

Research Article

Efficacy of Psychodynamic Psychotherapy in Serious Physical Illness: Systematic Review and Meta-Analysis

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Objective: Prevalence rates of depression and anxiety in patients with a serious physical illness are high. Psychodynamic psychotherapies show potential in mitigating such psychological distress because they address hindering relational experiences and unconscious conflicts that may impair patients' capacity to cope with illness-related distress. We investigated the efficacy of psychodynamic psychotherapy for symptoms of depression and anxiety in patients with serious physical illness.

Methods: We conducted a systematic literature search to identify randomized controlled trials and quasi-experiments of psychodynamic psychotherapies in adults with serious physical illness. We conducted random-effects meta-analyses and narrative summaries.

Results: We identified 15,112 records and included 5 RCTs ($n = 648$, mean age: 52.4 years, 69% female). Meta-analyses showed no significant differences between psychodynamic and standard treatment for the reduction of depressive symptoms in serious physical illness (SMD = -0.24 , 95% CI: -0.87 to 0.39). No meta-analysis was calculated for anxiety symptoms due to the small number of studies investigating this outcome.

Conclusion: Quantitative evidence for the efficacy of psychodynamic psychotherapy in this population is inconclusive. More research is needed with regard to effective intervention length and adequate outcome measures, especially in patients with incurable illness.

Keywords: anxiety; depression; meta-analysis; physical illness; psychodynamic psychotherapy

1. Introduction

Patients with a serious physical illness such as cancer or cardiac disease face multiple psychological challenges associated with diagnosis, medical treatment, and an uncertain illness trajectory. Consequently, they are prone to suffer from symptoms of psychological and existential distress, such as depression, anxiety, death anxiety, demoralization, loss of dignity, or even suicidal ideation [1, 2]. Twelve-month prevalence rates for affective and anxiety disorders in patients with cancer, cardiovascular, or lung disease range between 10% and 30% [3–5]. Evaluated psychotherapies that

target the psychological distress in such serious physical illness are currently based on cognitive behavioral, meaning- and dignity-centered, as well as third wave approaches such as mindfulness-based or acceptance and commitment therapy. Efficacy studies show small to moderate effects for reducing depressive and anxiety symptoms and improving quality of life posttreatment [6–9].

Psychodynamic psychotherapies emphasize the individual's inner representation of relational experiences and assume that unconscious emotions, motives, or conflicts may undermine one's capacity to process and to cope with psychological distress. To our knowledge, there is to date no

systematic review on the effect of psychodynamic psychotherapy for symptoms of psychological and existential distress in patients with a serious physical illness. In a recent systematic literature review [10], we summarized the qualitative evidence on the use of psychodynamic psychotherapies in this population. Case studies showed that psychodynamic approaches were feasible and beneficial in this population, especially if clinicians took into account the reality of the illness by offering modifications to the treatment setting and by integrating supportive and conflict-oriented interventions [10]. The goal of the present study is to synthesize the current quantitative research in mitigating symptoms of psychological and existential distress in these patients and to test its efficacy compared to other treatments.

2. Methods

Prior to conducting this systematic review and meta-analysis, we registered it on PROSPERO (International Prospective Register of Systematic Reviews CRD42021282477). To synthesize the available evidence comprehensively, we included quantitative and qualitative primary studies if they reported information on adult patients (≥ 18 years) with a serious physical illness (any palliative, acute, or chronic somatic disease) receiving psychodynamic psychotherapy. “Psychodynamic psychotherapy” was defined as any individual or group treatment that focuses on patients’ unconscious psychological conflicts and addresses the dynamics of patients’ interpersonal relationships including the therapeutic alliance, e.g., psychoanalysis, modified psychoanalytic psychotherapy, (short-term) psychodynamic psychotherapy, or supportive psychotherapy if it included psychodynamic elements according to this definition [11]. Methods and results of the qualitative data synthesis are reported elsewhere [10]. For the purpose of the present study, we included randomized controlled trials and quasi-experiments, which investigated the efficacy of any psychodynamic psychotherapy compared to any other active (e.g., psychological and/or pharmacological) or nonactive treatment (e.g., no treatment, waitlist, placebo) or treatment as usual in the target population. Quasi-experiments were included to broaden the evidence. All other study types were excluded such as observational studies, case reports, or non-peer-reviewed sources. We report our results according to PRISMA guidelines [12].

