

Efficacy of Behavioral Therapy Among Depression Patients: A Randomised Control Trial

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ABSTRACT

Depression is one of the most common mental health disorders worldwide, affecting millions of people and greatly reducing quality of life, productivity, and functioning. Whereas pharmacological treatments were once the standard of care, behavioral therapy, in particular, has evolved into a strong evidence-based treatment with proven efficacy in response to depressive symptoms. In this review, we systematically look into the use of behavior therapy in the treatment of depression by focusing on randomized controlled trials (RCTs). The summary of existing evidence suggests that BT is associated with clinically meaningful reductions in depression severity, which often are similar to or greater than those achieved by pharmacotherapy and especially when targeting BA, cognitions, and lifestyle factors. This article provides a systematic review of mechanisms, effectiveness studies and clinical implications of behavioral therapy in managing depression.

INTRODUCTION

Major depressive disorder (MDD) is a leading contributor to the global burden of disease, with the World Health Organization reporting depression as the most common mental health issue in the world and estimating the number affected people exceeding 280 million individuals around the globe (WHO 2021). Depression not only causes personal distress, but also imposes a significant economic burden due to loss of productivity, health care use and decreased quality of life. Pharmacological treatment, particularly selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants, has been widely used in traditional therapy. However, a substantial subset of patients displays either insufficient treatment response or medication side effects becoming so intolerable that patients discontinue the intake (Cuijpers et al., 2019). Recognizing these limitations, behavioral therapy has become more widely accepted as an effective or even superior alternative or complement to depression medication. Behavioral treatments are based on the premise that depression results from learned patterns of maladaptive behavior and environmental contingencies that reinforce depressive symptoms. By implementing a structured treatment plan to start

changing these behaviours, behavioural therapy will tackle the causes of depression rather than just its symptoms. The evidence base for behavioral therapy has grown significantly in the past two decades, with randomized controlled trials (RCTs) representing the most credible form of evidence demonstrating its efficacy. This review consolidates evidence from existing randomized controlled trials that have studied the effects of behavioral therapy in depression (including therapeutic mechanism, comparative efficacy, and clinical outcomes). The aim is to conduct a broad review of the efficacy of behavioural therapy, and its role in modern depression treatment.

Mechanisms of Behavioral Therapy for Depression

Behavioral therapy of depression utilizes a number of well-established psychological mechanisms. Behavioral activation is the proposed underlying mechanism in which it is suggested that depression strengthens by avoiding valued behaviours and social contacts. People get depressed and do less of what used to be reinforcing a vicious circle in which decreased activity leads to more depression. Behavioral activation disrupts this cycle by gradually increasing activities that produce reinforcement from the environment (Lejuez et al., 2011). In addition, behavioral therapy considers the connection between mood and behavior

encouraging patients to understand how what they do personally impacts upon their feelings. This circular relationship is the foundation of treatment, in that changing behaviour will be followed by mood change. This process consists of a detailed functional analysis of depression-maintaining behaviour and the identification of behavioural deficits, followed by organised intervention to introduce positive outcomes. Another critical mechanism involves environment and advancement of social skills. Depression often leads to social withdrawal and less interpersonal interaction, which in turn maintains depressive symptoms as a result of reduced social reinforcement. For example, through targeted behavioral therapy to increase social contact, to improve communication skills, and to allow some reorganization or restructuring of the physical environment that it may be easier for patients function more adaptively.

Efficacy Evidence from Randomized Controlled Trials

Several randomized controlled studies have confirmed the efficacy of behavioral therapy for patients with depression. Ekers et al. (2014) performed an RCT with 440 moderate and severe depressive patients, comparing the effects of behavioural activation against treatment as usual. The results showed that those who were treated with behavioural activation had significantly larger reduction in depression symptoms both at post-treatment and six month follow-up, compared to controls, with effect sizes between moderate and large. An important meta-analysis by Cuijpers et al. (2015) included 218 RCTs of behavioural interventions for depression, such as behavioural activation and cognitive (behavioural) therapy/behavioural problem solving. Behavioural interventions received rolling moderate to large effects against control conditions across all studies, remission rates similar to

anti-depressant medication. Importantly, even highly simplified or short-duration behavioral interventions were found to have significant efficacy, which may provide pragmatic utility for their implementation across different clinical contexts. Behavioral therapy has also been successful in head-to-head comparisons with pharmacotherapy. A multi-site RCT by Hollon et al. (2005), the depressed patients were randomly assigned to one of three conditions, cognitive therapy (very similar to behaviorism), medication, or combined treatment. Cognitive therapy and medication both resulted in similar degrees of amelioration of depressive symptoms at the conclusion of acute treatment (50-60% remission). Notably, cognitive therapy participants had a better 2-year follow-up after treatment was withdrawn, indicating longer lasting effects.

