD symptoms post treatment is how the present research will operationalise non-response to psychotherapy for BPD.

To improve treatment outcomes for people with BPD, we need to thoroughly understand why some treatment consumers still experience significant challenges on their recovery journey. The first step in this task is to determine the proportion of people who do not respond to treatment. This study aims to obtain an informed estimate of the percentage of people who do not respond to psychotherapy for BPD by conducting a systematic review of studies that have reported treatment outcomes for psychotherapies used to treat BPD.

Materials and method

Protocol and registration

The current review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) Statement for Reporting Systematic Reviews (Liberati et al., 2009). The protocol was registered by the International Prospective Register of Systematic Reviews (PROSPERO) (registration number: CRD42020147289).

Data sources

Literature was searched for relevant articles in November 2020 using the following online databases: PubMed, Web of Science, Scopus, PsycINFO and the Cochrane Library. A unique search strategy was used for each database to ensure a comprehensive and inclusive search. The exact strategy for each database can be located in the Supplementary Material. Search terms used for each database included the following: 'borderline personality disorder' AND (effect OR effects OR effectiveness OR efficacy OR evidence OR outcome OR outcomes OR result OR results OR therapy OR therapies OR therapeutic OR psychotherapy OR psychotherapies OR psychotherapeutic OR treatment OR treatments OR intervention OR interventions OR comparison OR pilot OR trial OR feasibility OR randomized OR randomised OR longitudinal OR prospective OR 'follow up' OR training OR program OR respond OR response OR recover OR recovery OR recovered OR remission OR remitted OR remit OR 'reliable change' OR 'clinically significant change' OR 'met criteria' OR 'meets criteria'). Search limiters included the year (1980–2020), English, Language, Academic Journals and Peer Reviewed.

Study selection

Studies were selected using a two-stage process: title and abstract screening and full-text assessment. Both stages were conducted independently by two authors (J.W. and S.S.; and then J.W. and M.T.). Both stages were undertaken

using Covidence, an online systematic review management system (Veritas Health Innovation, 2021). The reference lists of three large reviews were also used as another source of studies (Cristea et al., 2017; Levy et al., 2018; Stoffers-Winterling et al., 2012) to ensure a thorough search of the literature, although none were included as they did not pass full-text screening stage. An additional study was found through correspondence with an author while seeking further data (Gregory et al., 2010), and this study was included as it met the review criteria.

Inclusion and exclusion criteria

The research question was designed using the Participants, Intervention, Comparison and Outcome (PICO) Framework (Schardt et al., 2007). Based on this framework, the inclusion and exclusion criteria were as follows.

Inclusion criteria

Participants. Primary diagnosis of BPD as per DSM or International Classification of Diseases (ICD) diagnostic classifications or a BPD-specific structured clinical interview. All ages, genders and comorbidities allowed.

Intervention. Any type of psychotherapy used for the treatment of BPD. Psychotherapy was defined as talk therapy using specific approaches as designed and manualised in the individual published research studies (i.e. dialectical behaviour therapy [DBT], schema-focused therapy [SFT], transference-focused psychotherapy [TFP], mentalisation-based therapy [MBT]) or a generalised approaches (i.e. general psychiatric management [GPM], treatment as usual [TAU], cognitive behaviour therapy [CBT], psychodynamic) provided by a mental health professional. Group or individual format allowed. Adjunct pharmacological therapy allowed. Possible inclusions: pilot studies, randomised controlled trials (RCTs), efficacy or effectiveness studies, and naturalistic studies.

Comparator group. Any comparator group allowed.

Outcomes. Individual outcomes in the form of either still meeting criteria for BPD or not having reached reliable change indices post treatment. Outcomes from any study design will be allowed, as long as the aim is to test the efficacy or effectiveness of psychotherapy for BPD.

Exclusion criteria

Participants. Any study whose participants do not meet full criteria for BPD. Any studies reporting on samples where less than 100% of participants met full criteria for BPD.

Interventions. Any study whose aim is to explore BPD as opposed to treat the disorder. Any study whose treatment aim is to reduce only certain sub-sets of BPD symptoms, or certain clinical characteristics of BPD, or who are receiving pharmacological treatments alone.

Comparator group. No exclusions.

Outcomes. Any studies who do not report percentages of samples who responded to treatment via reaching reliable change indices or no longer meeting diagnostic criteria. Any study that does not calculate reliable change indices based on BPD symptom-specific measures. Any study which collected outcome data up to 6 months post treatment cessation was included, due to the aim of the study being to focus on change in BPD criteria as a direct response to therapy, as opposed to a natural reduction in symptoms across time.

Further limiters. Studies published before 1980 will be excluded because the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.; DSM-III; American Psychiatric Association, 1980) was the first DSM to include BPD as a diagnostic category. Studies published prior to the adoption of these diagnostic criteria used a definition of BPD that was too heterogeneous and not yet definitive (Gunderson, 2009; Gunderson and Singer, 1975). Any study not published in English.

