Effectiveness of psychotherapy for adults with depression: a systematic review of the best available evidence

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Abstract

The present systematic review assessed the effectiveness of psychotherapy for adults with depression. Studies were considered in scope if they examined a recognized form of psychotherapy compared with no or minimal care, pharmacological treatment, treatment as usual, or other forms of psychotherapy. We included and summarised results from nine studies of high methodological quality. Findings from the best available evidence suggest that the depression experienced by adults of either sex can be affectively ameliorated by psychotherapeutic intervention, but no more so than by antidepressants, and no variant of psychological treatment appears to be superior to another. Additional research is warranted.

Keywords: Effectiveness, psychotherapy, depression, systematic review.

1. Introduction

Depression is about to become the leading illness in the western part of the world and depression influences most aspects of life (Mykletun et al., 2009). It is associated with increased overall mortality (Cuijpers & Smit, 2002) and it is in many cases a disabling condition: quality of life among depressed people can be as low or lower compared to people with long-lasting somatic illnesses (Bonicatto, Dew, Zaratiegui, Lorenzi & Pecina, 2001). Both depression and anxiety have been found to be indicators for disability benefits and are a great financial burden for society – in 2004 the cost in Europe was estimated at €118 billion – as well as a burden for the individual person (Sobocki, Jönsson, Angst, & Rehnberg, 2006). According to epidemiological data from Europe, prevalence for depression is estimated to be around 10% for women and 7% for men (Ayuso-Mateos et al., 2001). While frequent in the population, it is often overlooked in primary health care. This is problematic, given that the primary health care sector meets the majority of depressed patients, estimated to 80% in Norway (Mykletun et al., 2009). The options for formal treatment have, if divided into two major categories, traditionally been either pharmacological or psychological. Within these two basic options there is an array of treatment possibilities available. Some researchers (e.g., Mykletun et al., 2009) advocate that depressive disorders have a good prognosis provided the patient draws on the best treatment options. It follows that for individual patients and for society it is important to know which the most effective treatments are. Faced with this as background, we perceived a need for assessing the effectiveness of psychotherapy for depression. We specifically addressed one main question: What is the effectiveness of different types of psychotherapy on depression symptomatology and quality of life indicators for adults with depression? In
addition to summarizing effectiveness of psychotherapeutic interventions, we aimed to identify gaps and indicate future research.

2. Methods

We conducted a systematic review of the effects of psychotherapy interventions for adults with a depressive disorder in accordance with the Norwegian Knowledge Centre for the Health Services' handbook for systematic reviews (2009) and most of the guidelines in the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2008), which included a thorough search for empirical studies, screening of studies, extraction of data, and summarization and analysis of data.

Detailed database search strategies were designed and executed in October 2008, by a research librarian. We performed an update search in December 2008, through ISI Web of Science. We searched systematically for relevant literature in the six international databases: Cochrane Library, EMBASE, ISI Web of Science, MEDLINE, PsychINFO, and SweMed+. Databases were searched by an information search specialist using a strategy incorporating pre-specified subject headings (e.g., MeSH terms in MEDLINE) and text words, in title and abstract, relating to psychotherapy and depression. The search was adapted appropriately for each database. We supplemented the database search with hand searches in literature lists of included studies and eligible publications, a process that was iterated until no new references were identified.

For the search and screening processes we applied the PICO model (Sackett, Straus, Richardson, Rosenberg & Haynes, 2000), which considers four facets: Population, Intervention, Comparison, and Outcomes. The study participants were limited to adults of either sex who suffered from a depressive disorder. The intervention of interest was recognized forms of psychotherapy, but we excluded cognitive therapy, cognitive behavioural therapy (CBT), and interpersonal therapy (IPT) when assessed as the primary intervention. These were excluded because they already have been extensively evaluated (Churchill et al., 2001; Dobson, 1989) and found to be effective in treatment of depression, in fact, as effective as tricyclic antidepressants and selective serotonin reuptake inhibitors (SBU, 2004). We aimed to compare recognized forms of psychotherapy with 1) no or minimal care, 2) pharmacological treatment, e.g., Paroxetine or Mirtazapine, 3) treatment as usual (care a person would normally receive had they not been included in the research trial), e.g., standard general practitioner care. Lastly, we aimed to compare various forms of psychotherapy, such as non-directive counselling and psychodynamic therapy (PDT). With respect to outcome measures, the primary outcome was any standard measure of depression severity, which could be measured either by self-report or by an observer (e.g., BDI, HAM-D). Secondary outcome was quality of life, which could be measured by scales such as the Quality of Life in Depression Scale. Further, we formed inclusion criteria on the basis of study design, publication language, and publication year. In accordance with the hierarchy of evidence, studies acceptable for inclusion were systematic literature reviews as well as randomised controlled trials (RCTs, not already incorporated in included systematic reviews). Only publications written in English or one of the Scandinavian languages (Danish, Norwegian, Swedish) were accepted. Given our interest in new literature, studies published between 2000 and time of literature search were eligible for inclusion.

