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Article in Psychotherapy and Psychosomatics · March 2015
DOI: 10.1159/000376584 · Source: PubMed

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The Empirical Status of Psychodynamic Psychotherapy – An Update: Bambi’s Alive and Kicking

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Key Words
Psychodynamic psychotherapy · Empirically supported treatments · Psychotherapy outcome research · Evidence-based medicine

Abstract
Background: The Task Force on Promotion and Dissemination of Psychological Procedures proposed rigorous criteria to define empirically supported psychotherapies. According to these criteria, 2 randomized controlled trials (RCTs) showing efficacy are required for a treatment to be designated as ‘efficacious’ and 1 RCT for a designation as ‘possibly efficacious’. Applying these criteria modified by Chambless and Hollon, this article presents an update on the evidence for psychodynamic therapy (PDT) in specific mental disorders.

Methods: A systematic search was performed using the criteria by Chambless and Hollon for study selection, as follows: (1) RCT of PDT in adults, (2) use of reliable and valid measures for diagnosis and outcome, (3) use of treatment manuals or manual-like guidelines, (4) adult population treated for specific problems and (5) PDT superior to no treatment, placebo or alternative treatment or equivalent to an established treatment.

Results: A total of 39 RCTs were included. Following Chambless and Hollon, PDT can presently be designated as efficacious in major depressive disorder (MDD), social anxiety disorder, borderline and heterogeneous personality disorders, somatoform pain disorder, and anorexia nervosa. For MDD, this also applies to the combination with pharmacotherapy. PDT can be considered as possibly efficacious in dysthymia, complicated grief, panic disorder, generalized anxiety disorder, and substance abuse/dependence. Evidence is lacking for obsessive-compulsive, posttraumatic stress, bipolar and schizophrenia spectrum disorder(s).

Conclusions: Evidence has emerged that PDT is efficacious or possibly efficacious in a wide range of common mental disorders. Further research is required for those disorders for which sufficient evidence does not yet exist.

Introduction

Mental disorders are common and pose a challenge to society because they are associated with high costs and considerable impairment [1–3]. Psychotherapy is the first-line treatment option for most of these disorders. Various forms of psychotherapy are available such as cognitive-behavioral therapy (CBT), interpersonal therapy or psychodynamic therapy (PDT). PDT is frequently used in clinical practice [4, 5]. Earlier reviews, however, reported limited evidence for PDT in specific mental dis-
orders [6, 7]. For this reason, the Task Force on Promotion and Dissemination of Psychological Procedures concluded in 1993 that ‘... it is critical that more efficacy evidence on the outcome of psychodynamic therapies for specific disorders be obtained if this clinically verified treatment is to survive in today’s market’ [6, p. 2]. Applying the rigorous criteria proposed by the Task Force and later modified by Chambless and Hollon [8], Connolly Gibbons et al. [7] reviewed the available evidence for PDT in 2008. They concluded that PDT should be considered as ‘possibly efficacious’ treatment for panic disorder, borderline personality disorder and opiate dependence (the Task Force used the term ‘probably efficacious’ [6], whereas Chambless and Hollon used the term ‘possibly efficacious’ [8]).

Furthermore, the authors considered the combination of PDT and pharmacotherapy as ‘efficacious’ in the treatment of major depressive disorder (MDD) [7]. PDT was considered as promising for the treatment of alcohol abuse in order to indicate that this designation was based on a randomized controlled trial (RCT) which did not fulfill all criteria by Chambless and Hollon (no treatment manual was used) [8]. Several reviews on PDT were published in the meantime [9–13] but did not strictly apply the rigorous criteria by Chambless and Hollon [8]. Thus, more than 6 years after the 2008 review by Connolly Gibbons et al. [7], it seems to be timely to update the review on the evidence of PDT in specific mental disorders.

**Evidence-Based Medicine and Empirically Supported Treatments**

Several proposals have been made to grade the available evidence of both medical and psychotherapeutic treatments [8, 14–16]. All available proposals regard RCTs as the ‘gold standard’ for the demonstration that a treatment is effective. A review and critical discussion of 20 years of evidence-based medicine was recently given by Seshia and Young [17, 18]. The authors discussed the positive impact of evidence-based medicine but also its limitations. RCTs, for example, although regarded as the gold standard, have their limitations. By applying a high degree of experimental control, RCTs emphasize internal validity at the possible expense of external validity, i.e. generalizability to patients and treatments in clinical practice. They also do not usually provide information on long-term effects, adverse events or effectiveness, i.e. how the treatment in question would have performed in the ‘real world’ [18]. Information about adverse events, for example, often (but not necessarily) relies on observational studies [19]. For psychotherapy, the most rigorous criteria for efficacy were proposed by Chambless and Hollon [8]. For a designation as efficacious, at least 2 RCTs, controlled single-case experiments or equivalent time-sampling designs, carried out in independent research settings are regarded as necessary, in which the respective treatment is superior to no treatment, placebo or alternative treatments or equivalent to an already established treatment. For the latter (equivalence), Chambless and Hollon regarded a sufficient power to detect moderate differences as necessary. In addition, the use of a treatment manual or logical equivalent, reliable and valid procedures to assess diagnosis and outcome, and an appropriate data analysis are required. If there is conflicting evidence, the preponderance of the data must support the efficacy of the treatment. For a designation of possibly efficacious, 1 RCT (sample size of 3 or more in the case of single-case experiments) suffices in the absence of conflicting evidence [8].

The various types of comparison conditions that may be used in an RCT imply that a treatment may be tested more or less strictly. Thus, they are associated with different levels of evidence [20]. The least strict test of a treatment in question by an RCT is achieved by comparison with a waiting-list condition since it does not control for the unspecific factors of psychotherapy (e.g. attention). A more stringent test is achieved by comparison with a placebo condition, a treatment as usual (TAU) or an alternative treatment, since unspecific factors are controlled for. The most stringent test of efficacy is achieved by comparison with rival treatments, thus controlling for specific and unspecific therapeutic factors [8, p. 8]. According to Chambless and Hollon [8], a treatment can be considered as efficacious and specific if it has been shown to be superior to placebo or to an alternative bona fide treatment in at least two independent research settings.

In order to update the empirical status of PDT with regard to the issues raised above, a review was carried out focusing on RCTs that fulfill the criteria by Chambless and Hollon.

**Methods**

**Definition of PDT**

PDT operates on an interpretive-supportive continuum [21, 22]. Interpretive interventions enhance the patient’s insight about repetitive conflicts sustaining his or her problems [21, 23]. The prototypic insight-enhancing intervention is an interpretation by which unconscious wishes, impulses or defense mechanisms are
made conscious. Supportive interventions aim to strengthen abili-
ties (‘ego functions’) that are temporarily not accessible to a patient
due to acute stress (e.g. traumatic events) or that have not been
sufficiently developed (e.g. impulse control in borderline personal-
dity disorder). Thus, supportive interventions maintain or build ego
functions [22]. Supportive interventions include, for example, fos-
tering a therapeutic alliance, setting goals or strengthening ego
functions such as reality testing or impulse control [21]. The use of
more supportive or more interpretive (insight-enhancing) in-
terventions depends on the patient’s needs. The more severely dis-
turbed a patient is, or the more acute his or her problem is, the
more supportive and less interpretive interventions are required
and vice versa [21, 22]. Borderline patients, as well as healthy sub-
jects in an acute crisis or after a traumatic event, may need more
supportive interventions (e.g. stabilization, providing a safe and
supportive environment). Thus, a broad spectrum of mental prob-
lems and disorders can be treated with PDT, ranging from milder
adjustment disorders or stress reactions to severe personality
orders such as borderline personality disorder or psychotic condi-
tions [21].

Modern variants of PDT are manual guided and specifically
tailored to the respective disorder [12]. A diagnostic framework to
assess both conflicts and structural deficits which is also useful for
therapy planning and the application of adequate interventions
was provided, for example, by the Operationalized Psychodynam-
ic Diagnosis system [24].