Data extraction

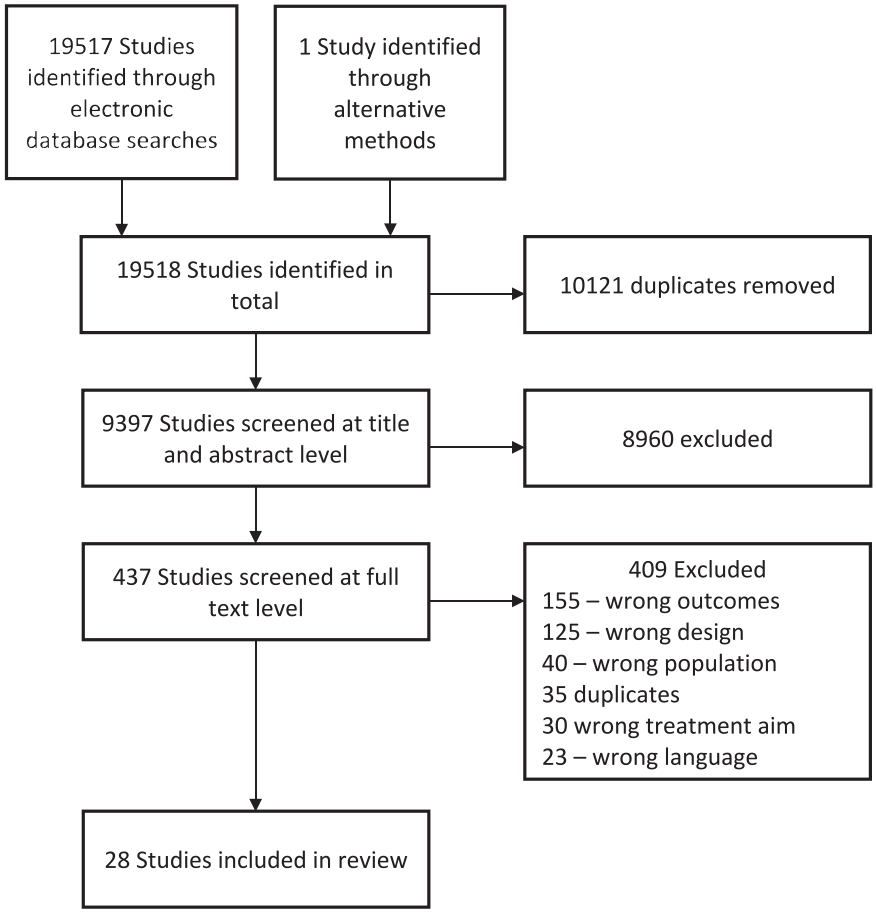
Two authors (J.W. and S.R.) independently extracted data from the included studies. Data were initially collated into a data extraction spreadsheet, before being compiled into an SPSS document for analyses. Data extracted included country of publication, study characteristics (design, setting), sample characteristics (number of participants, age, gender, tool used for diagnosis, comorbidities, psychotropic medication use), treatment characteristics (type, dose, comparator, duration), and the main outcome; percentage not responded at the end of treatment and the method used to determine non-response.

Data analysis

There are two main ways that studies report the percentage of individuals that respond to treatment:

1. Reaching symptomatic remission: No longer meeting DSM/ICD criteria of end of treatment.
2. Demonstrating change in BPD symptomatology: Reaching criteria for reliable or clinically significant change indices.

Figure 1. PRSIMA flow chart.



The second definition of non-response is a common approach for determining change created by Jacobson and Truax (1991). This approach determines whether the change in the score is statistically and/or clinically significant and cannot be attributed to measurement error alone. To reach clinical significance, an individual's score must be reliably changed and to have moved the participant from the clinical population range to the non-clinical population range.

The mean of the percentage of sample not responded will be reported as the main outcome of the review. This will be calculated by the review team by subtracting the values from 100. The mean of participants not responded will also be reported as weighted by sample size and treatment duration.

Results

Search results

Searching the electronic databases resulted in the identification of 19,517 references. The PRISMA flowchart (see Figure 1) shows the number of studies identified, screened and included. To ensure focus was maintained, the task of title and abstract screening was completed in 2-hour blocks.

Critical appraisal

The quality of included studies was assessed using three Joanna Briggs Critical Appraisal Tools (Briggs, 2020). Each study was independently assessed by two authors (J.W. and S.R.). Each checklist includes up to 13 questions, which evaluate the quality of the study in terms of randomisation, methodology, reliability and appropriateness of statistical analyses. Each question can receive a 'yes', 'no', 'unclear' or 'not applicable' answer. The number of 'yes' answers for the studies with RCT designs ranged from 8/13 to 11/13, M = 9.78 (SD = 1.30). For the studies with cohort designs, the 'yes' answers ranged from 2/8 to 8/8, M = 6.25 (SD = 2.03), and the for the studies with cross-sectional designs the 'yes' answers ranged from 7/11 to 9/11, M = 8.00 (SD = 1.00). The quality of the studies varied. However, the aim of this review is to gain an estimate of the proportion of people who are not responding to treatment received in

both 'controlled conditions' (efficacy studies) and as it would be 'received in the community' (effectiveness studies of specialised or generalised treatments, for example, DBT or TAU) for greater generalisability. Therefore, all study designs and all levels of quality were included.

Excluded studies

The literature is abundant with many psychotherapy outcome studies for BPD. However, many of the initially identified studies were excluded at full-text screening stage due to not reporting the main outcome variable sought; individual response to psychotherapy as determined by reaching reliable change criteria (RCI) or no longer meeting diagnostic criteria (Arntz et al., 2015; Barnicot and Crawford, 2019; Bateman and Fonagy, 1999; Black et al., 2013; Bos et al., 2011; Chanen et al., 2009; Clarkin et al., 2007; Davidson et al., 2006; Gunderson et al., 2006; Linehan et al., 2006; McMain et al., 2009). Although these studies provide valuable information, group statistics were employed to report outcome results. Other studies used a design meaning they did not report outcomes specifically pertaining to BPD symptoms within 6 months of treatment cessation (Antonsen et al., 2017; Bateman and Fonagy, 2008; Bohus, 2008; Gregory et al., 2006; Kleindienst et al., 2008; McGlashan, 1986). Fewer were excluded for reporting on a diffuse population; thorough standardised diagnostics were not employed or 100% of the sample did not meet full criteria for BPD (Moran et al., 2018; Morton et al., 2012; Tucker et al., 1987) or were excluded for a diffuse treatment aim; the focus of the outcomes reported was not on BPD criteria (Fertuck et al., 2012; Gratz et al., 2015).

