Abstract and Introduction

Abstract

Purpose of review Much has been learned from the 400 randomized trials on psychotherapies for adult depression that have been conducted, but much is also still unknown. In this study some recent attempts to further reduce the disease burden of depression through psychotherapies are reviewed.

Recent findings In the past, many new psychotherapies have promised to be more effective than existing treatments, usually without success. We describe recent research on two new therapies, acceptance and commitment therapy and cognitive bias modification, and conclude that both have also not shown to be more effective than existing therapies. A growing number of studies have also focused on therapies that may be successful in further reducing the disease burden, such as treatments for chronic depression and relapse prevention. Other studies are aimed at scaling up psychological services, such as the training of lay health counselors in low-income and middle-income countries, telephone-based, and internet-based therapies.

Summary Psychotherapies are essential tools in the treatment of adult depression. Randomized trials have shown that these treatments are effective, and by focusing on key issues, such as chronic depression, relapse, and scaling them up, psychotherapies contribute more and more to the reduction of the disease burden of depression.

Introduction

In the past four decades, 400 randomized controlled trials have examined the effects of psychotherapies for adult depression[1] Psychotherapies, and especially cognitive behavior therapy (CBT), interpersonal psychotherapy (IPT), and behavioral activation therapy (BAT), have become major treatment options for depressive disorders, and are included in most guidelines as first-line treatments.[2,3] What have we learned from these 400 trials? And what are the most important recent trends and developments in this field of effectiveness research? In this study, I will focus on these two questions.

What Have We Learned From Research on Psychotherapies for Adult Depression?

The 400 randomized controlled trials examining psychotherapies for adult depression that have been conducted since the 1970s have shown that several types of psychotherapy are effective in the treatment of depression, including CBT,[4,5] IPT,[6] BAT,[7] problem-solving therapy (PST),[8-9] nondirective counseling,[10] and possibly psychodynamic psychotherapy.[11] These studies have also shown that these therapies are equally or about equally effective in the short term[12] that they are about equally effective as antidepressant medication in the short term, and that the combination of psychotherapy and antidepressants is significantly more effective than either of them alone.[13-15] Psychotherapy without continuation treatment has an enduring effect following termination of the acute treatment, that is still significant 1 year after randomization,[16] and that is at least as effective as continued treatment with antidepressant medication.[17]

Most studies on psychotherapy for depression have focused on adults in general, but there are also several dozens of studies showing that these psychotherapies are equally effective or about equally effective in older adults,[18] in women with postpartum depression,[19] and in depressed patients with a comorbid somatic disorder, such as heart disease or cancer.[20] The effects of psychotherapies in depressed inpatients are somewhat smaller than in outpatients.[21] They are also smaller in patients with chronic depression and dysthymia, and in these patients psychotherapies are probably less effective than pharmacotherapy.[22] The effects of psychotherapies are also modest in depressed patients with comorbid alcohol problems, although they are still significant and also have some effects on the alcohol problems.[23] Psychotherapies are effective in the treatment of patients with subclinical depression, who do not meet full criteria for a major depressive disorder but do have clinically relevant depressive symptoms, and in these patients psychotherapy may prevent the onset of major depression at follow-up.[24] There is no evidence that psychotherapies are less effective in severe depression,[25] or in ethnic minority groups.[26] The increasing number of trials in non-Western countries shows that psychotherapies are also effective in these countries.

Individual psychotherapy may be somewhat more effective than group psychotherapy, but the quality of this research is insufficient and it is not clear if this difference is clinically meaningful.[27] There are no indications that guided self-help and supported internet-based treatments are less effective than face-to-face treatments.[28-29] If the intervention is not supported by a coach or therapist, the effects are, however, considerably smaller.[30] There are no indications that therapies with more sessions result in larger effects.[31]
By far the majority of studies have examined the effects of CBT and to a lesser extent IPT and BAT. Although there are no indications that other psychotherapies are less effective than these treatments, these therapies are well supported by evidence and should be included in treatment guidelines. Unfortunately, the effects of psychotherapies have probably been overestimated because of publication bias and the low quality of many studies in this field.