Updating the Criteria by Chambless and Hollon

Chambless and Hollon [8] proposed to consider two treat-
ments as equivalent in efficacy if the test treatment was not sig-
nificantly inferior to the established efficacious treatment, and no
trend was observable in the data that the established efficacious
treatment was superior in a study of 25–30 subjects per condition.
This proposal by Chambless and Hollon, however, is associated
with several problems. With 25–30 subjects per condition only
large differences can be detected with a sufficient power [25].
Referring to a meta-analysis that had reported a median sample size
of 12 per treatment [26], Chambless and Hollon regarded their
proposal (25–30 participants) as an intermediate step. According
to this 1989 meta-analysis, the majority of studies were not suffi-
ciently powered (≥0.80) for a comparison of active treatments [26].
Nowadays, however, larger studies are possible and available [27].
Another problem in showing equivalence refers to statistical test-
ing. The traditional two-sided test for differences does not con-
sider a margin of equivalence. Thus, using the traditional two-sid-
ed test to establish equivalence frequently leads to incorrect con-
clusions [28–30]. Furthermore, a nonsignificant result only implies
that equality cannot be ruled out [28]. A more appropriate test for
equivalence is provided by the two one-sided test (TOST) proce-
dure [28, 29]. TOST requires the researcher to define a margin of
equivalence (−ΔE, ΔE) [28, 29, 31]. Only if the confidence interval
of the empirically found difference is within the equality margin
can equivalence be concluded [28, 29]. In contrast to the tradi-
tional two-sided test, the hypothesis tested by TOST refers to
equality – not to a difference.

For these reasons, we propose to update the criteria of Cham-
bless and Hollon [8] with regard to statistical testing and power
in the following way. For showing equivalence, we propose to use a
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Psychother Psychosom 2015;84:129–148
DOI: 10.1159/000376584
RCTs of PDT in Specific Mental Disorders

In addition to the 9 studies listed by Connolly Gibbons et al. [7] for specific mental disorders [40–48], 30 more recent RCTs of PDT fulfilling the criteria by Chambless and Hollon [8] were identified. We did not include RCTs of irritable bowel syndrome or functional dyspepsia as they represent functional somatic disorders. Of the 39 RCTs included, 8 were sufficiently powered to test for equivalence to an established treatment (table 1) [49–56].

Models of PDT

In the studies identified, various forms of PDT were applied (table 1). The models by Luborsky [21], Malan [34], Hobson [57], and Shapiro [58] were used most frequently.

Evidence for the Efficacy of PDT in Specific Mental Disorders

The studies of PDT included in this review are presented for the different mental disorders. Table 1 contains all studies that fulfilled the Chambless and Hollon criteria [8]. RCTs of PDT that fulfilled some, but not all, criteria are presented in a web appendix, including the reasons for exclusion (see online suppl. table 1, web appendix; for all online suppl. material, see www.karger.com/doi/10.1159/000376584). It is worth listing these studies as they may be included in future meta-analyses.

Depressive Disorders

In their 2008 review, Connolly Gibbons et al. [7] designated PDT in the context of medication usage as efficacious in MDD. This designation was based on 2 RCTs [40, 41]. In addition, PDT was considered as possibly efficacious in the treatment of MDD in geriatric patients based on the RCT by Thompson et al. [42]. Our search identified a total of 12 RCTs of PDT either alone or combined with pharmacotherapy in depressive disorders that fulfilled the criteria by Chambless and Hollon [40–42, 49, 50, 53, 59–64]. With 2 exceptions [62, 64], MDD was studied.

Major Depressive Disorder. de Jonghe et al. [49] compared PDT alone with the combination of PDT and pharmacotherapy in MDD. No significant differences between the conditions were found with regard to rates of response and remission in observed measures. Another RCT studied short-term PDT, long-term PDT and solution-focused therapy in patients with depressive or anxiety disorders [53]. Results were presented separately for patients with depressive or anxiety disorders. Short-term PDT was superior to long-term PDT (and as efficacious as solution-focused therapy) with regard to recovery from MDD at the 7-month follow-up, which corresponded to the posttherapy assessment in short-term PDT. No formal treatment manual was used in short-term PDT, but the treatments followed the approaches by Malan [34] and Sifneos [35], which were used as a general manual-like guideline (personal communication with Paul Knekt, January 17, 2014). In the study by Driessen et al. [50] PDT was compared with CBT. In this study the same treatment concept was used as in the RCT by de Jonghe et al. [49]. In contrast to the earlier studies comparing PDT with a bona fide treatment listed below (see also online suppl. table 1), the studies by de Jonghe et al. [49], Knekt et al. [53] and Driessen et al. [50] were sufficiently powered to test for equivalence (table 1). This is also true for the earlier RCT by de Jonghe et al. [41] included by Connolly Gibbons et al. [7]. It is of note, however, that none of these studies applied the TOST procedure but used the traditional two-sided test. Only the RCT by Driessen et al. [50] tested for noninferiority. In this RCT, noninferiority of PDT compared with CBT could not be shown for the primary outcome, i.e. remission rates at posttreatment (21 vs. 24%), but only for continuous measures of depression. From this trial Thase [65, p. 954] concluded: ‘On the basis of these findings, there is no reason to believe that psychodynamic psychotherapy is a less effective treatment of major depressive disorder than CBT.’ According to these results, PDT as a class can now be considered as efficacious in MDD (table 1; online suppl. table 2, web appendix).

PDT Combined with Pharmacotherapy. In addition to the RCT by de Jonghe et al. [41] that had already been included by Connolly Gibbons et al. [7], a further trial was identified. In this RCT, PDT combined with pharmacotherapy was compared with supportive therapy also combined with pharmacotherapy in MDD [63]. At the end of treatment, no differences were found. At the end of the 6-month continuation phase (only pharmacotherapy), however, PDT was significantly superior to supportive therapy with regard to remission rates (72 vs. 12.5%).

Consistent with the conclusion drawn by Connolly Gibbons et al. [7], PDT combined with pharmacotherapy can be considered as efficacious in MDD.

Specific Populations with Depressive Disorders. In several RCTs, specific populations with depressive disorders were examined (MDD in geriatric patients, postpartum MDD, depressive disorders in patients with breast cancer) [42, 59, 64]. In these studies, PDT was superior to a waiting list [42] or TAU [59, 64]. In another RCT, PDT and brief supportive therapy in minor depressive disorders (dysthymic disorder, depressive disorder not otherwise specified, adjustment disorder with depressed mood) were superior to a waiting-list condition at the end of treatment, with no differences between the treatments [62]. At the 6-month follow-up, PDT was superior to brief supportive therapy. Thus, PDT can be considered as possibly efficacious in these specific populations with depressive disorders.

PDT through the Internet in MDD. In 2 RCTs, Internet-guided self-help based on PDT was studied [60, 61]. In the first study, PDT through the Internet was superior to a structured support intervention (psychoeducation and scheduled weekly contacts online) in MDD [61]. Treatment effects were maintained at the 10-month follow-up. In the second study, PDT through the Internet was superior to a waiting-list condition with regard to remission from MDD (no diagnosis of MDD) in patients with depressive and anxiety disorders [60]. Results were evaluated separately for depressive and anxiety disorders. The effects of the treatment group were maintained at the 7-month follow-up. According to these results, PDT through the Internet can be considered as possibly efficacious in MDD (2 RCTs, but research settings were not independent).

Several RCTs of manual-guided PDT in depressive disorders were identified which did not fulfil all inclusion criteria. They either compared PDT with an established treatment without including another control condition (e.g. waiting list, TAU, placebo) but were not sufficiently powered for demonstrating equivalence [66, 67] or the results were not in favor of PDT [68]. These RCTs are listed in online supplementary table 1 (web appendix), including the reasons for exclusion.