Characteristics of included studies

The characteristics of the included studies are summarised in Table 1. Of the 28 included studies, 8 were RCTs. The remaining 20 included naturalistic uncontrolled efficacy and effectiveness studies, further analyses of previous RCTs, and pilot studies. The majority of the studies were set in the community (26) and 2 were conducted in inpatients settings. Pertaining to countries, 11 studies took place in America, 4 in the United Kingdom, 3 in The Netherlands, 2 in Germany, 2 in Australia, 1 each for the countries of Italy, Spain, Sweden, Denmark and Norway, while 1 was conducted in both Germany and Austria.

Participant characteristics

The characteristics of the participants are summarised in Table 2. The total number of participants in the included studies was 2436 (range $N=1423$ to $N=6$). The study with 1423 participants, which investigated the effectiveness of 3-month inpatient DBT programme (Kröger et al., 2013), had a markedly different sample size compared to the other studies. The mean sample size including the Kröger et al. (2013) study was 56.65 (213.87) with a range of 6–1423. The mean excluding the Kröger et al. (2013) study was 24.12 (15.43) with a range of 6–71. The mean age of the participants was 30.39 years of age (SD = 4.57) with a range of 16.9–40. Only two studies reported the demographics for the entire sample (Dickhaut and Arntz, 2014; Dixon-Gordon et al., 2015). Where this occurred, the entire sample values were reported for each group. One study did not report the mean age of their participants; however, they did report that their inclusion criteria were to be between the ages of 18 and 45 (Doering et al., 2010). One study did not report on gender (Meares et al., 1999), and the remaining studies had predominantly female samples (15 studies 100% female). The mean proportion of females across samples was 88.67% (SD = 11.88) with a range of 59.30–100%. Of the 28 included studies, 17 reported data regarding psychotropic medication use. The majority of these reported the percentage of the sample taking any type of psychotropic medication, while some reported medications by type. Common medications included antidepressants, benzodiazepines, antipsychotics and mood stabilisers.

Comorbidities and clinical characteristics

Twenty studies identified comorbid diagnoses of their participants, although the method of reporting comorbidities varied significantly between studies. This created challenges regarding presentation of the data; the available information has been tabularised and is available as Supplementary Material.

Eight studies reported comorbidities by the mean of Axis I disorders. The overall mean of Axis I disorders was M = 2.69 (SD = 0.62) with a range of 1.40–3.70. Six studies reported comorbidities by the mean number of additional Axis II disorders. The overall mean of Axis II disorders was M = 2.14 (SD = 1.25) with a range of 0.88–4.90. Seventeen studies reported the number of disorders identified in addition to BPD. The number of disorders listed cannot be considered accurate because not all studies conducted standardised structured diagnostic interviews for all possible diagnoses. Instead, they screened for disorders that were in their exclusion criteria or they identified a select set of typically co-occurring disorders. Alternatively, they identified a large number of other disorders but only reported specific data on the most frequently occurring ones. Therefore, although the Supplementary Material presents findings that the number of comorbid disorders ranged from 1 to 13 with a mean of 4.59 (SD = 2.71), these values must be considered a conservative estimate.

The most commonly reported and frequently co-occurring disorders were any mood disorder, anxiety disorders, eating disorders, substance use disorders, self-harming behaviours and personality disorders. Twelve studies identified any mood disorder as a comorbid diagnosis. The percentage of their

Table 1. Study characteristics.

Study number	Author and date	Psychotherapy	Country	Study design	Setting	Title
1	Bateman and Fonagy (2013)	MBT and SCM	UK	Further analyses of results from an earlier randomised controlled trial	Community	Impact of Clinical Severity on Outcomes of Mentalisation-Based Treatment for Borderline Personality Disorder
2	Bellino et al. (2010)	IPT-BPD + fluoxetine	Italy	Randomised controlled trial	Community	Adaptation of Interpersonal Psychotherapy to Borderline Personality Disorder: A Comparison of Combined Therapy and Single Pharmacotherapy
3	Blennerhasset et al. (2009)	DBT	UK	Naturalistic uncontrolled efficacy study	Community	Dialectical Behaviour Therapy in an Irish Community Mental Health Setting
4	Blum et al. (2002)	STEPPS	America	Pilot study	Community	STEPPS: A Cognitive-Behavioral Systems-Based Group Treatment for Outpatients with Borderline Personality Disorder – A Preliminary Report
5	Brown et al. (2004)	CT	America	Uncontrolled clinical trial	Community	An Open Clinical Trial of Cognitive Therapy for Borderline Personality Disorder
6	Dickhaut and Arntz (2014)	SFT with trained and untrained facilitators	The Netherlands	Efficacy study	Community	Combined Group and Individual Schema Therapy for Borderline Personality Disorder: A Pilot Study
7	Dixon-Gordon et al. (2015)	DBT-ER, DBT-IE and a Psychoeducation control group	America	Pilot study	Community	A Preliminary Pilot Study Comparing Dialectical Behavior Therapy Emotion Regulation Skills with Interpersonal Effectiveness Skills and a Control Group Treatment
8	Doering et al. (2010)	TFP and TAU	Germany and Austria	Randomised controlled trial	Community	Transference-Focused Psychotherapy V. Treatment by Community Psychotherapists for Borderline Personality Disorder: Randomised Controlled Trial
9	Elices et al. (2016)	DBT-M and DBT-IE	Spain	Randomised controlled trial	Community	Impact of Mindfulness Training on Borderline Personality Disorder: A Randomized Trial
10	Farrell et al. (2009)	SFT-G + TAU and TAU	America	Randomised controlled trial	Community	A Schema-Focused Approach to Group Psychotherapy for Outpatients with Borderline Personality Disorder: A Randomized Controlled Trial
11	Giesen-Bloo et al. (2006)	SFT and TFP	The Netherlands	Randomised controlled trial	Community	Outpatient Psychotherapy for Borderline Personality Disorder: Randomized Trial Of Schema-Focused Therapy Vs Transference-Focused Psychotherapy