2.1. Data Collection and Risk of Bias. We systematically searched electronic databases and trial registers as well as gray literature. Basic search terms were as follows: #1 cancer; #2 palliative, serious, or chronic physical illness; #3 psychodynamic psychotherapy [10]. Our search included any manifestation of psychological symptoms or mental disorders. After title and abstract screening, R.P. and C.W. independently evaluated the identified full texts for the eligibility criteria and extracted the information from the quantitative primary studies. The extracted information included study, sample, medical and intervention characteristics, risk of bias, and outcome data (Supporting

Information, Table S1). If information on outcome data was missing or unclear, we contacted the corresponding authors of the primary studies. We used the revised Cochrane risk-of-bias tool for randomized trials [13] to assess the methodological quality of the included RCTs resulting in an overall rating of methodological quality (low risk, some concerns, high risk). We compared our decisions for each step of the data collection process and the evaluation of the risk of bias. In case of disagreement, we reached consensus by discussion or by consulting a third reviewer (S.V.).

2.2. Data Synthesis. Primary efficacy outcome was severity of psychological symptoms at the end of the psychodynamic psychotherapy assessed by validated and reliable instruments based on the data provided in the primary study. Secondary efficacy outcomes were treatment response, acceptability (dropout rate), and any other metric outcome measured by a validated and reliable instrument. We calculated standardized mean differences (SMD) for continuous outcome and odds ratios and their 95% confidence intervals (CI) for dichotomous outcome data. Analyses were based on the intention-to-treat (ITT) sample reported in the primary studies. We conducted meta-analyses using random-effects models to account for clinical heterogeneity [14]. We used Cochran’s Q test and the I^2 statistic to test statistical heterogeneity between study results. We performed Egger’s test and visually examined funnel plots to detect possible publication bias and small-study effects. If quantitative data synthesis was not possible, we provided a narrative summary of the study results.

3. Results

We identified 14,741 records via electronic database and register search and an additional 371 records by searching gray literature and screening citations of eligible reports. After title and abstract screening, we assessed 148 studies for eligibility. Of the 44 studies that fulfilled the inclusion criteria, we included 5 RCTs in 13 publications (see Figure S1 for flow diagram). The results of the 31 identified qualitative studies are reported elsewhere [10]. No quasi-experiments were identified for inclusion. Table 1 summarizes the study and patient characteristics of the included RCTs ($n = 648$, mean age = 52.4 [SD = 10.0], 69% female). The studies included patients diagnosed with cancer (3 studies), systemic lupus erythematosus (1 study), and acute myocardial infarction (AMI) (1 study), who received psychodynamic psychotherapy with heterogeneous theoretical backgrounds in different settings. Two studies described an adapted psychoanalytical treatment approach [15, 17]. Three studies described specific short-term psychodynamic treatments: In the study by Beutel and colleagues, patients were treated according to Luborsky’s and Crits-Christoph’s [20] core conflictual relationship theme; Ludwig and colleagues [18] applied Viederman’s [21] psychodynamic life narrative and approaches focusing on time limitedness; Roncella and colleagues [19] used the “ontopsychological method (which) is a complex and original synthesis derived from psychoanalysis, analytical psychology and humanistic-existential methods.”

TABLE 1: Selected study and patient characteristics of included randomized controlled trials.