Pathological Grief

In 2 RCTs the treatment of prolonged or complicated grief by short-term psychodynamic group therapy was studied (table 1) [69, 70]. In the first study, short-term psychodynamic group therapy was significantly superior to a waiting list [69]. In the second study, interpretive therapy was superior to supportive therapy with
Table 1. Randomized controlled studies of PDT in specific mental disorders that fulfill the criteria for efficacy by Chambless and Hollon [8] updated for comparisons with treatments established in efficacy

<table>
<thead>
<tr>
<th>Study</th>
<th>PDT, n</th>
<th>Comparison group(s)</th>
<th>Concept of PDT</th>
<th>Duration of PDT</th>
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<tbody>
<tr>
<td>MDD</td>
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<tr>
<td>Cooper et al. [59], 2003</td>
<td>50</td>
<td>CBT: n = 43, Counselling: n = 48, TAU: n = 52</td>
<td>Cramer et al. [154], Stern [155]: PDT: Exploring the mother’s representation of and relationship to her infant taking her own attachment history into account</td>
<td>10 sessions</td>
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<td>de Jonghe et al. [49], 2004</td>
<td>106</td>
<td>PDT + pharmacotherapy: n = 85</td>
<td>de Jonghe [117]: Psychoanalytic supportive psychotherapy: (a) Focus on actual relationships (b) Supportive attitude (e.g. empathic, accepting, affirmative, active) (c) Systematic use of supportive interventions (e.g. reducing anxiety, reassuring, encouraging, advising, modeling, confronting, clarifying, reframing symptoms as problem-solving attempts) (d) Defenses are respected (e) Interpretation is used cautiously (f) Transference is used, but not interpreted</td>
<td>16 sessions</td>
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<td>Driessen et al. [50], 2013</td>
<td>177</td>
<td>CBT: n = 164</td>
<td>de Jonghe [117], de Jonghe et al. [156]: See above</td>
<td>16 sessions</td>
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<td>Johansson et al. [61], 2012</td>
<td>46</td>
<td>Structured support: n = 46</td>
<td>Silverberg [157]: Internet-guided self-help: 9 modules: (1) Introduction to the treatment and the concept by Silverberg (2) Techniques on how to discover unconscious patterns (3) Understanding the patterns (4) Techniques to break unhelpful patterns (5) Preventing relapse to old patterns (6) Applying obtained knowledge in working life (7) Applying obtained knowledge in personal relationships (8) Relationship between unconscious patterns and depression (9) Summary and advice for future All treatment modules end with an encouragement for the participants to try out the strategies described in the particular module and write to the therapists about the experiences from this; the therapists give feedback on the clients’ experiences and administer the gradual access to the modules</td>
<td>10 weeks</td>
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<td>Thompson et al. [42], 1987</td>
<td>24</td>
<td>Behavior therapy: n = 25, CBT: n = 27, Waiting list: n = 19</td>
<td>Horowitz and Kaltreider [39]: Brief PDT: (a) Establishing a working alliance (b) Focus on central conflicts, developmental problems, defensive styles making subjects vulnerable to this particular stress experience (c) Use of clarification and interpretation (d) Reappraisal of serious life event (e) Revisions of the inner model of self and world (f) Supportive interventions (g) Termination: working through approaching loss of therapist, relating it to stress event (e.g. loss)</td>
<td>16–20 sessions</td>
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<td>Dysthymic disorder</td>
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<td>Maina et al. [62], 2005</td>
<td>10</td>
<td>Supportive therapy: n = 10, Waiting list: n = 10</td>
<td>Malan [34, 158]: Brief dynamic therapy: (a) Early phase: definition of a focus (symptoms, conflicts, or crisis) (b) Middle phase: addressing the focus (c) Terminal phase: discussion of termination, review of progress, consolidation of gains Use of interpretation and clarification to achieve insight into repetitive conflicts and trauma underlying and sustaining the patient’s problems</td>
<td>15–30 sessions (mean = 19.6)</td>
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<tr>
<td>Depressive disorders in patients with breast cancer</td>
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<tr>
<td>Beutel et al. [64], 2014</td>
<td>78</td>
<td>TAU: n = 79</td>
<td>Luborsky [21, 159]: Short-term PDT: (a) Focus on CCRT (b) Interpretive and supportive interventions (c) Specific interventions dealing with life-threatening disease</td>
<td>20–25 sessions</td>
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Table 1 (continued)

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<tr>
<th>Study</th>
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<tr>
<td><strong>PDT combined with pharmacotherapy in MDD</strong></td>
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</table>
| Burnand et al. [40], 2002¹ | 35 | Clomipramine: n = 39 | Burnand et al. [40]:<br>  
*PDT*:<br> (a) Psychoeducation<br> (b) Emphasis of the value of the therapeutic relationships<br> (c) Empathic listening<br> (d) Fostering emotional expression<br> (e) Insight into maladaptive interpersonal patterns<br> (f) Facilitation of new interpersonal bonds | 10 weeks |
| de Jonghe et al. [41], 2001¹ | 72 | Pharmacotherapy: n = 57 | de Jonghe [117]: See above Malan [34, 158]: See above | 16 sessions |
| Maina et al. [63], 2007 | 18 | Brief supportive therapy + pharmacotherapy: n = 17 | de Jonghe [117]: See above Malan [34, 158]: See above | 15–30 sessions |
| **Mixed samples of patients with depressive and/or anxiety disorders** |
| Bressi et al. [79], 2010 | 30 | TAU: n = 30 | Malan [34, 160]:<br> *Short-term PDT*: Focus on the central conflict associated with the presented symptoms; therapist taking an active role, selectively disregarding information outside the area agreed on | 40 sessions (1 year) |
| Johansson et al. [60], 2013² | 50 | Waiting list: n = 50 | McCullough et al. [161], Frederick [162]:<br> *Internet-guided self-help*: 8 modules:<br> (1) Introduction to affect phobia model<br> (2) Explanation of the problem<br> (3) Mindfulness practice<br> (4) Defense restructuring<br> (5) Anxiety regulation<br> (6) Affect experiencing<br> (7) Affect expression and self/other restructuring<br> (8) Summary and advice for continued work | 10 weeks |
| Knekt et al. [53], 2008² | Short-term PDT: 101<br> Long-term PDT: 128 | Solution-focused therapy: n = 97 | Malan [34], Sînès [35] (*short-term PDT*) Gabbard [23] (*long-term PDT*):<br> *Short-term PDT*:<br> (a) Focus on intrapsychic and interpersonal conflicts<br> (b) Transference-based<br> (c) Actively creating alliance<br> (d) Use of confrontation, clarification, interpretation | Long-term PDT: 232 sessions<br> Short-term PDT: 18.5 sessions<br> Solution-focused therapy: 9.8 sessions |
| **Complicated grief** |
| McCallum and Piper [69], 1990 | 27 | Waiting list: n = 27 | McCullum and Piper [163]:<br> *Short-term psychoanalytically oriented group psychotherapy*:<br> (a) Emphasis on an active therapist role<br> (b) Emphasis on interpretation and clarification relative to support and direction<br> (c) Examining relevant here-and-now events in the group, including transference<br> (d) Encouraging patients to contribute to the therapeutic process of other patients | 12 sessions |
| Piper et al. [70], 2001 | 53 | Supportive therapy: n = 54 | McCallum et al. [164]:<br> *Interpretive group therapy*:<br> (a) Active therapist role<br> (b) Focus on interpretation and transference<br> (c) Encouraging patients to explore uncomfortable emotions<br> (d) Withholding of immediate praise and gratification | 12 sessions |
Table 1 (continued)