(continued)

Table 1. (continued)

Study number	Author and date	Psychotherapy	Country	Study design	Setting	Title
12	Gratz and Gunderson (2006)	ERG + TAU	America	Efficacy study	Community	Preliminary Data on an Acceptance-Based Emotion Regulation Group Intervention for Deliberate Self-Harm Among Women with Borderline Personality Disorder
13	Gregory et al. (2010)	DDP and TAU	America	Randomised controlled trial	Community	Dynamic Deconstructive Psychotherapy for Borderline Personality Disorder Comorbid with Alcohol Use Disorders: 30-Month Follow-Up
14	Gregory and Sachdeva (2016)	DDP, DBT and TAU	America	Comparison of two treatment types	Community	Naturalistic Outcomes of Evidence-Based Therapies for Borderline Personality Disorder at a Medical University Clinic
15	Hjalmarsson et al. (2008)	DBT	Sweden	Feasibility study	Community	Dialectical Behaviour Therapy for Borderline Personality Disorder Among Adolescents and Young Adults: Pilot Study, Extending the Research Findings in new Settings and Cultures
16	Jørgensen et al. (2013)	MBT and SGT	Denmark	Randomised partly controlled outcome study	Community	Outcome of Mentalization-Based and Supportive Psychotherapy in Patients with Borderline Personality Disorder: A Randomized Trial
17	Koons et al. (2001)	DBT and TAU	America	Randomised controlled trial	Community	Efficacy of Dialectical Behavior Therapy in Women Veterans with Borderline Personality Disorder
18	Kröger et al. (2013)	DBT	Germany	Effectiveness study	Inpatient	Effectiveness, Response, and Dropout of Dialectical Behavior Therapy for Borderline Personality Disorder in an Inpatient Setting
19	Lopez et al. (2015)	UP	America	Multiple baseline single-case efficacy study	Community	Examining the Efficacy of the Unified Protocol for Transdiagnostic Treatment of Emotional Disorders in the Treatment of Individuals with Borderline Personality Disorder
20	Lyng et al. (2020)	DBT	UK	Effectiveness study	Community	Outcomes for 18 to 25 year-olds with Borderline Personality Disorder in a Dedicated Young Adult Only DBT Programme Compared to a General Adult DBT Programme for all Ages 18
21	Meares et al. (1999)	Psychodynamic therapy	Australia	Efficacy study	Community	Psychotherapy with Borderline Patients: I. A Comparison Between Treated and Untreated Cohorts

(continued)

Table 1. (continued)

Study number	Author and date	Psychotherapy	Country	Study design	Setting	Title
22	Morey et al. (2010)	MACT	America	Pilot study	Community	A Pilot Study of Manual-Assisted Cognitive Therapy with a Therapeutic Assessment Augmentation for Borderline Personality Disorder
23	Nadort et al. (2009)	SFT with and without crisis phone support	The Netherlands	Randomised controlled trial	Community	Implementation of Outpatient Schema Therapy for Borderline Personality Disorder with Versus without Crisis Support by the Therapist Outside Office Hours: A Randomized Trial
24	Nysæter et al. (2010)	Long-term non-manualised psychotherapy	Norway	Naturalistic follow up study	Community	A Preliminary Study of The Naturalistic Course of Non-Manualized Psychotherapy for Outpatients with Borderline Personality Disorder: Patient Characteristics, Attrition and Outcome
25	Rizvi et al. (2017)	DBT	America	Effectiveness study	Community	Can Trainees Effectively Deliver Dialectical Behavior Therapy for Individuals with Borderline Personality Disorder? Outcomes from a Training Clinic
26	Ryle and Golynkina (2000)	CAT	UK	Naturalistic uncontrolled effectiveness study	Community	Effectiveness of Time-Limited Cognitive Analytic Therapy of Borderline Personality Disorder: Factors Associated with Outcome
27	Salzer et al. (2014)	Psychodynamic therapy	Germany	Efficacy study	Inpatient	Early Intervention for Borderline Personality Disorder: Psychodynamic Therapy in Adolescents
28	Stevenson and Meares (1992)	Psychodynamic therapy	Australia	Effectiveness study	Community	An Outcome Study of Psychotherapy for Patients with Borderline Personality Disorder

CAT: cognitive analytic therapy; CT: cognitive therapy; DBT: dialectical behaviour therapy; DBT-ER: emotion regulation module from DBT; DBT-IE: interpersonal effectiveness module from DBT; DBT-M: mindfulness module from DBT; DDP: dynamic deconstructive psychotherapy; ERGI: Emotion Regulation Group Intervention; Fluoxetine: antidepressant; IPT-BPD: interpersonal therapy for borderline personality disorder; MACT: manual assisted cognitive therapy; MBT: mentalisation-based therapy; SCM: structured clinical management; SGT: supportive group therapy; SFT: schema-focused therapy; SFT-G: Schema Focused Therapy Group; STEPPS: systems training for emotional predictability and problem solving; TAU: treatment as usual; TFP: transference-focused psychotherapy; UP: the unified protocol for transdiagnostic treatment of emotional disorders.

Table 2. Participant characteristics.