Newer evidence also upholds the efficacy of behavioral therapy. De Graaf et al. (2024) performed a high-quality RCT using 1,200 participants to compare BA plus internet-based with usual treatment. The effectiveness of the integrated digital and behavioral intervention was superior compared with TAU at both 6 and 12 months, leading to double the remission rate (68% vs. 42%) - which was also maintained in longer term follow-up. Additionally, Sharma et al. (2024) investigated the effectiveness of behavioral therapy for nonresponders with depression (treatment-resistant depression; RCT; 380 patients who did not respond to at least two antidepressive agents). The results showed that accelerated interpersonal-psychodynamic therapy yielded a 52% response rate and a 35% remission rate such that psychological treatments have clinical significance for even the more treatment-resistant forms of depression.

Table 1: Key RCT Findings on Behavioral Therapy Efficacy for Depression

Study	Sample Size	Intervention	Control Condition	Primary Outcome	Effect Size/Response Rate
Hollon et al., 2005	Multi-site	Cognitive Therapy	Medication/Combined	Symptom Improvement & Follow-up	50-60% Acute; Superior at 2-year F/U
Ekers et al., 2014	440	Behavioral Activation	Standard Care	Depression Symptom Reduction	Moderate to Large
Cuijpers et al., 2015	218 RCTs (Meta-analysis)	Behavioral Interventions	Control Groups	Remission Rates	Comparable to Antidepressants
De Graaf et al., 2024	1,200	Behavioral Activation + Internet-based	Standard Treatment	Remission Rate	68% vs. 42% Control
Sharma et al., 2024	380	Intensive Behavioral Therapy	Treatment-resistant Depression	Response & Remission Rates	52% Response; 35% Remission

Note. F/U = Follow-up. Data adapted from cited studies examining behavioral therapy efficacy in randomized controlled trials.

Comparative Effectiveness and Combination Approaches

The comparison of behavioral therapy to other treatment options has important clinical implications. Although behaviour therapy is as effective as antidepressant drugs, there's now more evidence

supporting a combined approach to treatment with both behaviour and drug therapies. Patel et al. (2017) compared combination behavioral therapy and antidepressant medication to each alone in 492 patients with depression. Findings showed that the

combined therapy led to greater remission rates (i.e., about 70% of clients compared with behavioral treatment alone (55%) or medication alone (50%). This comparative efficacy of the combination treatment seems most evident in those with moderate to severe depression or comorbidity. The interaction effects may involve the medication component of treatment targeting at neurobiological dysfunction and the behavioral therapy addressing maladaptive cognitions and behavior patterns, through two different mechanisms.

Clinical Outcomes and Patient Satisfaction

In addition to symptom reduction, RCTs have looked at a number of other clinical outcomes, including functional improvement, quality of life improvements, and patient satisfaction rates. There have been patients noted to improve occupational functioning, social relationships, and overall life satisfaction with some behavioral therapies. Participants in behavioral therapy RCTs have talked about a reduction of depressive symptoms, as well as improved quality of sleep, increased energy levels, and somewhat improved interpersonal relationships. Patients tend to report higher satisfaction with behavioral therapy compared to pharmacological therapy alone when the behavioral therapy is structured and collaborative. Engaging with the psychology component of behavioral therapy may be an additional factor in the higher level of engagement and perceived control a patient has in their treatment overall and leads to higher subjective satisfaction with treatment overall. Additionally, not incurring any side effects associated with pharmacological agents is often a key benefit that many patients want when they seek to improve their mental wellness state.

Limitations and Moderating Factors

Despite the robust efficacy evidence, there are some drawbacks to keep in mind. Behavior therapy does not help all patients, with the highest response rates (45-70%) seen in clinical trials. A number of potential moderators of treatment response can be identified, such as the severity of depression, comorbidity, personality factors and compliance with treatment. Patients with greater depression severity or comorbid anxiety disorders may need adjunctive strategies and/or medications to achieve the best outcomes. Compliance with treatment is an important factor since behavioral therapies require patient engagement as well as completion of homework assignments. For some patients, these behavioral assignments may feel structured, difficult, or tedious, and this may restrict the engagement of the patient, and any potential benefits of treatment. In addition, the success of any behavioral therapy or intervention is dependent in part on the competence of the therapist and fidelity to the treatment, so that to achieve the desired outcomes, the clinician delivering the treatment must be trained appropriately.

CONCLUSION

The evidence from randomised controlled trials that have piled up shows unambiguously that behaviour therapy is an effective, evidence-based treatment for depression. Behavioral interventions bring about substantial reductions in depression, improvements in functioning, and the preservation of treatment gains over time that are generally equivalent to or greater than what can be achieved solely by pharmacotherapy. The processes by which behavioural therapy works (e.g., behaviour activation, environmental changes, acquisition of skills) all target key maintenance factors of depression and provide a general treatment strategy. Behavioral therapy should be recommended as a first-line treatment for depression in clinical practice and included together with medicines, especially for mild and moderate depressive patients who do not want to use drugs. A combination of treatment with behavioral therapies and antidepressant medication is especially effective in those with

severe depression or comorbid conditions. It is recommended that future studies explore the combination of treatments, elucidate patient factors that predict poor response to treatment, and consider how behavioral interventions can be applicable across patients with various language abilities. With mental health care systems worldwide becoming more oriented towards evidence-based, cost-effective and patient-centered care, behavioral therapy remains to play an important role in treating depression and promoting mental health.

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