Study ID (Study location)	Medical diagnosis	Mental diagnosis	Metric outcomes	End of treatment	Study arms	Sample size (n)	Mean age (SD) in years	Females (%)	Treatment setting	Psychopharmacotherapy	Treatment frequency	Treatment dropout (n)
Anton et al. [15] Europe (Croatia)	Breast cancer (newly diagnosed)	Symptoms of anxiety and depression	HAM-A and HAM-D	2 months	1. Pharma 2. PT 3. Pharma + PT 4. Control	120	56.5 (8.6)	100	N/A	N/A	Pharma dosage: N/A; PT: once a week (50 min), 8 sessions	N/A
Beutel et al. [16] Europe (Germany)	Breast cancer (curative)	Depressive disorders	HADS depression	6 months	1. STPP 2. TAU	157	51.8 (9.1)	100	Individual, face-to-face, outpatient		Once a week (50 min), maximum of 20 sessions	1. 26 2. 25
Conceição et al. [17] South America (Brazil)	Systemic lupus erythematosus	Symptoms of anxiety and depression	HADS	20 weeks	1. BGPP 2. Waitlist	80	42.4 (11.7)	100	Group, face-to-face, outpatient		Once a week (90 min), 20 sessions	1. 2 2. 2
Ludwig et al. [18] Europe (Switzerland)	Mixed solid tumors (life expectancy > 1 year)	Symptoms of anxiety and depression	HADS	4 months	1. Immediate IG 2. Delayed IG	190	53.2 (11.6)	35	Individual, face-to-face, outpatient		Once a week (50 min), 4–16 sessions	1. 38 2. 60
Roncella et al. [19] Europe (Italy)	Acute myocardial infarction	Mild and clinically relevant depression	BDI	12 months	1. Cardiac care + STEP-IN-AMI 2. Cardiac care	101	55.0 (8.5)	11	Individual and group, face-to-face		Individually tailored number of sessions (range: 3–11)	1. 5 2. 2

Note: IG = intervention group receiving a brief, two-step psychodynamic intervention; N/A = information not available; Pharma = psychopharmacotherapy; PT = psychotherapy (psychoanalytic or cognitive behavioral).

Abbreviations: BDI, beck depression inventory; BGPP, brief group psychoanalytic psychotherapy; HADS, Hospital Anxiety and Depression Scale; HAM-A, Hamilton Anxiety Rating Scale; HAM-D, Hamilton Rating Scale for Depression; STEP-IN-AMI, short-term psychotherapy in acute myocardial infarction; STPP, short-term psychodynamic psychotherapy; TAU, treatment as usual.