Screening of literature was carried out in a three-stage screening process whereby each level consisted of increasing scrutiny of the records based on the inclusion and exclusion criteria of the review. At each level, two reviewers independently evaluated the identified records, using a pre-developed inclusion form, they then evaluated the records jointly. The final determination to include or exclude was made together. Throughout the screening process, disagreements were solved through discussion. Following inclusion, we appraised the methodological quality of publications with appropriate check-lists. Two reviewers independently extracted data from the published sources using a pre-designed data abstraction form. We resolved any discrepancies in data extraction through discussion until consensus, prior to data entry together. Next, we summarized the results in tables and text. Due to the nature of the review's topic there was heterogeneity in the populations studied, type of interventions offered, and outcome measures reported. It was therefore methodologically inappropriate to combine most studies. Where possible, we pooled the results of similar studies. (Complete details regarding the methods are available by contacting the first author).
3. Results

The search yielded 3195 records (PRISMA flow diagram of the literature reviewing process available by contacting the first author). We evaluated 69 records in full text, and finally included and summarized results from nine studies; six systematic reviews (Abbass, Hancock, Henderson & Kisely, 2006; Bortolotti, Menchetti, Bellini, Montaguti & Beradi, 2008; Churchill et al., 2001; Cuijpers, van Straten, Andersson & van Oppen, 2008a; Leichsenring, 2001; Leichsenring & Rabung, 2008) and three randomized controlled trials (Dunn et al., 2003; Salminen et al., 2008; Simpson, Corney, Fitzgerald & Beecham, 2003), leaving 60 publications in our list of excluded studies (available by contacting the first author).

3.1. Description of included studies

The six included systematic reviews were heterogeneous in scope (Table 1). On average, the systematic reviews included 28 primary studies (range 6-63), mainly RCTs, with about 1900 participants who were adults of both sexes suffering from depression. Some of the systematic reviews also included other common mental disorders, such as phobia. In these cases, we focused on the analyses for depression. It was a limitation that the description of included populations was constrained. In general, the duration of interventions was variable, ranging from just a few to several hundred sessions. However, except for the systematic review assessing long term PDT, the mean number of treatment sessions reported in the systematic reviews was less than 20 sessions. According to Churchill and colleagues (2001) there appears to exist consensus in the professional literature that up to 20 sessions of any model of psychotherapy constitute a time-limited treatment. Most of the therapeutic frameworks presented here can therefore be considered short term psychotherapy. Various types of interventions were included in the six systematic reviews, and PDT was most commonly studied.

Table 1. Description of included systematic reviews according to PICO (n=6)

<table>
<thead>
<tr>
<th>Author, year Quality</th>
<th>Studies</th>
<th>Study Population</th>
<th>Interventions</th>
<th>Comparison</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Churchill, 2001 High</td>
<td>63 RCTs and CCTs</td>
<td>3711 adults with depression.</td>
<td>Short term psychotherapy (≤20 sessions): CBT, IPT, PDT, support therapy.</td>
<td>Treatment as usual, short-term psychotherapy.</td>
<td>Sign. greater improvement in depression score for patients receiving any form of psychotherapy.</td>
</tr>
<tr>
<td>Leichsenring, 2001 Low</td>
<td>6 RCTs</td>
<td>416 adult (most 30-40 yrs) outpatients with depression or depression and anxiety.</td>
<td>Short term PDT (16-20 sessions, 1-2 per week).</td>
<td>CBT, behavioural therapy.</td>
<td>No sign. differences in 58 of 60 comparisons regarding depressive symptoms, general psychiatric symptomatology, social functioning.</td>
</tr>
<tr>
<td>Abbass, 2006 High</td>
<td>23 RCTs</td>
<td>1431 adults (&gt;17 years) with common mental disorders.</td>
<td>Short term PDT (≤40 weeks). The studies had a mean of 15 (SD 8.9) sessions.</td>
<td>No treatment control, minimal treatment.</td>
<td>Sign. greater improvement in depression severity for depressed patients receiving short term PDT in the short term (&lt; 3 mo), but not medium (3-9 mo) or long (&gt;9 mo) term.</td>
</tr>
<tr>
<td>Bortolotti, 2008 High</td>
<td>10 RCTs</td>
<td>1736 adult outpatients with depression or depression and anxiety.</td>
<td>Short term psychotherapy (6-16 sessions): CBT, CT, IPT, PDT, stess management, nondirective counselling, counselling.</td>
<td>Usual GP care, antidepressant medication.</td>
<td>Sign. greater improvement in depression score from short term psychotherapy than usual GP care in the short term (&lt;6 mo) and long term (&gt;9 mo). No sign. differences between short term psychotherapy and antidepressants.</td>
</tr>
<tr>
<td>Cuijpers, 2008 Moderate</td>
<td>53 RCTs</td>
<td>2757 adults with mild to moderate depression.</td>
<td>Short term psychotherapy (4-20 sessions): CBT, IPT, PDT, support therapy, nondirective supportive treatment, social skills training, behavioural activation therapy.</td>
<td>Short-term psychotherapy.</td>
<td>No sign. differences between the various psychotherapy treatments, except IPT was somewhat more efficacious and nondirective supportive treatment was somewhat less efficacious than the other treatments.</td>
</tr>
<tr>
<td>Leichsenring, 2008 High observational studies</td>
<td>23 RCTs</td>
<td>1310 adults (≥18 years) with common mental disorders.</td>
<td>Long term PDT (≥1 year duration or &gt;50 sessions).</td>
<td>Shorter forms of psychotherapy.</td>
<td>Sign. greater improvement from long term PDT overall, in target problems, and personality functioning.</td>
</tr>
</tbody>
</table>