Study number	Treatment type (comparison treatment)	Sample size (*N* analysed)	Age M (SD)	Female (%)	Psychotropic medication (%)	Caucasian (%)	Employed (%)	Single (%)
1	MBT	71	31.3 (7.6)	80.3	77.50	76.10	28.20	42.30
	(SCM)	63	30.9 (7.9)	79.4	68.3	68.30	30.20	49.20
2	IPT-BPD + fluoxetine	22	26.23 (6.4)	70.37	100	NR	48.15	55.56
3	DBT	8	29.4	100	NR	NR	NR	NR
4	STEPPS	52	33 (9)	94.2	100.00	NR	NR	NR
5	CT	29	29	88	52.00	72.00	53.00	87.00
6	SFT – facilitators untrained in group SFT	8	28.5 (8.7)	100	72.20	NR	22.20	NR
	(SFT – facilitators trained by specialists in group SFT)	10	28.5 (8.7)	100	72.20	NR	22.20	NR
7	DBT-ER	7	34.47 (11.83)	100	73.70	63.20	NR	73.70
	(DBT-IE)	6	34.47 (11.83)	100	73.70	63.20	NR	73.70
	(Psychoeducation control group)	6	34.47 (11.83)	100	73.70	63.20	NR	73.70
8	TFP	43	NR	100	NR	NR	NR	NR
	(TAU)	29	NR	100	NR	NR	NR	NR
9	DBT-M	32	31.56 (7.25)	84.4	48.33	NR	NR	62.50
	(DBT-IE)	32	31.72 (6.82)	87.5	30.20	NR	NR	50.00
10	SFT-G + TAU	16	35.3 (9.3)	100	100.00	NR	69.00	NR
	(TAU)	12	35.9 (8.1)	100	100.00	NR	50.00	NR
11	SFT	44	31.7 (8.9)	90.9	73.30	NR	20.50	NR
	(TFP)	42	29.5 (6.5)	95.2	71.40	NR	19.00	NR
12	ERGI + TAU	12	33 (12.47)	100	NR	100.00	NR	58.30
13	DDP	15	28.3 (7.1)	87	NR	86.00	33.00	87.00
	(TAU)	15	29 (8.6)	73	NR	93.00	33.00	93.00
14	DDP	27	28 (11.7)	85	NR	89.00	41.00	78.00
	(DBT)	25	36.6 (10.2)	84	NR	84.00	36.00	52.00
	(TAU)	16	29.3 (11.5)	69	NR	94.00	25.00	75.00
15	DBT	15	20.2 (5.6)	100	71.00	NR	NR	89.00
16	MBT	39	29.2 (6.1)	96	70.00	NR	10.00	50.00
	(SGT)	19	29 (6.4)	95	68.00	NR	5.00	38.00
17	DBT	10	35	100	NR	75.00	NR	45.00
	(TAU)	10	35	100	NR	75.00	NR	45.00
18	DBT	1423	32 (10.3)	75.5	NR	NR	39.80	79.80
19	UP	8	40	100	NR	87.50	NR	62.50
20	DBT – young people only	19	20.5 (1.91)	83.3	70.80	NR	66.70	NR
	(DBT – grouped with older adults)	11	21.46 (2.15)	69.2	84.60	NR	46.20	NR
21	Psychodynamic therapy	30	29.4 (7.9)	NR	NR	NR	26.66	83.33

(continued)

Table 2. (continued)

Study number	Treatment type (comparison treatment)	Sample size (*N* analysed)	Age M (SD)	Female (%)	Psychotropic medication (%)	Caucasian (%)	Employed (%)	Single (%)
22	MACT	7	31.1 (8.9)	81.25	56.00	87.50	25.00	62.50
23	SFT + crisis phone support	30	31.8 (9.24)	96.9	59.40	NR	25.00	NR
	(SFT without crisis phone support)	31	32.13 (9.01)	96.7	56.70	NR	26.70	NR
24	Long-term non-manualised psychotherapy	23	28.9 (6.1)	81	22.00	NR	44.00	47.00
25	DBT	34	29.52 (9.64)	80	NR	68.00	54.00	72.00
26	CAT	27	34.3 (7.5)	59.3	51.85	NR	55.56	33.33
27	Psychodynamic therapy	28	16.9 (1.1)	78.6	64.30	NR	NR	NR
28	Psychodynamic therapy	30	29.4 (7.9)	63.3	NR	NR	26.70	NR
Mean (SD)		56.65 (213.87) SUM = 2436	30.39 (4.57)	88.67 (11.88)	69.08 (19.10)	79.12 (11.87)	35.06 (15.91)	63.65 (17.29)

%: percentage of sample; CAT: cognitive analytic therapy; CT: cognitive therapy; DBT: dialectical behaviour therapy; DBT-ER: emotion regulation module from DBT; DBT-IE: interpersonal effectiveness module from DBT; DBT-M: mindfulness module from DBT; DDP: dynamic deconstructive psychotherapy; ERGI: Emotion Regulation Group Intervention; Fluoxetine: antidepressant; IPT-BPD: interpersonal therapy for borderline personality disorder; MACT: manual assisted cognitive therapy; MBT: mentalisation-based therapy; SCM: structured clinical management; SGT: supportive group therapy; SFT: schema-focused therapy; SFT-G: Schema Focused Therapy Group; STEPPS: systems training for emotional predictability and problem solving; TAU: treatment as usual; TFP: transference-focused psychotherapy; UP: the unified protocol for transdiagnostic treatment of emotional disorders.