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<td><strong>Social anxiety disorder</strong></td>
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<td>Bögels et al. [54], 2014</td>
<td>22</td>
<td>CBT: n = 27 Waiting list: n = 27</td>
<td>Malan [34]; PDT: focus on two triangles: (1) ‘Triangle of conflict’ (a) Forbidden thoughts, feelings and wishes which (b) Cause anxiety, and (c) Result in defensive mechanisms such as avoidance (2) Triangle of (a) Parents/caretakers, (b) Important others, and (c) The therapist. Treatment: (a) Early phase: definition of a focus (symptoms, conflicts or crisis) (b) Middle phase: addressing the focus by interpretation and clarification (c) Terminal phase: discussion of termination, review of progress, consolidation of gains</td>
<td>36 sessions</td>
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<td>Knijnik et al. [71], 2004</td>
<td>15</td>
<td>Credible placebo control group: n = 15</td>
<td>Knijnik et al. [71]; Psychodynamic group therapy: Phase I: two individual interviews to obtain a psychiatric and developmental history and to conceptualize each patient’s focus Phase II: 12 group sessions (a) Sessions 1–3 (address group formation, ensuring patients’ agreement to focus exclusively on the treatment of generalized social anxiety disorder and focus formulation) (b) Sessions 4–10 (connection between symptoms and conflicts is investigated) (c) Sessions 11–12 (discuss issues related to treatment termination) Active therapist addressing conflicts and transference emerging in the group and similarities in social problems</td>
<td>12 sessions</td>
</tr>
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<td>Leichsenring et al. [52, 73], 2013, 2014</td>
<td>207</td>
<td>Cognitive Therapy: n = 209 Waiting list: n = 79</td>
<td>Luborsky [21], Leichsenring et al. [165]; Short-term PDT: (a) Focus on core conflictual relationship theme (b) Focus on helping alliance (c) Interpretive and supportive interventions (d) Specific interventions dealing with social fears (e.g. patients are encouraged to confront rather than to avoid the situation they fear)</td>
<td>30 sessions</td>
</tr>
<tr>
<td>Knijnik et al. [74, 75], 2008, 2009</td>
<td>29</td>
<td>Pharmacotherapy: n = 29</td>
<td>Knijnik et al. [74]; See above</td>
<td>12 sessions</td>
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<tr>
<td><strong>Generalized anxiety disorder</strong></td>
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<tr>
<td>Andersson et al. [77], 2012</td>
<td>27</td>
<td>Internet CBT: n = 27 Waiting list: n = 27</td>
<td>Silverberg [157]; See above</td>
<td>8 weeks</td>
</tr>
<tr>
<td><strong>Panic disorder</strong></td>
<td></td>
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<tr>
<td>Milrod et al. [43], 20071</td>
<td>26</td>
<td>CBT (applied relaxation): n = 23</td>
<td>Milrod et al. [166]; Panic-focused PDT: Phase I: acute panic (1) Exploration of circumstances/feelings surrounding panic onset (2) Exploration of personal meanings of panic symptoms (3) Exploration of feelings/content of panic episodes Phase II: panic vulnerability (1) Addressing the transference (2) Working through – demonstration that the same conflict emerges in many settings Phase III: termination Addressing patient reaction to termination</td>
<td>24 sessions</td>
</tr>
</tbody>
</table>
### Table 1 (continued)

<table>
<thead>
<tr>
<th>Study</th>
<th>PDT, n</th>
<th>Comparison group(s)</th>
<th>Concept of PDT</th>
<th>Duration of PDT</th>
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<tbody>
<tr>
<td><strong>PDT combined with pharmacotherapy in panic disorder</strong></td>
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</table>
| Wiborg and Dahl [47], 1996<sup>1</sup> | 20 | PDT combined with clomipramine (n = 20) vs. clomipramine alone (n = 20) | Brief dynamic psychotherapy:  
(a) Help patient develop insight into the origins and determinants of his or her dysfunctional patterns  
(b) Acquisition of more adaptive patterns of interpersonal relatedness  
(c) Focus on identification and working through of dysfunctional patterns as they emerge in the past, present and transference  
(d) All technical elements of PDT are included (clarification, confrontation, interpretation of resistance, defensive styles and isolated affects) | 15 sessions |
| **Somatic symptom disorder with predominant pain (formerly: somatoform pain disorder)** | | | | |
| Monsen and Monsen [82], 2000 | 20 | TAU/no therapy: n = 20 | Psychodynamic body therapy:  
(a) The therapist tries to read affect information, and invites the patients to explore their affect experiences  
(b) The interventions are adapted to how the patients recognize the affects (awareness) and allow themselves to be moved by the affects (tolerance)  
(c) Exploration of expressive manners and how certain maladaptive experiencing or expressive patterns are linked to other people and to the representations of significant others  
(d) Bodily interventions (e.g. massage grips and specific exercises) making affects accessible to conscious awareness | 33 sessions |
| Sattel et al. [83], 2012 | 107 | Enhanced medical care: n = 104 | Brief psychodynamic interpersonal psychotherapy:  
Phase I: Underscoring the legitimacy of bodily complaint and introducing the possibility of links between emotional states and symptoms of pain; bodily relaxation training is introduced and psychoeducation about the emergence of symptoms  
Phase II: Clarifying the patient’s emotions as they relate to symptoms; discussing these links in the context of actual and past relationships  
Phase III: Termination issues, such as planning additional psychological, social or pharmacological therapeutic measures | 12 sessions |
| **Bulimia nervosa** | | | | |
| Bachar et al. [84], 1999 | 17 | Cognitive therapy: n = 17  
Nutritional counselling: n = 10 | Self-psychological treatment:  
The unique conceptualization of self, self-object relations and this theory’s conceptualization of resistance and defenses constitutes a therapeutic stance which especially fits the therapeutic needs of eating-disordered patients  
(a) Therapeutic stance of the therapist as a self-object who tries to empathize with the patient from an experience-near position  
(b) Conceptualization of food as fulfilling self-object needs | 46 sessions |
| **Binge-eating disorder** | | | | |
| Tasca et al. [92], 2006 | 48 | Group CBT: n = 47  
Waiting list: n = 40 | Group psychodynamic interpersonal psychotherapy:  
Early stage of the group: Focus on understanding patients’ cyclical relational patterns and on helping to develop a cohesive working group  
Middle stage: Therapist challenges patients’ cyclical relational patterns expressed in the group interactions  
Late stage: Focus on loss and separation as universal stressors, and new cyclical relational patterns and accompanying introjections are reinforced  
Diet, weight-related issues, and dysfunctional cognitions specific to dietary restraint are not directly addressed | 16 sessions |
Table 1 (continued)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Anorexia nervosa</strong></td>
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<tr>
<td>Dare et al. [91], 2001</td>
<td>21</td>
<td>Cognitive-analytic therapy: n = 22</td>
<td>Dare [171], Malan [34]: Focal analytic psychotherapy: (a) Time-limited standardized analytic therapy (b) Non-directive (c) No advice about eating behavior or other problems of symptom management Therapist addresses: (a) The unconscious and conscious meanings of the symptom (b) The effects of the symptom on current relationships (c) Manifestation of those influences in the relationship with the therapist (focus on transference)</td>
<td>24.9 sessions</td>
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<td></td>
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<td>Family therapy: n = 22</td>
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<td>Routine treatment: n = 19</td>
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<td>Zipfel et al. [55], 2013</td>
<td>80</td>
<td>Enhanced CBT: n = 80</td>
<td>Schauenburg et al. [172]: Focal PDT: Identification of psychodynamic foci with a standardized, operationalized, psychodynamic diagnostic interview Three treatment phases: (1) Focus on therapeutic alliance, proanorectic behavior and ego-syntonic beliefs (attitudes and behavior viewed as acceptable) and self-esteem (2) Main focus on relevant relationships and the association with eating (anorectic) behavior (3) Transfer to everyday life, anticipation of treatment termination, and parting Before every treatment session, an independent assessor measured every patient’s weight and reported it to his or her therapist</td>
<td>PDT: 39.9 sessions Enhanced CBT: 44.8 sessions Optimized TAU: 50.8 sessions</td>
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<td></td>
<td></td>
<td>Optimized TAU: n = 82</td>
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<tr>
<td><strong>Substance-related disorders: opiate dependence</strong></td>
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<tr>
<td>Woody et al. [45, 93], 1983, 1990†</td>
<td>31</td>
<td>Drug counselling: n = 35</td>
<td>Luborsky [21]: Analytically oriented focal therapy: (a) Focus on core conflictual relationship theme (b) Interpretive and supportive interventions (c) Special attention to themes involved in the drug dependence (the role of drugs in relation to problem feelings and behaviors, the meanings that the patient attaches to the drug dependence and how problems may be solved without recourse to drugs</td>
<td>12 sessions</td>
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<td>CBT + drug counselling: n = 34</td>
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<tr>
<td>Woody et al. [46], 1995†</td>
<td>57</td>
<td>Drug counselling: n = 27</td>
<td>Luborsky [21]: See above</td>
<td>26 sessions</td>
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<tr>
<td><strong>Borderline personality disorder</strong></td>
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<tr>
<td>Bateman and Fonagy [98], 2009</td>
<td>71</td>
<td>Structured clinical management: n = 63</td>
<td>Bateman and Fonagy [173]: Mentalization-based therapy: Focus on increasing the patient’s capacity for mentalization and stabilizing the sense of self; mentalization-based therapy requires greater activity, openness and more collaboration on the part of the therapist than in the classical analytical setting Mentalizing stance of the therapist: (a) Self-directed questions (b) Focus on answers that common sense or folk psychology would suggest rather than on unconscious reasons (c) Linking external events to internal states (d) Focus on the psychological process in the here and now (e) Manifest affect is targeted, identified and explored (f) Interpretation of conflict is minimized (g) Continuity between sessions is established (h) Cautious use of transference which is not seen as primary vehicle for change (i) Focus on simple interchanges instead of describing complex mental states</td>
<td>18 months</td>
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</tbody>
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Empirical Status of Psychodynamic Psychotherapy: An Update