Abbreviations: CBT= Cognitive behavioral therapy; CCT= Controlled Clinical Trial; CT= Cognitive therapy; GP= General practitioner; IPT= interpersoanl therapy; mo.= months; PDT= psychodynamic therapy; RCT= Randomized Controlled Trial; Sign.= Significant/.
Table 2. Description of included RCTs according to PICO (n=3)

<table>
<thead>
<tr>
<th>Author, year</th>
<th>Quality</th>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunn, 2003</td>
<td>High</td>
<td>427 patients with depression, 18-65 years, from 9 study centres in Europe: Finland, Ireland, Norway, Spain, UK.</td>
<td>Psychotherapy (problem solving of 6 sessions or prevention education of 8 group sessions).</td>
<td>No treatment.</td>
<td>Sign. greater improvement in depression score from psychotherapy than no treatment in the short term (6 mo), but no differences in the long term (12 mo).</td>
</tr>
<tr>
<td>Simpson, 2003</td>
<td>High</td>
<td>130 patients with depression or depression and anxiety, 18-70 years, from England.</td>
<td>PDT (1-16 sessions).</td>
<td>Usual GP care.</td>
<td>No sign. differences in depression score between PDT and usual GP care.</td>
</tr>
<tr>
<td>Salminen, 2008</td>
<td>High</td>
<td>51 patients with depression, 20-60 years, from Finland.</td>
<td>Short term PDT (16 sessions, 1 per week).</td>
<td>Antidepressant medication (Fluoxetine 20-40 mg/day for 16 weeks).</td>
<td>No sign. differences in depression score or social adjustment between PDT and antidepressant medication.</td>
</tr>
</tbody>
</table>

Abbreviations: GP= General practitioner; mo.= months; PDT= psychodynamic therapy; RCT= Randomized Controlled Trial; Sign.= Significantly.

3.2. Effects of interventions

In this section we provide details of the effectiveness of models of psychological interventions compared to no or minimal care, pharmacological treatment, treatment as usual, and other forms of psychological interventions on depression severity and quality of life for adults with depression. First, none of the included systematic reviews compared psychotherapy to no treatment. One included RCT (Dunn et al., 2003) concluded that there was greater improvement in depression score from psychotherapy than no treatment after half a year, but the superiority of psychotherapy did not persist at one year follow up (data not provided).

One systematic review (Bortolotti et al., 2008) examined the effectiveness of psychological intervention compared to antidepressant medication. The researchers found no significant differences between the two conditions in the short term (SMD= 0.03, 95% CI= -0.21, 0.26) or long term (SMD= 0.04, 95% CI= -0.23, 0.31). Similarly, the RCT by Salminen and colleagues (2008) found no significant differences between PDT and antidepressant medication at four months follow up (F= 0.59, d.f.= 1, 38, p= 0.45). We note that the main effect for time showed patients significantly improved on both depression and social adjustment from pre treatment to post treatment, under both conditions.