In Fig. 1, the 400 randomized trials on psychotherapy identified through systematic searches are presented in 5-year intervals. In the 1970s and 1980s, most of this research was conducted in the United States. Since the second half of the 1990s, the number of trials in Europe has increased considerably and since 2010 more trials have been conducted in Europe than in North America. Since 2000, an increasing number of trials have also been conducted in non-Western countries. The total number of trials has increased sharply since the 1990s (note that the last interval is from 2011 to 2013, covering only 3 years).

Recent Trends and Developments: New Therapies

Since the first trials were conducted in the 1970s, every few years ‘new’ psychotherapies are discovered. These new therapies claim that they are more effective than the ‘old’ or ‘traditional’ therapies. This has resulted in dozens of different types of psychotherapies. In the field of depression, however, there are no indications whatsoever that such new therapies are more effective than longer existing therapies. Meta-analyses of studies directly comparing different psychotherapies consistently show that there are no or only small differences between therapies. If a new therapy claims to be more effective than existing therapies, it should be assumed that the difference between the new and the existing therapies is small. In order to find this, large sample sizes are needed. For example, the largest difference between two therapies for depression has been found to be a small (effect size $d = 0.20$). If a trial is designed to show that a new therapy is more effective than existing ones, and the expected differential effect size is $d = 0.20$, this trial needs to have 491 patients in each condition (power calculation in STATA with the ‘sampsi’ command, with a drop-out of 20%, alpha of 0.05, and statistical power of 0.80). No such trial has ever been conducted. As a comparison: the National Institute of Mental Health (NIMH) Treatment of Depression Collaborative Research programme, one of the largest randomized trials in the field, included ‘only’ 250 patients divided over four conditions. From this perspective, it does not seem very useful to develop new psychotherapies for depression. There are already many different kinds of psychotherapies,
there is no evidence that one type is considerably more effective than others, and it is very difficult to show such differences in trials with sufficient statistical power.

One such newly developed therapy claiming to be better than existing therapies is acceptance and commitment therapy (ACT). Despite bold claims that ACT belongs to a whole new ‘generation’ or ‘third wave’ of therapies, there are no indications that ACT is more effective than other therapies in the treatment of depression. Although there are some older very small trials comparing ACT with CBT,[37,38] there are no large recent trials comparing ACT with other therapies. There are a few more recent studies showing that ACT is effective in the treatment of adult depression,[39–41] but there is no evidence that ACT is significantly more effective than other treatments in depression.[42]

Another recent ‘new kid on the block’ is cognitive bias modification (CBM). Where other psychotherapies use traditional ‘talking’ methods, CBM aims to directly manipulate a cognitive bias by extended exposure to task contingencies that favor predetermined patterns of processing selectivity.[43] If CBM is indeed effective, it could not only be an alternative for traditional ‘talking’ therapies, it could also enhance the effects of these therapies. A recent meta-analysis of trials examining CBM identified several dozens of trials, including several ones on depression.[44] The quality of the studies in this field is suboptimal, and the overall effects found for CBM is small. Furthermore, much of the effects of these interventions are driven by a few outliers with very high effect sizes, and is reduced to small or nonsignificant effect sizes when outliers are removed, when the results are adjusted for (possible) publication bias, and when the results are adjusted for the quality of the studies. It is questionable, therefore, whether CBM really results in clinically relevant effects that add to existing therapies for adult depression.

So, the field keeps on developing new therapies, which probably are not better than existing therapies, at least not in the field of depression. And the therapies that have been developed in recent years are probably not better than existing therapies, just as earlier generations of ‘new’ therapies that promised to be better were not found to be better in rigorous effect research.

The Need for Better Treatments of Depression

New psychotherapies for the acute treatment of depression should not be expected to contribute very much to the reduction of disease burden of depression. The need for a further reduction of this disease burden is, however, very high. Depression is currently ranked fourth worldwide in terms of disease burden, and is expected to rank first in high-income countries by the year 2030.[45] And although current treatments are considered to be effective, there is also much room for improvement. Modeling studies have shown that pharmaceutical and psychological treatments together can reduce the disease burden of depression by only about 33%.[46] More than 40% of the patients do not or only partially respond to treatment and less than one-third of the patients are completely recovered after treatment.[47] Furthermore, relapse rates are estimated to be 50% after 2 years and up to 85% within 15 years after recovery from an initial episode.[48]

It is, therefore, very important to improve the outcomes of treatment. One important way to improve outcomes and reduce the disease burden is by focusing on treatments of chronic and treatment-resistant depression, and on preventing relapse.