Psychother Psychosom 2015;84:129–148
DOI 10.1159/000376584
Table 1 (continued)

<table>
<thead>
<tr>
<th>Study</th>
<th>PDT, n</th>
<th>Comparison group(s)</th>
<th>Concept of PDT</th>
<th>Duration of PDT</th>
</tr>
</thead>
</table>
| Clarkin et al. [44], 2007    | 30     | Dialectical behavioral therapy: n = 30 Supportive therapy: n = 30 | Clarkin et al. [99]: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 12 months       |
| Levy et al. [95], 2006       | 2, 3   | 30                  | Levy et al. [95], 2006: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 12 months       |
| Doering et al. [96], 2010    | 43     | Treatment by experienced community therapists: n = 29 | Doering et al. [96], 2010: Treatment by experienced community therapists: n = 29  
Clarkin et al. [99]: See above | 1 year           |
| Gregory et al. [97], 2008    | 15     | TAU: n = 15         | Gregory et al. [97], 2008: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 24.9 sessions   |
| Abbass et al. [108], 2008    | 14     | Minimal contact: n = 13 | Abbass et al. [108], 2008: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 27.7 sessions (mean) |
| Vinnars et al. [56], 2005    | 80     | Community-delivered PDT: n = 76 | Vinnars et al. [56], 2005: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 40 sessions     |
| Winston et al. [48], 1994    | 25     | Brief adaptive psychotherapy: n = 30; Waiting list: n = 26 | Winston et al. [48], 1994: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 40 weeks (mean = 40.3 sessions) |

**Heterogeneous personality disorders**

<table>
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<tr>
<th>Study</th>
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| Abbass et al. [108], 2008    | 14     | Minimal contact: n = 13 | Abbass et al. [108], 2008: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 27.7 sessions (mean) |
| Vinnars et al. [56], 2005    | 80     | Community-delivered PDT: n = 76 | Vinnars et al. [56], 2005: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 40 sessions     |
| Winston et al. [48], 1994    | 25     | Brief adaptive psychotherapy: n = 30; Waiting list: n = 26 | Winston et al. [48], 1994: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 40 weeks (mean = 40.3 sessions) |

**High utilizers of psychiatric services**

<table>
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<tr>
<th>Study</th>
<th>PDT, n</th>
<th>Comparison group(s)</th>
<th>Concept of PDT</th>
<th>Duration of PDT</th>
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</table>
| Guthrie et al. [110], 1999   | 55     | TAU: n = 55         | Guthrie et al. [110], 1999: Transference-focused psychotherapy: (a) Treatment contract (e.g. duration and payment, potential threats to the treatment specific to each patient, e.g. suicide attempts, drug misuse or anorectic behavior)  
(b) Integration of internalized experiences of dysfunctional early relationships by focusing on relationship between the individual and the therapist ('transference relationship')  
(c) Offering a hierarchy of thematic priorities to be used in every session. Limits are actively set by the therapist, if a patients' behavior threatens their life, others' lives or the continuation of therapy  
(d) Phenomenologically, treatment aims at the reduction of impulsivity (e.g. aggression directed towards self or others, substance misuse, eating disorder), mood stabilization and the improvement of interpersonal relationships as well as occupational functioning | 8 sessions      |
regard to patients achieving reliable or clinically significant change [70]. The treatments can be considered as possibly efficacious (2 RCTs, but research settings were not independent).

Social Phobia
For social phobia, we identified 4 RCTs of PDT fulfilling the inclusion criteria. In the first study, short-term psychodynamic group treatment for generalized social phobia was superior to a credible placebo control [71]. In a large-scale multicenter RCT, the efficacy of PDT and cognitive therapy in the treatment of social phobia was studied [52, 72]. Both treatments were significantly superior to the waiting list. Thus, this trial provides evidence that PDT is effective in the treatment of social phobia according to the criteria proposed by Chambless and Hollon [8]. There were no differences between PDT and cognitive therapy with regard to response rates for social phobia (52 vs. 60%) and reduction of depression. Statistically significant differences in favor of cognitive therapy, however, were found with regard to remission rates (36 vs. 26%), self-reported symptoms of social phobia and reduction of interpersonal problems. Differences in terms of between-group effect sizes were small and below the a priori set threshold for clinical significance [52]. In the follow-up study, neither statistically nor clinically significant differences were found between PDT and cognitive therapy [52, 73]. A recent RCT reported PDT to be superior to a waiting list and no differences in outcome were found in comparison with CBT [54]. The authors reported a sufficient power to detect moderate differences [54, p. 370]. Thus, the study seems to provide evidence for equivalent outcome for PDT and CBT. In another RCT, PDT combined with pharmacotherapy was superior to pharmacotherapy alone [74, 75]. Accordingly, PDT can be designated as efficacious in social anxiety disorder and as possibly efficacious in the context of medication use.

Panic Disorder
Connolly Gibbons et al. [7] identified 2 RCTs of PDT in anxiety disorders which fulfilled the criteria by Chambless and Hollon [8]. In the study by Milrod et al. [43] PDT was more successful than applied relaxation in panic disorder. In another study, combining pharmacotherapy with PDT was shown to produce significantly lower relapse rates than pharmacotherapy alone [47]. No additional RCTs fulfilling the inclusion criteria were identified by our search. In a recent RCT, no differences in outcome between PDT and CBT in panic disorder were found [76]. Remission rates at termination and follow-up were 44 and 50% for PDT and 61 and 56% for CBT. However, with 36 and 18 patients the study was not sufficiently powered to demonstrate equivalence (online suppl. table 1, web appendix).

Generalized Anxiety Disorder
In generalized anxiety disorder (GAD), 1 RCT fulfilled the inclusion criteria [77]. In a study of Internet-based therapy, there were no differences in outcome between PDT, CBT and waiting list at the end of treatment in the primary outcome measure (Penn State Worry Questionnaire) [77]. With regard to remission rates (no diagnosis of GAD), however, significant differences between the study groups were found, with rates of 54.5, 35 and 16% for PDT, CBT and waiting list, respectively, at the end of treatment. According to these results, PDT delivered over the Internet seems to be as efficacious as Internet-delivered CBT in GAD – the differences in remission were in favor of PDT. Thus, with a sufficient power at most a difference in favor of PDT might have been detected. Accordingly, Internet-delivered PDT can be designated as possibly efficacious in GAD.

In another RCT of GAD, PDT was compared with CBT [78]. No significant differences between PDT and CBT were found with regard to the primary outcome measure. However, in several secondary outcome measures, CBT was superior, both at the end of therapy and at the 6-month follow-up. Other differences may exist that were not detected due to the limited sample size and power. With 28 and 29 patients, the study was not sufficiently powered to demonstrate equivalence (online suppl. table 1, web appendix).

Anxiety Disorders
In the study by Knekt et al. [53] mentioned above, short-term PDT was superior to long-term PDT (and as efficacious as solution-focused therapy) with regard to recovery from anxiety disorders at the 7-month follow-up, which corresponded to the post-therapy assessment in short-term PDT.