Two systematic reviews examined the effectiveness of psychological intervention compared to treatment as usual. Short term results from the HTA report (Churchill et al., 2001) showed that patients receiving psychotherapy reported significantly fewer depressive symptoms compared to both treatment as usual and waiting list (OR= 3.01, 95% CI= 2.37, 3.99). Results were in favour of psychotherapy both at three months follow up (SMD= -0.63, 95% CI= -1.06, -0.20) and 6-9 months follow up (SMD= -0.56, 95% CI= -0.83, -0.28). Bortolotti and colleagues’ (2008) analyses of six studies supported these results. Patients receiving psychotherapy had significantly fewer depressive symptoms than those who received guidance from a general practitioner at short term follow up (SMD= -0.42, 95% CI= -0.59, -0.26) as well as at six months follow up (SMD= -0.30, 95% CI= -0.45, -0.14). Our pooled effect estimate of these two studies showed a robust effect in favour of psychotherapy over treatment as usual (F= 66.3, p< 0.005). Of note, the Cochrane Collaboration report (Abbass et al., 2006) had no or minimal care as overall comparison, but in their pooled results of two studies with depressed patients one study compared psychotherapy with treatment as usual and one short term PDT plus pharmacotherapy with pharmacotherapy only. Significant differences between the groups were detected at 1-3 months follow up in favour of psychotherapy (SMD= -0.61, 95% CI= -0.86, -0.36) but not at 3-9 months (SMD= -0.16, 95% CI= -0.58, 0.26) or at more than 9 months follow up (SMD= 0.04, 95% CI= -0.38, 0.46). The RCT by Simpson and colleagues (2003) showed there were no significant differences between PDT and general practitioner care (p> 0.05) in depression symptoms or social functioning, at short term or long term follow up.

The results of comparisons of various forms of psychological interventions were multidirectional. One systematic review (Churchill et al., 2001) included 16 individual trials which compared the effectiveness of various forms of psychotherapy (IPT, PDT, support therapy) to variants of cognitive therapy (cognitive therapy, behavioural therapy, CBT). Of these, six trials reported a significant effect in favour of variants of cognitive therapy, and the meta-analysis pooling the data from all 16 studies was significant in favour of recovery with variants of cognitive therapy (RR= 1.49, 95% CI= 1.11, 2.00). In contrast, another systematic review (Cuipers et al., 2008a) detected no significant differences between CBT and other forms of psychotherapy (behavioural activation therapy 95% CI= -0.29, 0.13; IPT 95% CI= -0.33, 0.09; nondirective supportive therapy 95% CI= -0.08, 0.18; PDT 95% CI= -0.08,
0.38). With respect to PDT, not only were there no differences detected between PDT and CBT, there were also no differences detected between PDT and other forms of psychotherapy at 1-3 months follow up (95% CI= -0.60, 0.26) or 4-6 months follow up (95% CI= -0.62, 0.28). The meta-regression revealed the effect sizes were unrelated to time since end of treatment. Similarly, the HTA report (Churchill et al., 2001) found no significant differences between PDT and supportive therapy for depression (OR= 0.83, 95% CI= 0.33, 2.09), and 28 of 29 analyses from the systematic review by Leichsenring (2001) showed no significant differences between short term PDT and CBT or behavioural therapy. Concerning the effectiveness of long term PDT (mean treatment duration= 53 weeks) compared to forms of short term psychotherapy (mean treatment duration= 39 weeks), one systematic review (Leichsenring & Rabung, 2008) found that for patients suffering from complex depression long term PDT yielded significantly larger effect sizes. They improved to a greater extent overall (95% CI= 0.74, 1.51), in general psychiatric symptoms (95% CI= 0.70, 1.34), in target problems (95% CI= 0.87, 2.77), and social functioning (95% CI= 0.73, 1.31). Lastly, the two RCTs by Salminen and colleagues (2008) and Simpson and colleagues (2003) specifically assessed the effectiveness of PDT compared to other treatments for adults suffering from depression. According to their results, there were neither significant differences between PDT and general practitioner care (p> 0.05) nor PDT and pharmacotherapy (p= 0.45) in depression symptoms or social functioning, at short term or long term follow up. However, irrespective of treatment (PDT, general practitioner care, or pharmacotherapy) from pre treatment to post treatment patients significantly improved in terms of both depression and social functioning.