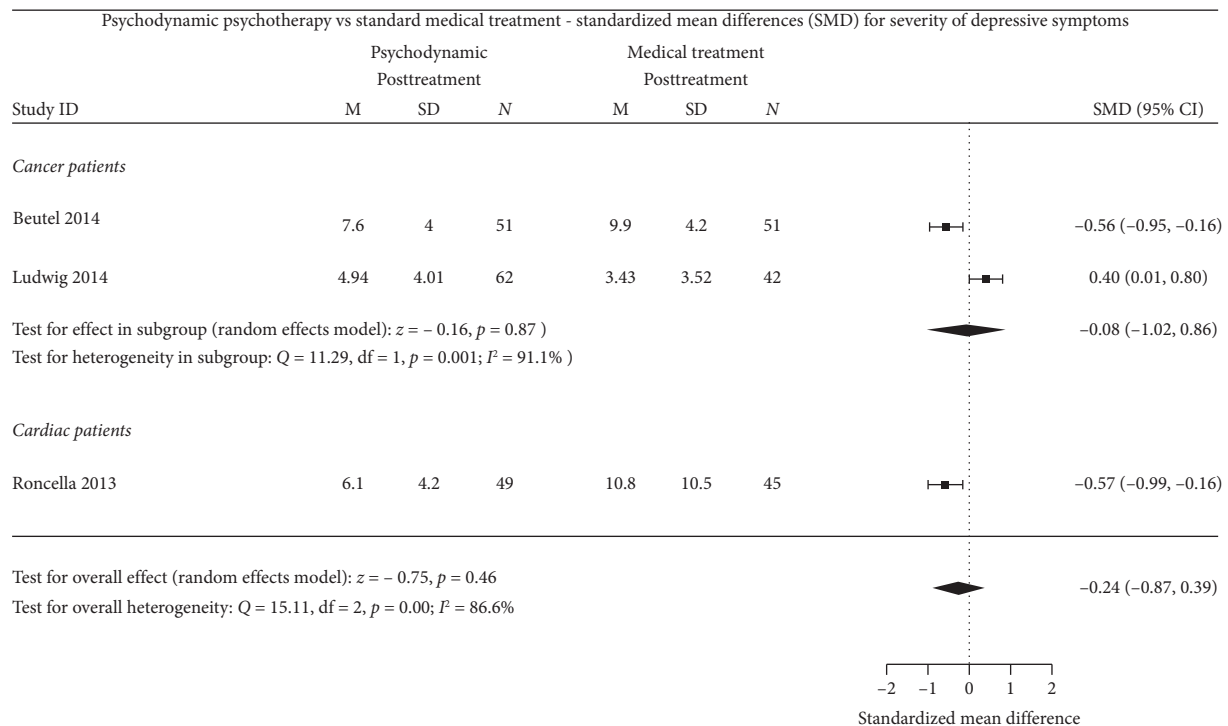


FIGURE 1: Standardized mean differences for psychodynamic psychotherapy versus standard medical care (treatment as usual, delayed intervention, cardiac care) for depressive symptoms in patients with cancer or acute myocardial infarction. Higher means indicate higher psychological distress. Negative standardized mean differences indicate a larger reduction of depressive symptoms for psychodynamic psychotherapy compared to standard care.

3.1. Primary Efficacy Outcomes. For severity of depressive symptoms, 3 studies provided continuous data at the end of treatment in a total sample of 448 patients [16, 18, 19], for which we calculated a meta-analysis (Figure 1). For the three-arm study by Ludwig et al. [18], we included the randomized comparison between the immediate intervention and delayed intervention groups. Overall, the results of the meta-analysis showed no significant differences between psychodynamic and standard medical treatment¹ for the reduction of depressive symptoms in cancer patients and those with AMI. To address the clinical heterogeneity of the primary studies (Table 1), we also calculated separate SMD for AMI and cancer patients. The subgroup analyses showed a positive treatment effect for psychodynamic psychotherapy in AMI patients but not in cancer patients. Statistical heterogeneity (Figure 1) across studies was substantial. The funnel plot (Figure S2) and Egger's test ($t = -0.58, p = 0.66$) for depression did not indicate publication bias but must be interpreted with caution due to the small number of primary studies.

For severity of anxiety symptoms, no meta-analysis was calculated as there was only one study reporting sufficient outcomes [18]. The remaining two studies [15, 17] did not report sufficient data to be included in the meta-analyses for depression or anxiety. Results for these studies are reported in the Supporting Information.

3.2. Secondary Efficacy Outcomes. Results for treatment response corresponded to the results for the primary outcomes (Figure S3). Dropout rates did not significantly differ

between psychodynamic psychotherapy and standard care, suggesting no differences in acceptability (Figure S4). We report detailed results including quality of life (Figure S5) in the Supporting Information.

3.3. Risk of Bias. The overall risk of bias judgment (Table S2) showed "some concerns" for 3 out of the 5 included RCTs, one was evaluated with low risk [16] and one with high risk [15]. Higher risk of bias ratings were mostly due to insufficient information provided by the primary studies (Table S3).

4. Discussion

The present systematic review and meta-analyses included 5 RCTs that indicate no significant differences between psychodynamic psychotherapy and control conditions for symptoms of depression posttreatment. While the meta-analysis found no statistically significant overall effects, individual studies showed potential benefits, particularly in specific populations such as early stage breast cancer and cardiac patients. The studies of Beutel et al. [16] and Roncella et al. [19] reported a moderate positive effect for depressive symptom levels among early stage breast cancer and cardiac arrest patients, respectively. The effect size for depressive symptoms was comparable to that reported for other types of psychotherapy in this population, including acceptance and commitment therapy [22], cognitive behavioral therapy [7, 9, 23], and supportive-expressive therapy [24]. These findings highlight the need for more targeted research.