Table 1 (continued)

<table>
<thead>
<tr>
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<th>PDT, n</th>
<th>Comparison group(s)</th>
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<th>Duration of PDT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snyder and Wills [112], 1989</td>
<td>30</td>
<td>Behavioral marital therapy:</td>
<td>Nadelson and Paolino [176], Snyder and Wills [112]; Insight-oriented marital therapy:</td>
<td>Up to 25 sessions</td>
</tr>
<tr>
<td>Snyder et al. [113], 1991</td>
<td>Waiting list: n = 20</td>
<td>(a) Clarification and interpretation of intra- and interpersonal conflicts (b) Instruction in listening and empathy if necessary (c) Modification of grossly destructive communication patterns No systematic training of communication skills through active rehearsal and behavior-shaping procedures</td>
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</table>

1. Studies fulfilling the criteria by Chambless and Hollon [8] listed by Connolly Gibbons et al. [7].
2. The outcome was evaluated separately for depressive and anxiety disorders; only results of short-term PDT were included in this review; as for long-term PDT, no manuals were used.
3. Transference-focused therapy was superior to dialectical behavioral therapy and supportive therapy with regard to measures of attachment and self-reflective functioning [95].
Mixed Samples of Depressive and Anxiety Disorders
In an RCT, PDT was superior to TAU in a sample of patients with depressive or anxiety disorders [79].

Posttraumatic Stress Disorder
Beyond the study by Brom et al. [80] that was already discussed by Connolly Gibbons et al. [7], no RCTs of PDT in posttraumatic stress disorder were identified.

Obsessive-Compulsive Disorder
There was only 1 RCT of PDT in obsessive-compulsive disorder. In this study PDT combined with pharmacotherapy in obsessive-compulsive disorder was not superior to pharmacotherapy alone [81].

Somatic Symptom Disorder with Predominant Pain
In the treatment of patients with chronic pain (somatic symptom disorder with predominant pain, formerly named somatoform pain disorder), PDT was superior to a control condition (no treatment or TAU) in measures of pain, psychiatric symptoms, interpersonal problems, and affect consciousness [82]. The results of PDT remained stable or even improved in the 12-month follow-up. In a recent study, PDT was compared with enhanced medical care in patients with multiple somatoform disorders. The presence of a somatoform pain disorder was required for patient inclusion [83]. No differences were found at the end of treatment. However, at the 9-month follow-up PDT was superior to enhanced medical care with regard to improvements in the physical quality of life of the patients [83]. Thus, PDT can be regarded as efficacious in somatoform pain disorder (somatic symptom disorder with predominant pain according to DSM-5).

Bulimia Nervosa
Only 1 RCT fulfilled the inclusion criteria (table 1). PDT was significantly superior to both a nutritional counselling group and cognitive therapy [84]. This was true of patients with bulimia nervosa and a mixed sample of patients with bulimia nervosa or anorexia nervosa. In a recent RCT, CBT was superior to PDT [85]. This study was challenged for not having used a bona fide treatment for bulimia nervosa [86]. A reply was given by the authors [87]. Thus, conflicting evidence exists for PDT in bulimia nervosa. Judgment is suspended until further research is available.

In 2 further RCTs comparing PDT with CBT, no differences were found in the primary (disorder-specific) outcome measures (bulimic episodes, self-induced vomiting) [88, 89]. Again, however, the studies were not sufficiently powered to detect moderate differences (online suppl. table 1, web appendix). Apart from this limitation, CBT was superior to PDT in some specific measures.

Anorexia Nervosa
Here, 3 RCTs were identified that fulfilled the inclusion criteria (table 1). In the first RCT, PDT combined with four sessions of nutritional advice was significantly superior to TAU with regard to weight and BMI changes [90]. In another RCT, PDT, cognitive-analytic therapy, family therapy, and routine treatment were compared [91]. No differences between PDT, cognitive-analytic therapy and family therapy were found. PDT and family therapy were significantly superior to the routine treatment with regard to weight gain. A recent RCT compared manual-guided PDT, enhanced CBT and optimized TAU in the treatment of anorexia nervosa [55]. At the end of treatment, significant improvements were found in all treatments, with no differences in the primary outcome measure (BMI). At the 12-month follow-up, however, PDT was significantly superior to optimized TAU with regard to rates of recovery, whereas enhanced CBT was not [55]. Recovery rates were 35 versus 19 versus 13% for PDT, enhanced CBT and optimized TAU, respectively. According to these results, PDT can be designated as efficacious in anorexia nervosa.

Binge-Eating Disorder
In an RCT of binge-eating disorder, PDT was superior to a waiting list [92]. Thus, PDT can be considered as possibly efficacious in binge-eating disorder. No differences were found between PDT and CBT (e.g. days binged, interpersonal problems) [92]. For the comparison of PDT with CBT, again the statistical power was not sufficient (table 1).

Substance-Related Disorders
Based on 2 RCTs carried out by the same research team (table 1), Connolly Gibbons et al. [7] considered PDT as a possibly efficacious treatment for opiate addiction [45, 46, 93]. As noted already by Connolly Gibbons et al. [7], another RCT failed to demonstrate efficacy for PDT or CBT in the treatment of cocaine dependence [51].

Alcohol Abuse
No RCTs were identified that fulfilled the inclusion criteria. Connolly Gibbons et al. [7] considered the results by Sandahl et al. [94] as promising.

Borderline Personality Disorder
Based on the results by Clarkin et al. [44] and Levy et al. [95], Connolly Gibbons et al. [7] considered transference-focused therapy as possibly efficacious in borderline personality disorder.

We identified 3 more recent RCTs fulfilling the inclusion criteria (table 1) [96–98]. Doering et al. [96] compared transference-focused psychotherapy based on the model of Clarkin and Kernberg [99] with a treatment carried out by experienced community psychotherapists in borderline outpatients [96]. Transference-focused psychotherapy was superior with regard to borderline psychopathology, psychosocial functioning, personality organization, inpatient admission, and dropouts. Another RCT compared PDT ('dynamic deconstructive psychotherapy') with TAU in the treatment of patients with BPD and co-occurring alcohol use disorder [97]. In this study, PDT, but not TAU, achieved significant improvements in outcome measures of parasuicide, alcohol misuse and institutional care [97]. Furthermore, PDT was superior with regard to improvements in borderline psychopathology, depression and social support. No difference was found in dissociation. This was true although TAU participants received higher average treatment intensity. Another RCT found mentalization-based treatment to be superior to manual-driven structured clinical management with regard to the primary (suicidal and self-injurious behaviors, hospitalization) and secondary outcome measures (e.g. depression, general symptom distress, interpersonal functioning) [98]. In another RCT, no treatment manual was used [100]. Giesen-Bloo et al. [101] reported schema-focused therapy to be superior to PDT (transference-focused psychotherapy; online suppl. table 1, web appendix). This study has been challenged with...
regard to treatment integrity [103]. A reply was given by the authors [103]. In the case of conflicting evidence, the criteria by Chambless and Hollon [8, p 18] require that the preponderance of evidence must be in favor of the empirically supported treatment [8]. As 2 other RCTs described above found transference-focused psychotherapy to be efficacious [44, 95, 96], the preponderance of evidence is in favor of transference-focused psychotherapy.

In sum, PDT as a group can be considered efficacious and specific in borderline personality disorder according to the criteria proposed by Chambless and Hollon [8]. For transference-focused therapy, 2 RCTs carried out in independent research settings are available which provide evidence that the treatment is efficacious and specific in the treatment of borderline personality disorder [44, 95, 96]. The specific methods of PDT used in the studies by Bateman and Fonagy [98] and Gregory et al. [97] can be considered as possibly efficacious.

Cluster C Personality Disorders

No RCTs were identified that fulfilled the inclusion criteria. In an RCT by Svartberg et al. [104] both PDT and CBT yielded significant improvements in symptoms, interpersonal problems and core personality pathology (online suppl. table 1, web appendix). No significant differences were found between PDT and CBT. However, symptom change at follow-up was significant for PDT but not for CBT. Although this rate was almost twice as large for PDT than for CBT, the difference was not statistically significant [104, p 813]. This is probably due to the fact that the study was not sufficiently powered to detect possible differences (N₁ = 25, N₂ = 25). This applies to another RCT as well [105]. A further study did not provide evidence for PDT in avoidant personality disorder [106].