Notes regarding data reporting: In the Morey et al. (2010) study, there were two groups; however, the authors reported the demographic data grouped by the entire sample. Therefore, this review will also report their results as one group. The Bellino et al. (2010) study comprised two treatment groups. One was ITP-BPD + fluoxetine (psychological therapy plus antidepressant pharmacotherapy) and the other was fluoxetine (antidepressant pharmacotherapy) only. The data from the group treated with both the psychotherapy and the antidepressant is reported, while the data from the fluoxetine only group was omitted, since this review is concerned only with the effectiveness of psychotherapies. The Gratz and Gunderson (2006) study comprised two groups. One was treated with an Emotion Regulation Group Intervention (ERGI) plus Treatment as Usual (TAU), the other was treated with TAU only. However, the main outcome (percent of sample not responded) was only reported for the treatment group (ERGI + TAU). Therefore, the data from the TAU only group was omitted. The Meares et al. (1999) reported on a control group; however, the data from this group was omitted because they were a waitlist group that did not receive any treatment.

Occasionally, studies reported demographic information for the entire participant group, instead of separately by treatment groups. Where this occurred, the overall sample values were reported for each group. Some studies used intention-to-treat (ITT) analyses. Where this occurred, the ITT sample size was reported as opposed to the sample size of completers only.

samples that had a concurrent mood disorder ranged from 25.00% to 95.80% with a mean of 69.93% (SD = 15.05). Eleven studies identified and reported on anxiety disorders. The percentages of their samples that had concurrent anxiety disorders ranged from 19% to 90.60% with a mean of 49.39% (SD = 20.06). Eleven studies identified and reported on eating disorders. The percentages of the samples that had concurrent eating disorders ranged from 6.00% to 56.00% with a mean of 35.00% (SD = 12.52). Fifteen studies identified current or historical substance abuse. Some studies differentiated between alcohol and other substances. Where this distinction was made, the higher percentage was reported. The percentages of their samples with current or historical substance abuse ranged from 12.50% to 77.40% with a mean of 40.20% (SD = 20.17). Seventeen studies identified current or historical self-harming behaviours. The percentages of their samples with current or historical self-harming behaviours ranged from 18.58% to 100.00% with a mean of 73.03% (SD = 23.10). Self-harm was not counted as a comorbid disorder. Seven studies identified current concurrent personality disorders. Some studies identified 'other personality disorders', some as clusters and some as specific disorders. Where they were differentiated the mean was taken and reported. The percentages of their samples with concurrent personality disorders ranged from 32.40% to 100.00% with a mean of 56.26% (SD = 22.15).

Although collectively there is evidence of considerable comorbidities in this population, many studies excluded participants on this basis. Twenty studies excluded psychotic type disorders, 9 excluded bipolar disorder, 17 excluded participants who had an active or severe substance use disorder that required specialist care and 5 excluded any type of substance use disorder. One study excluded participants if they had any comorbidities (Bellino et al., 2010).

Treatment characteristics and results

In total, there were 43 distinct participant groups among the 28 included studies. The groups were treated with varying types of psychotherapy. In order of most frequently occurring, 12 groups were treated with DBT or a stand-alone module of DBT, 6 with SFT or a variant of SFT, 5 with TAU, 3 with generalised psychodynamic therapy, 2 with MBT, 2 with TFP, 2 with dynamic deconstructive psychotherapy (DDP), 1 with manual assisted cognitive therapy (MACT), 1 with long-term non-manualised psychotherapy, 1 with cognitive analytic therapy (CAT), 1 with systems training for emotional predictability and problem solving (STEPPS), 1 with interpersonal therapy for borderline personality disorder (IPT-BPD) + fluoxetine, 1 with CT, 1 with Emotion Regulation Group Intervention (ERGI) + TAU, 1 with the unified protocol for transdiagnostic treatment of emotional disorders (UP), 1 with structured clinical management (SCM) as a comparison, 1 with supportive group therapy (SGT) as a comparison and 1 with psychoeducational control group as a comparison. Of these 18 different psychotherapies, 10 are specifically designed for the treatment of BPD, the remaining are generalised psychotherapies that can be used or modified for the treatment of BPD. In the present study, TAU and the other comparison groups (SCM, SGT, psychoeducation) were given equal weight as psychotherapies. The results from these groups are considered equally important to report because it can be more common for people with BPD to receive TAU-type psychotherapies than manualised psychotherapies specifically for BPD (Hutsebaut et al., 2020; Iliakis et al., 2019). Furthermore, a recent meta-analysis found that BPD symptoms consistently reduce with TAU treatments and that the benefits of TAU increase as more time is spent in treatment (Finch et al., 2019). Moreover, this review sought a real-world estimate of the percentage of people who are not responding to the psychotherapies available to those living with BPD. Including TAU treatments ensures this review is capturing a sample that is more representative of the population. These results are displayed in Table 3.

Drop out. Some studies reported the percentage of drop out from their participant samples. Others reported sample size at various stages of the study (i.e. *N* recruited, *N* excluded before commencement, *N* dropped out between treatment commencement and cessation). Where the percentage had to be calculated by the review team, it was calculated based on the number of participants who dropped out during the treatment stage. Across studies, drop out ranged from 0.0% to 69.00% with a mean of 26.54% (SD = 16.67).

Treatment duration. Some studies reported the treatment duration as a range of months. Where this occurred the middle of the range (Nysæter et al., 2010), or the average length of treatment was reported. Treatment periods ranged from 1.5 to 36 months with a mean of 11.50 months (SD = 8.09).

Determination of response. Thirteen studies (46.43%) operationalised response as no longer meeting criteria for BPD at the end of treatment. Nineteen studies (53.57%) operationalised response as meeting RCI criteria, or a pre-determined reduction in scores, on a BPD-specific measure.