The study by Ludwig et al. [18] found higher posttreatment levels of psychological distress among cancer patients receiving immediate intervention compared to those in the delayed intervention control group. As one possible explanation for this effect, the control group may have had lower distress levels at the start of the study. Similar phenomena have been observed in previous intervention studies with seriously ill individuals. They may be explained by a selective dropout of highly distressed, terminally ill patients who were randomized to the control condition [25]. The Ludwig et al. study included a relatively large subgroup of patients with advanced incurable illness (30%). Participants and study design in this study may reflect a more naturalistic setting. Similar to a stepped care approach, patients were given the opportunity to stop or continue treatment after a minimum of 4 sessions (44% of the patients chose to continue treatment for up to a maximum of 16 possible sessions). These findings stress the need for studies that investigate the feasibility of psychodynamic psychotherapy in specific subgroups to explore differential indication.

Overall, dropout rates in the present studies did not significantly differ between psychodynamic psychotherapy and control conditions suggesting their acceptability. Still, further studies need to address the following questions:

- a. Acceptable and effective intervention length, as current studies usually have 2–6 sessions and the present psychodynamic therapies up to 20 sessions [6];
- b. Adequate outcome measures that reflect the specific characteristics of this population. For example, depressive and anxiety symptoms may not be adequate outcome measures because common symptoms, such as feeling sad, empty, restless or tense, and having trouble sleeping or concentrating, may increase with prolonged illness and near the end of life [26]. In serious illness, psychodynamic psychotherapy rather aims to increase patients' capacity to contain intense emotions and their flexibility to integrate conflicting mental states than to reduce symptoms [27].

4.1. Strengths and Limitations. This systematic review and meta-analysis summarizes the current quantitative evidence in this field and follows established standards for reporting and evaluation [12, 28]. We conducted an extensive literature search including databases, trial registers, and gray literature to reduce publication bias. In addition to the small number of identified primary studies, study quality (some of the included RCTs had “some concerns” or “high risk of bias”), substantial heterogeneity across studies, and lack of follow-up data limit interpretation. Systemic and cultural differences may further significantly impact acceptability, feasibility, and treatment outcomes. Although the meta-analysis included studies from different cultural backgrounds, the impact of health system, culture, or therapist training requires further study.

5. Conclusion

In summary, the quantitative evidence on the effect of psychodynamic psychotherapy in treating depressive and

anxiety symptoms in seriously physical ill patients is limited by the small number of available studies. To improve psychotherapeutic support for highly distressed patients who struggle to cope with a serious illness, the value of psychodynamic psychotherapy needs to be studied further.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics Statement

Ethical approval is not applicable because this study is based exclusively on published literature.

Disclosure

The results were previously presented at the 24th IPOS World Congress, Milan, Italy, 2023.

Conflicts of Interest

The authors declare no conflicts of interest.

Author Contributions

Conceptualization: Rebecca Philipp, Sigrun Vehling; data curation: Rebecca Philipp, Charlotte Walbaum, Sigrun Vehling; formal analysis: Rebecca Philipp, Charlotte Walbaum, Sigrun Vehling; funding acquisition: Rebecca Philipp, Sigrun Vehling; methodology: Rebecca Philipp, Sigrun Vehling; project administration: Rebecca Philipp, Charlotte Walbaum, Sigrun Vehling; resources: Karin Oechsle, Carsten Bokemeyer, Martin Härter; software: Rebecca Philipp; supervision: Karin Oechsle, Carsten Bokemeyer, Martin Härter; writing—original draft: all authors; writing—review and editing: all authors.

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Endnotes

¹We use the term “standard medical treatment” to summarize all control conditions of included trials: treatment as usual, delayed intervention, observational group, cardiac care, and outpatient medical care.

Supporting Information

Additional supporting information can be found online in the Supporting Information section. (*Supporting Information*)

The Supporting Information includes additional tables, figures, and detailed risk of bias assessment.

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