Heterogeneous Samples of Patients with Personality Disorders

Winston et al. [48] compared PDT with brief adaptive psychotherapy or waiting-list patients in a heterogeneous group of patients with personality disorders. Most of the patients showed a cluster C personality disorder. Patients with paranoid, schizoid, schizotypal, borderline, and narcissistic personality disorders were excluded. In both treatment groups, patients showed significantly more improvements than the patients on the waiting list. No differences in outcome were found between the two forms of psychotherapy. However, the study was not sufficiently powered to detect possible differences between bona fide treatments (online suppl. table 1, web appendix). This is also true for the RCT by Hellerstein et al. [107], who compared PDT to brief supportive therapy in a heterogeneous sample of patients with personality disorders (online suppl. table 1, web appendix). Again, most of the patients showed a cluster C personality disorder. The authors reported similar degrees of improvement both at termination and at the 6-month follow-up. Abbass et al. [108] compared PDT (intensive short-term dynamic psychotherapy) with a minimal contact group in a heterogeneous group of patients with personality disorders. The most common Axis II diagnoses were borderline (44%), obsessive compulsive (37%) and avoidant personality disorder (33%). PDT was significantly superior to the control condition in all primary outcomes. In addition, treatment costs were thrice offset by reductions in medication and disability payments. When control patients were treated, they experienced benefits similar to the initial treatment group. In the long-term follow-up 2 years after the end of treatment, the whole group maintained their gains and had an 83% reduction of personality disorder diagnoses. In another study, manual-guided PDT was as effective as PDT carried out by community experts [56].

According to these results, PDT following the concept by Davanloo [36] can be considered as efficacious in patients with heterogeneous personality disorders.

Deliberate Self-Poisoning

In patients with deliberate self-poisoning, psychodynamic-interpersonal therapy was significantly superior to a TAU condition [109] (online suppl. table 1, web appendix). Unfortunately, the patient sample was not described in terms of mental disorders. PDT can be considered as promising in patients with deliberate self-poisoning.

High Utilizers of Psychiatric Services

In another RCT, psychodynamic-interpersonal therapy was superior to a TAU condition in high utilizers of psychiatric services [110]. The sample primarily included patients with depressive and anxiety disorders. PDT can be considered as possibly efficacious in high utilizers of psychiatric services with primarily depressive and anxiety disorders.

Bipolar Disorders

No RCT was available for PDT in bipolar disorders.

Schizophrenia Spectrum Disorders

No RCT fulfilling the inclusion criteria was available. Promising results were reported by a quasi-experimental study for schizophrenia spectrum disorder [111].

Relationship Distress: Marital Therapy

In an RCT, no significant differences were found between psychodynamic and behavioral couple therapy in individual and relationship functioning [112]. Both treatments were superior to a waiting-list control group. Effects were maintained at the 6-month follow-up. At the 4-year follow-up, significantly more couples in the behavioral therapy than in the psychodynamic condition had experienced divorce (38 vs. 3%) [113]. Again, however, the study was sufficiently powered for showing superiority but not equivalence.

Discussion

In times of evidence-based medicine, it is indispensable that there be sufficient evidence for a treatment before it can be recommended for application in clinical practice. This applies to psychotherapy as well. The 2010 Affordable Care Act in the USA, for example, mandates mental health care, including psychotherapy, as one of the 10 essential health benefits [114].

In his now classic article on the evidence for psychotherapy, Parloff [115, p. 718] concluded in 1982 that ‘the prospect that rigorous research evidence will soon provide a credible list of “certified” techniques and proce-

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Psychother Psychosom 2015;84:129–148
DOI 10.1159/000376584
dures for the treatment of specific disorders is poor.’ The article was entitled: ‘Psychotherapy research evidence and reimbursement decisions: Bambi meets Godzilla.’ In 2008, Richard Glass [116], deputy editor of JAMA, commented on a meta-analysis of PDT by asking: ‘Psychodynamic psychotherapy and research evidence: Bambi survives Godzilla?’ [116, p 1587]. According to the review presented here, Bambi seems to be alive and kicking. We carried out an update on the evidence for PDT in specific mental disorders under the requirements of the rigorous criteria proposed by Chambless and Hollon [8]. Compared with the 2008 review by Connolly Gibbons et al. [7], evidence for PDT has considerably increased (table 1, online suppl. tables 1 and 2, web appendix). Whereas Connolly Gibbons et al. found PDT to be possibly efficacious in only a few mental disorders, now evidence is available showing that PDT is efficacious or possibly efficacious in most of the common mental disorders (table 1, online suppl. table 2, web appendix). In MDD, social anxiety disorder, borderline personality disorder, somatoform pain disorder, and anorexia nervosa, PDT can now be considered as efficacious. With regard to specific psychodynamic approaches, the treatments by de Jonghe [117] for MDD, Clarkin et al. [99] for borderline personality disorder and Davenloo [36] for heterogeneous personality disorders can be considered as efficacious. In addition, PDT can now be considered as possibly efficacious in dysthymia, prolonged or complicated grief, GAD (through the Internet), panic disorder, binge-eating disorder, posttraumatic stress disorder, and substance-related disorders. The combination of PDT with pharmacotherapy can be considered as efficacious in MDD and as possibly efficacious in panic disorder and social anxiety disorder. For bulimia nervosa, judgment is suspended. In addition, there is evidence from several RCTs that PDT is efficacious in patients with somatic symptoms [12, 118].

For a treatment indication, three dimensions need to be weighed up – the risk associated with withholding the treatment, the responsiveness to the treatment and vulnerability to the adverse effects of a treatment [19, 119]. General contraindications for PDT are not known; PDT can be adapted to the individual patient’s needs by using either more interpretive or supportive interventions. Thus, as noted above, a broad spectrum of mental disorders can be successfully treated with PDT. However, some contraindications exist for psychoanalytic therapy carried out in the classical couch setting with a high frequency of sessions per week, for example for severely disturbed borderline or psychotic patients. Berk and Parker [120] discussed several risks of high-frequency long-term psychoanalytic therapy in more detail such as promoting dependency on the therapy and the therapist, focusing on patient history at the expense of current issues and the patient’s active role, or reifying the patient’s doubts about their self-worth and interpersonal skills by a nonresponsive interpersonal style. These issues indeed constitute specific risks of long-term and high-frequency psychoanalytic therapy. They are explicitly regarded as treatment mistakes also in psychoanalysis [121]. Furthermore, the risks associated with long-term treatments are not specific to psychoanalysis since some CBT treatments such as dialectical behavior therapy or schema-focused therapy are long-term as well [44, 101]. It is of note that Berk and Parker [120] only referred to high-frequency long-term psychoanalytic therapy but did not include a discussion of manual-guided PDT. Several RCTs that fulfilled the criteria of Chambless and Hollon [8] (table 1) included data on adverse events or side effects [40, 43, 47, 49, 50, 52, 55, 64, 74, 77, 95, 122]. In these studies, adverse events or side effects were not more frequent in PDT than in the comparison treatments. A total of 3 studies encompassed long-term PDT of more than 25 sessions or of a treatment duration of 12 months [55, 95, 122]. In 2 other studies, significantly less adverse or serious adverse events were found for PDT [47, 64]. For marital therapy, long-term follow-ups reported significantly fewer divorces for psychodynamic marital therapy compared with cognitive-behavioral marital therapy (3 vs. 38%) [113]. Hence, there is no reason to believe that manual-guided PDT is associated with more adverse events or side effects than other bona fide treatments. In general, future studies of psychotherapy should carefully monitor and report adverse events or side effects.

In only a few of the RCTs fulfilling the criteria by Chambless and Hollon [8] included here (table 1) were differences in outcome found in direct comparisons with other bona fide treatments such as CBT. In the study by Leichsenring et al. [52] on social anxiety disorder, CBT achieved statistically significant better outcomes in some measures immediately after the end of treatment. However, the differences were small and below the a priori set threshold of clinical significance. Furthermore, in the long-term follow-ups, neither statistically nor clinically significant differences were found [73]. With regard to the treatment of depression, Thase [65, p. 954] concluded from the RCT by Driessen et al. [50] that there is no evidence that PDT is a less effective treatment of MDD than CBT [95]. On the other hand, Milrod et al. [43] found PDT to be superior to applied relaxation in panic disorder. Clarkin et al. [44] reported PDT and dialectical be-
behavior therapy to be equally effective. In measures of attachment and reflective functioning, however, PDT was superior to dialectical behavior therapy [95]. In anorexia nervosa, only PDT (not CBT) was superior to optimized TAU in the 12-month long-term follow-up [55].