Overall, the number of trials that have focused on psychotherapies for chronic depression in the last decades is relatively small.[22] Recently, however, the interest in this subject is increasing and several recent trials have focused on new therapies for chronic depression, including schema therapy,[49] body psychotherapy,[50] and group person-based cognitive therapy.[51] Several other trials have focused on psychotherapies that had already been examined in earlier trials, such as cognitive behavioral analysis system of psychotherapy (CBASP),[52–54] and IPT.[52,55] These trials find increasing evidence that chronic depression can be treated successfully in many cases with psychotherapies that are specifically designed for this population.

Several other recent trials have focused on subjects that are also key to a further reduction of the disease burden of depression, such as the Cognitive Behavioural Therapy for Depression (CoBaIT) trial in the United Kingdom,[56] that showed that augmentation of antidepressant medication with CBT is effective as a next-step for patients whose depression has not responded to pharmacotherapy. Other trials have provided further evidence that relapse can be effectively prevented with CBT,[57] especially in patients with a higher number of previous episodes.[58]

Scaling up Psychotherapy Services by Simplifying Treatments

Another important way to further reduce the disease burden of depression is to develop methods for applying psychological treatments in a simpler and more efficient way. This is important because psychotherapies have not been scaled up to the extent that they may help reduce the disease burden of mental disorders.[59,60] Even in high-income countries, less than half of people with depressive disorders receive treatment, and this is much lower in low-income and middle-income countries, but also in older adults, people with lower socioeconomic status, and people from ethnic minorities.

One recent development is to train lay health counselors to deliver psychological therapies.[61] This is especially interesting in low-income and middle-income countries who want to build an infrastructure for mental healthcare where fully trained therapists are not available. This ‘task shifting’ model has been found useful in other areas of healthcare to alleviate shortages in specialist
health human resources\textsuperscript{[62,63]} and has now been found to be helpful in mental healthcare as well. A large randomized trial in India showed that trained lay health counselors can deliver psychological therapies effectively.\textsuperscript{[61]}

The most dominant format in which psychotherapies are delivered is via individual face-to-face contact. This format is, however, expensive and time consuming, compared with other formats. For example, a large recent randomized trial among depressed primary care patients showed that CBT provided over the telephone resulted in lower attrition and close to equivalent improvement in depression at posttreatment.\textsuperscript{[64]}

Another treatment format that has received increasing attention in recent years is guided self-help that is implemented on a broad scale in the United Kingdom in the 'increasing access to psychological therapies' programme.\textsuperscript{[65]} These treatments have been found to be effective in the treatment of depression, with comparable effect sizes as face-to-face therapies, while needing fewer resources.\textsuperscript{[28,29]}

A specific type of guided self-help is internet-based therapy. In the last decade, a considerable number of randomized trials have shown that these therapies are effective in the treatment of depression. A recent trial directly comparing internet-based with face-to-face CBT for depression, once again found no significant difference between these two types of therapy.\textsuperscript{[66]} This is in line with a recent meta-analysis in which CBT for any problem was directly compared with internet-based treatment and in which no difference was found.\textsuperscript{[20]}

The effects of internet-based therapy are comparable to those of face-to-face psychotherapies, but only when there is some kind of support by a trained professional.\textsuperscript{[67,68]} When internet-based therapies are self-guided, without any professional support, the effects are much smaller and most participants do not finish therapy.\textsuperscript{[30]} An increasing number of studies is aimed at examining possibilities to improve outcome and adherence in self-guided internet-based therapy,\textsuperscript{[69,70]} and the hope is that eventually such programmes are sophisticated enough to be as effective as guided internet-based therapies and face-to-face treatments.