Main outcome results

The proportion of participants who did not respond to treatment ranged from 6% to 100% with a mean of 48.80% (SD = 22.77). Across studies there was a high variance in sample size and treatment duration. Therefore, the mean was also calculated weighted by sample size; M = 52.38% (SD = 12.47) and treatment duration; M = 48.09% (SD = 19.60). Determination of non-response method was compared: meeting criteria ($N = 18$), M = 52.20% (SD = 21.71), was slightly higher compared to not meeting RCI criteria ($N = 25$); M = 46.36% (SD = 20.16). However, this difference was not significant; $t(41) = 0.908$, $p = 0.369$, 95% CI = [−7.15, 18.84]. The mean percentage of non-response among the groups treated with psychotherapies specifically designed for BPD ($N = 31$) was slightly lower M = 46.05% (SD = 22.89) compared with the percentage of non-response among the groups treated with generalised psychotherapies ($N = 12$), M = 55.90% (SD = 11.93). However, this difference was not significant; $t(41) = -1.410$, $p = 0.166$, 95% CI = [−23.94, 4.25]. The limited amount of data precludes the ability to conduct sub-group analyses; however, the mean non-response among the samples treated with DBT was M = 47.15% (SD = 29.20), SFT was M = 41.5% (SD = 24.42), TAU was M = 63.92% (SD = 10.14), and the psychodynamic groups combined (generalised, MBT, DDP, TFP) was M = 41.95% (SD = 24.34).

Discussion

This review sought to obtain an informed estimate of the proportion of people who are not responding to psychotherapy for BPD. Twenty-eight studies, comprising 2436 participants, met inclusion criteria and were reviewed. Across studies non-response ranged from 6% to 100% with a mean of 48.80% (SD = 22.77). The mean was also calculated as weighted by sample size and treatment duration due to large variations in these factors; however, the weighted means were not markedly different from the non-weighted mean.

Analyses of secondary data demonstrated no differences in rates of non-response between the two methods of non-response determination (still meeting BPD criteria vs not reaching RCI), or treatment types (specialised vs non-specialised psychotherapies) for BPD. This finding is

Table 3. Treatment characteristics and results.

Study number	Treatment type (comparison treatment)	Sample size (*N* analysed)	Dropout between treatment commencement and cessation (%)	Treatment duration (months)	Sample not responded (%)	Determination of response
1	MBT	71	27.66	18.0	22.0	No longer meeting criteria for BPD
	(SCM)	63	25.40	18.0	56.0	
2	IPT-BPD + fluoxetine	22	18.52	8.0	45.5	A 50% reduction on the BPD-SI total score and a score of 1 very much improved or 2 much improved on the CGI
3	DBT	8	20.00	6.0	100.0	No longer meeting criteria for BPD
4	STEPPS	52	0.00	5.0	58.6	A 25% or greater reduction on the BEST score
5	CT	29	9.38	12.0	48.0	No longer meeting criteria for BPD
6	SFT – facilitators untrained in group SFT	8	37.50	24	81.3	Achieving a BPDSI-IV score of less than 15 and maintaining this score until the last assessment
	(SFT – facilitators trained by specialists in group SFT)	10	40.00	24	33.5	
7	DBT-ER	7	16.66	2	43.0	Reaching RCI on the PAI-BOR
	(DBT-IE)	6	16.66	2	40.0	
	(Psycho-ed control group)	6	0.00	2	60.0	
8	TFP	43	38.50	12	48.8	No longer meeting criteria for BPD
	(TAU)	29	67.30	12	72.6	
9	DBT-M	32	41.00	2.5	60.0	Reaching RCI on the BSL-23
	(DBT-IE)	32	19.00	2.5	87.0	
10	SFT-G + TAU	16	0.00	8	6.0	No longer meeting criteria for BPD using the DIB-R
	(TAU)	12	25.00	8	75.0	
11	SFT	44	26.67	36	43.1	Reaching RCI on the BPDSI-IV
	(TFP)	42	51.16	36	57.1	
12	ERGI + TAU	12	8	3.5	50.0	Reaching RCI on the BEST.
13	DDP	15	33.00	12	10.0	A 25% reduction in BEST scores
	(TAU)	15	40.00	12	62.0	
14	DDP	27	33.33	12	11.0	A 25% reduction in BEST scores
	(DBT)	25	64.00	12	33.0	
	(TAU)	16	69.00	12	60.00	

(continued)

Table 3. (continued)

Study number	Treatment type (comparison treatment)	Sample size (*N* analysed)	Dropout between treatment commencement and cessation (%)	Treatment duration (months)	Sample not responded (%)	Determination of response
15	DBT	15	18.52	12	73.0	Reaching RCI on the borderline subscale of the KABOSS-S
16	MBT	39	32.76	18	48.0	No longer meeting criteria for BPD
	(SGT)	19	29.63	18	59.0	
17	DBT	10	23.08	6	30.0	No longer meeting criteria for BPD
	(TAU)	10	16.66	6	50.0	
18	DBT	1423	10.00	3	55.0	Reaching RCI on the BSL
19	UP	8	11.11	6	37.5	No longer meeting criteria for BPD
20	DBT – young people only	19	20.80	12	31.6	Reaching RCI on the BSL-23
	(DBT – grouped with older adults)	11	15.40	12	9.1	
21	Psychodynamic therapy	30	22.92	12	70.0	No longer meeting criteria for BPD
22	MACT	7	56.00	1.5	29.0	Reaching RCI on the PAI-BOR
23	SFT + crisis phone support	30	21.88	18	48.4	Reaching RCI on the BPDSI-IV
	(SFT without crisis phone support)	31	20.00	18	36.7	
24	Long-term non-manualised psychotherapy	23	28.00	18	38.0	No longer meeting criteria for BPD
25	DBT	34	32.00	6	41.0	Reaching RCI and CSC on the BSL-23
26	CAT	27	12.90	7	48.0	No longer meeting criteria for BPD using the Personality Assessment Schedule
27	Psychodynamic therapy	28	25.00	7.5	67.7	No longer meeting criteria for BPD
28	Psychodynamic therapy	30	16.67	12	70.0	No longer criteria for BPD
Means		56.65 (213.87) SUM = 2436	26.54 (16.67)	11.50 (8.09)	48.80 (22.77)	RCI: 19 (53.57%) Criteria: 13 (46.43%)