As noted above, many studies were not sufficiently powered for showing equivalence to a treatment established in efficacy. Studies of CBT do not seem to be more highly powered. In comparisons of psychotherapy with pharmacotherapy in depression, only 2 of 26 studies included at least 70 patients per group [123]. On the other hand, meta-analyses may achieve a higher statistical power than an individual study. In anxiety disorders, a recent meta-analysis found PDT to be as efficacious as other bona fide treatments [124]. For depression, another meta-analysis found little indication that CBT was superior to other forms of psychotherapy such as interpersonal therapy or PDT [125]. In direct comparisons of PDT with CBT, between-group effect sizes were found to be small [126]. Furthermore, the clinical relevance of statistically significant but small differences between treatments is often not clear [18, 127].

If only few and small differences in outcome between PDT and other approaches such as CBT exist, the question arises whether there are patients who benefit from one approach rather than from another. Unfortunately, there is a lack of systematic research on this important question.

A few studies reported some post hoc analyses [92, 128]. Tasca et al. [92], for example, reported that in binge-eating disorder patients with high attachment anxiety did better in psychodynamic group therapy whereas those with low attachment anxiety did better in group CBT. Given the paucity of research, future studies are recommended to formulate and test hypotheses on moderators of treatment outcome [25].

With regard to comparisons with pharmacotherapy, it is of note that no direct comparisons of PDT alone with pharmacotherapy alone are available. CBT was shown to be superior to pharmacotherapy with regard to relapse prevention in depression [129]. As a limitation, it should be noted, however, that this effect was not found in all studies [130]. Furthermore, a sustained response was found only in a limited proportion of patients treated with CBT (37.3%) [129, p. 420]. Nevertheless, for these patients CBT was shown to prevent relapse to a significantly higher degree than pharmacotherapy [129]. A recent meta-analysis found CBT to be superior to discontinued pharmacotherapy with regard to relapse prevention in depression but not superior to continued pharmacotherapy [125]. For PDT, studies on relapse prevention in depression are not yet available. This is an important area for future research in PDT. As a promising result, remission rates of PDT seem to be stable in follow-up assessments [50, 131], with no differences to CBT [131]. For panic disorder, adding PDT to pharmacotherapy was found to be superior to pharmacotherapy with regard to relapse prevention (75 vs. 20%) [47].

Evidence has emerged that even in studies of manual-guided therapies a considerable overlap exists between interventions [132–135]. Cognitive-behavioral therapists, for example, were found to use interpretations or clarifications as often as psychodynamic therapists [135], and psychodynamic therapists were found to adhere to a CBT prototype to the same degree as they adhered to a psychodynamic prototype [133]. Ablon and Jones [132] reported that the interpersonal therapies in the NIMH Treatment of Depression Collaborative Research Program corresponded most strongly to a prototype of an ideal CBT and that congruence of the interpersonal therapies to the CBT prototype yielded more positive correlations with outcome measures than congruence to the interpersonal prototype. For this reason, Ablon and Jones [132, p. 780] concluded: ‘Brand names of therapy can be misleading.’

More important than the issue of overlap in interventions, however, is the question of which interventions are related to outcome. In several studies, significant relationships between psychodynamic interventions and outcome could be demonstrated [136–141]. These studies provide another type of evidence for PDT, i.e. that outcome is actually related to psychodynamic interventions. Furthermore, there is evidence that changes in psychodynamically relevant mediators such as core conflicts or insight are significantly related to outcome [142, 143].

For some mental disorders, RCTs fulfilling the criteria by Chambless and Hollon [8] providing evidence for the efficacy of PDT do not yet exist. This applies to obsessive-compulsive disorder, posttraumatic stress disorder, bipolar disorders, and schizophrenia. Thus, further research on PDT is required. As a research strategy, it seems to be promising to carry out a second RCT for those methods of PDT for which already 1 RCT provided evidence for efficacy (possibly efficacious treatments). Thus, the online supplementary tables 1 and 2 (web appendix) may provide a guideline for further research. If the second RCT also provides evidence for the efficacy of the specific treatment in question, this treatment can be designated as efficacious. As another approach, developing and testing transdiagnostic and unified treatment protocols may be a
promising strategy. For CBT, several unified protocols are available [144]. For PDT, the first unified protocols for the treatment of anxiety disorders and depressive disorders have recently been published [145, 146]. The unified protocol for anxiety disorders, for example, integrates those treatment elements that were used in RCTs in which PDT proved to be efficacious in the various categories of anxiety disorders [145]. Thus, it represents a transdiagnostic protocol for the treatment of the various categories of anxiety disorders (e.g. GAD, panic disorder, social anxiety disorder) as represented, for example, in DSM-5. Another transdiagnostic approach was presented by Busch et al. [147], who extended the treatment developed for panic disorder to other anxiety disorders. The approach by Busch et al. is also transdiagnostic, but it is not a unified approach as it does not systematically integrate treatment elements of all available evidence-based treatments. At present, evidence for this approach is only available for panic disorder [147]. It may be a strength of PDT that it is transdiagnostic in origin as it does not focus on specific symptoms (e.g. symptoms of panic, generalized anxiety or social phobia) but on the conflicts and structural deficits underlying the symptoms [145].

Evidence for PDT in specific mental disorders usually comes from RCTs in which different concepts and methods of PDT were applied (table 1). Thus, the available evidence for PDT in a specific mental disorder is ‘scattered’ between the different approaches of PDT applied (table 1). For social anxiety disorder, for example, 3 RCTs were available, each of them using a different form of PDT. It was for this very reason that PDT was judged as only possibly efficacious by Chambless and Hollon [8]. Unified protocols contribute to overcoming this problem [145, 146]. If a unified protocol is used in several RCTs, the evidence is valid for the same treatment concept (the unified protocol).

With regard to the methodological quality of studies included here, this review was based on the rigorous criteria proposed by Chambless and Hollon [8]. Recent meta-analyses also reported that the quality of RCTs of PDT was as good as that of RCTs of CBT [11, 148].

Online supplementary table 1 (web appendix) presents the RCTs that for one reason or another do not fulfil the criteria for efficacy proposed by Chambless and Hollon [8]. In most cases, statistical power was not sufficient to demonstrate equivalence with an already established treatment. Thus, researchers are strongly recommended to ensure a sufficient power if a treatment is to be compared to an established treatment, or they should at least include an additional waiting list or TAU condition in order to be able to demonstrate efficacy. However, the existing underpowered RCTs are not necessarily useless or unethical [149, 150]. If they are included in a meta-analysis, the statistical power will increase beyond that of the individual study, with the power depending not only on the number of studies and patients but also on the degree of heterogeneity between studies [151].

Our review did not include studies of children and adolescents. A recent meta-analysis provided some evidence that PDT is effective in children and adolescents across a range of common mental disorders [152].

We presented the studies of PDT for the different mental disorders. However, from a psychodynamic perspective, the results of a therapy for a specific mental disorder (e.g. depression, agoraphobia) are influenced by the underlying psychodynamic features (e.g. conflicts, defenses, personality organization), which may vary considerably within one category of psychiatric disorder [153]. These psychodynamic factors may affect treatment outcome and may have a greater impact on outcome than the phenomenological DSM categories [70]. Psychodynamic features as assessed, for example, by operationalized psychodynamic diagnosis [24], may be used in future studies to address the question of which patients benefit from which kind of treatment. They may also be helpful in examining which patients do not respond well to a specific treatment.

In summary, considerable progress has been made concerning the empirical status of PDT, but further research is needed to fill the gaps described above.

Acknowledgment

We would like to thank Dr. Chambless for some clarifications with regard to the criteria of empirically supported therapies.

Disclosure Statement

We have no conflicts of interest to declare.

References


Leichsenring/Leweke/Klein/Steinert