4. Discussion

In our comparisons of models of psychological interventions versus no or minimal care, pharmacological treatment, treatment as usual, and other forms of psychological interventions several findings are noteworthy. Among the included studies, only one RCT specifically compared psychotherapy to minimal or no treatment, concluding that psychotherapy yielded greater improvements in depression symptomatology in the short term but not long term. While results from this RCT are informative, the question of effectiveness of psychotherapy over no treatment remains open and this gap in the literature should be addressed. Researchers (e.g., Goldberg & Goodyer, 2005) speculate that improvement may occur in the absence of treatment, and results have shown that 20% of patients recover at the end of treatment due to course effects, i.e., spontaneous improvement without intervention (McLean & Anderson, 1998). Effectiveness of treatment versus no treatment should also be viewed in light of time to resolution of symptoms and likelihood of recurrent depression.

With respect to the effectiveness of psychological intervention compared to antidepressant medication robust results suggested there are no significant differences in depression symptomatology or social functioning between these forms of active treatment. Rather, patients improve irrespective of treatment form and effects are sustained over time. This result stands in opposition to evidence from the USA (Blatt, Sanislow, Zuroff & Pilkonis, 1996) and should be investigated in future studies. On the other hand, the result is in line with a recent meta-analysis of 30 comparable studies examining the effectiveness of psychological versus pharmacologic interventions (Cuijpers, van Straten, van Oppen & Andersson, 2008b). The researchers concluded that both forms of treatment are effective, and each has its own merits. Further, there is some evidence indicating that antidepressant medication in combination with psychological intervention compared to antidepressant medication alone is associated with higher improvement rate (Abbass et al., 2006; Pampallona, Bollini, Tibaldi, Kupelnick & Munizza, 2004). Additional studies are needed to investigate the potentially added benefits of combination therapies. A potential effectiveness of certain combination treatments may depend on the particular depressive diagnosis. It is illustrative that one review concluded that IPT in combination with antidepressants was no more effective than medication alone (de Mello, de Jesus, Bacaltchuk, Verdeli & Neugebauer, 2005) and another that combined treatment improved response with selected patients (Hollon et al., 2005).

We assessed the effectiveness of psychological intervention compared to treatment as usual. According to analyses, patients receiving psychotherapy were three times more likely to experience fewer symptoms of depression up to nine months post treatment compared to those receiving general practitioner care or other treatment as usual. Also our pooled effect estimate was robust in favour of psychotherapy. That superior recovery rates were found from psychological interventions compared to usual general practitioner care suggests that a model to improve depression that rests on care by general practitioner should not be adopted by health care systems.
The most frequent comparison in the included studies was that of various forms of psychological interventions. With the exception of one systematic review showing greater effectiveness from variants of cognitive therapy than IPT, PDT, and support therapy, there were few indications that one of the variants of psychotherapy is more or less efficacious than the others. Instead, it appeared that most patients will likely improve from psychotherapy treatment, irrespective of psychotherapy technique applied. To assert from this result that all forms of psychotherapies are equally effective in treating depression in all groups of depressed patients is premature. For example, we do not know which forms of psychotherapy lead to the greatest improvement in which diagnostic group. However, our finding may point to the fact that common beneficial ingredients in these therapies are more important than specific theoretical orientation and unique ingredients in producing changes (Wampold et al., 1997). Notably, whether or not the treatment is intended to be therapeutic ("bona fide") is likely a determining factor in questions of effectiveness. Researchers (e.g., Wampold et al., 1997) state that therapies not guided by a coherent theoretical structure lack the very foundation of therapy. A 2002 review (Wampold, Minami, Baskin & Tierney, 2002) found that effectiveness was greater with psychotherapies characterized by a clear therapeutic focus compared to those not having such a focus. There is a need for literature which examines the mechanisms through which the effectiveness of different psychological treatments is realized. Nonetheless, given our results show that patients receiving any variant of psychological or pharmacological treatment significantly improved to a degree where they were no longer considered clinically depressed or they experienced significantly fewer symptoms post treatment compared to baseline, such treatments should be first-line depression management. It would likely impact not only functional impairment, but likely also decrease health care utilization. Studies (Donohue & Pincus, 2007) have found that effective treatment of depression is cost effective.

This systematic review has several major strengths. First, it was conducted according to most of the Cochrane Collaboration standards. We performed systematic and comprehensive literature searches for relevant studies, applied the hierarchy of evidence, conducted assessment of the validity of the findings of the included studies, and systematically synthesized the findings of selected studies. Our review also has some limitations. We assessed depression in general, without explicit distinction between degrees of anhedonia or single versus recurring episodes of depression. We restricted eligible literature to the last decade and to English and Scandinavian languages. Due to heterogeneity of included literature, our analyses were semi-quantitative, and the results must be viewed as tentative. Despite these limitations, the obtained findings about the effectiveness of psychotherapy for depression deserve consideration, and future studies to investigate and clarify the effectiveness of psychotherapy for the treatment of depression are warranted.

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References