%: percentage; BEST: borderline evaluation of severity over time; BPDSI-IV: DSM-IV based structured interview for Borderline Personality Disorder; BPD-SI: Borderline Personality Disorder Severity Index; BSL and BSL-23: borderline symptoms list; CAT: cognitive analytic therapy; CGI: clinical global impression; CT: cognitive therapy; DBT: dialectical behaviour therapy; DBT-ER: emotion regulation module from DBT; DBT-IE: interpersonal effectiveness module from DBT; DBT-M: mindfulness module from DBT; DDP: dynamic deconstructive psychotherapy; ERGI: Emotion Regulation Group Intervention; Fluoxetine: antidepressant; IPT-BPD: interpersonal therapy for borderline personality disorder; MACT: manual assisted cognitive therapy; MBT: mentalisation-based therapy; SCM: structured clinical management; SGT: supportive group therapy; SFT: schema-focused therapy; SFT-G: Schema Focused Therapy Group; STEPPS: systems training for emotional predictability and problem solving; TAU: treatment as usual; TFP: transference-focused psychotherapy; UP: the unified protocol for transdiagnostic treatment of emotional disorders.

consistent with previous research that has reported that specialised therapies had no greater effect on remission rates than did treatment as usual (70% vs 52%, $p=0.45$) and that clinical trials did not effectuate greater rates of remission compared to naturalistic studies (61% vs 59%, $p=0.85$) (Álvarez-Tomás et al., 2019). These results, and the findings from the current review, are consistent with the body of literature which demonstrates that generalist models produce similar results to specialist treatments (Choi-Kain et al., 2017; Gunderson et al., 2018).

This review highlights non-response to psychotherapy for BPD as a pressing problem. Approximately half of treatment consumers are not responding to treatment. Although non-response is already a well-known phenomenon in psychiatry (Lambert, 2011; Wampold and Imel, 2015), there is a notable lack of focused research into non-response in the field of psychotherapy for BPD. Understanding non-response more thoroughly, and the factors that contribute to the problem, may assist clinicians to recognise sooner which clients may need extra or different support to respond to treatment. Presently, there are no clear guidelines on how to make predictions about prognosis; therefore, it remains a challenging for clinicians to plan treatment to prevent non-response (Lambert, 2011, 2013; Spinhoven et al., 2008).

A strength of this review is that it encompasses study designs beyond RCTs. Many of the studies were naturalistic, pilot or efficacy studies taking place in real-world community settings with therapists of differing levels of experience. This allows for greater generalisability and ensures a more accurate estimate under real-world conditions.

Limitations

There are a number of limitations in this review. First, there was a high level of missingness in the secondary data (i.e. comorbidities and dosages) due to inconsistencies of reporting methods. Therefore, not all factors had sufficient data to be reported or analysed. As such, predictive analyses could not be undertaken that explored their influence on non-response. Many studies excluded people with psychotic disorders, severe substance misuse and bipolar from their samples. Although rationales were provided for this practice, it means we remain uninformed about the rates of non-response among people with these commonly co-occurring disorders. A general limitation has been discussed already: that many well-known studies in the field are silent on reporting non-response and thus could not be included in this review. Many studies had samples who were all or predominately female. This creates barriers for the generalisability considering that it is evident that BPD is not a predominantly female disorder (Tomko et al., 2014). A further limitation is the exclusion of papers published in languages other than English. It is acknowledged that important papers that may have included the data sought in this review; however, it was beyond the scope of this review to search beyond the English language. Finally, the number of included studies precluded the ability to conduct any sensitivity analyses which limited the extent to which comparative explorations could be made and may limit the weight that can be given to the results.

It is also acknowledged that non-response as defined in the current review is only one way of assessing the success of treatment outcomes. Improving after psychotherapy is a complex phenomenon that may continue long after treatment ceases and comprises not only of a reduction in symptoms but of increases in occupational functioning, social connectedness and living a fulfilling life. However, these aspects of recovery are more difficult to operationalise and capture from the data available in outcome studies, despite being important benefits from treatment.

Recommendations

The majority of psychotherapy outcome studies routinely collect data on a range of factors such as demographics, comorbidities, psychotropic medication use and treatment factors. However, the data are collected using such divergent methods that create difficulties when attempting to conduct analyses to explore these factors as contributors to non-response. Having more consistent and standardised methods for collecting and reporting data in outcomes studies would be helpful for future research. For instance, when reporting on treatment dosage, displaying range, modes, means and totals of the number of sessions and hours of treatment delivered across each week and the whole treatment period would allow for investigation of dosage as a possible contributor to non-response. Including reporting non-response as defined here should be standard in all outcome studies.

Conclusion

Our results suggest that approximately half the people who receive psychotherapy for BPD do not respond to treatment regardless of treatment type or treatment length. Factors contributing to the problem of non-response remain unclear. Direct quantitative and qualitative research, in addition to more consistent reporting of a wider range of possible contributing factors, may be helpful. It is further recommended that future researchers consult clinicians and consumers to seek their perspectives on why some people are not responding to psychotherapy for BPD.

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Registration

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Supplemental Material

Supplemental material for this article is available online.

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