Innovative applications such as mobile apps\textsuperscript{[71]} and real-time monitoring of mood and behavior (ecological momentary assessment)\textsuperscript{[72]} may have the promise to realize that, but future research will show whether this will succeed or not.

**Conclusion**

In this study we saw that after four decades and 400 randomized trials on psychotherapies for adult depression, much has been learned about the effects of these therapies, their comparative effects and combination with pharmacotherapy, for the target groups in which they are effective and the relation of specific components of the therapies and their effects. We also saw that the quality of many of these trials is a source of concern, as well as publication bias. Although many 'new' treatments promised to be more effective than existing therapies in these four decades, no evidence has been found that this is indeed the case, and this approach of developing new therapies for depression will probably not lead to a further reduction of the disease burden of depression. Fortunately, a growing number of studies have also focused on therapies that may help in further reducing the disease burden, such as treatments for chronic depression and relapse prevention. The growing number of studies aimed at scaling up psychological services may also be helpful in further reducing the disease burden, such as the training of lay health counselors in low-income and middle-income countries, telephone-based psychotherapies, and internet-based therapies.

Psychotherapies are essential tools in the treatment of adult depression. Randomized trials have shown that these treatments are effective, and by focusing on key issues, such as chronic and treatment-resistant depression, on relapse, and on scaling them up, psychotherapies contribute more and more to the reduction of the disease burden of depression.

**Sidebar**

**Key Points**

- In the past four decades, 400 randomized trials have examined the effects of psychotherapies for adult depression.
- Although new therapies are continuously being developed, all therapies are equally effective in the treatment of depression.
- There is also no evidence that recently developed new treatments, such as acceptance and commitment therapy and cognitive bias modification, are more effective than existing treatments.
- More progress is made in chronic depression and relapse wherein evidence is increasing that psychotherapies are indeed effective.
- A growing number of studies are aimed at scaling up psychological services, such as the training of lay health counselors in low-income and middle-income countries, telephone-based psychotherapies, and internet-based therapies.

**References**

of randomized studies. BMC Psychiatry 2008; 8:36.


*CBT is by far the best examined psychotherapy for adult depression. This metaanalysis shows that it is effective in the treatment of depression, but it also shows that the effects are probably overestimated because of the low quality of many studies and publication bias.


* This meta-analysis of studies directly compares CBT and antidepressant medication, and reports longer term outcomes. It shows that CBT (without continuation therapy during follow-up) is more effective at 1-year follow-up than antidepressant medication when that medication is stopped at some point during follow-up. It also shows that CBT (without continuation) and medication (continued during followup) are at least equally effective at 1-year follow-up.


* This is a meta-analysis of studies directly comparing Internet-based and face-to-face therapies, and although it includes interventions aimed at many different problem areas, the results seem to suggest that treatment format is not related to the outcomes.


39. Bohlmeijer ET, Fledderus M, Rokx TAJJ, Pieterse ME. Efficacy of an early intervention based on acceptance and commitment therapy for adults with depressive symptomatology: evaluation in a randomized controlled trial. Behav Res


* This is a critical meta-analysis of trials examining CBM. This field is driven by a few studies, probably outliers, that drive overall effects, whereas many studies show only small effects.


** This is an important meta-analysis of trials examining the effects of treatments of persistent depressive disorders. It gives a good overview of these treatments, as well as indications which of these work best.


** This reports about the CoBalT trial in the United Kingdom, a large, well conducted randomized controlled trial showing that augmentation of antidepressant medication with CBT is effective as a next-step for patients whose depression has not responded to pharmacotherapy.

Jarrett RB, Minhajuddin A, Gershenfeld H, et al. Preventing depressive relapse and recurrence in higher-risk cognitive
therapy responders: a randomized trial of continuation phase cognitive therapy, fluoxetine, or matched pill placebo. JAMA Psychiatry 2013; 70:1152–1160.


** This is a randomized trial directly comparing internet-based and face-to-face therapy for depression, finding no significant difference between the two. This once more confirms that treatments for depression can be applied effectively through the internet.


Acknowledgements

None.

Financial support and sponsorship

None.