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Cognitive-Behavioral Therapy for Depression

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Abstract: Major Depressive Disorder is one of the most common and debilitating mental disorders. Cognitive behavioral therapy (CBT) for depression has received ample empirical support and is considered one of the most effective modes of treatment for depression. In this article, we review the theoretical underpinnings of this approach, whereby biased cognition and maladaptive behavioral patterns are thought to be core factors contributing to the development and maintenance of depression. We describe cognitive and behavioral strategies and techniques used in the treatment of depression. We conclude with an updated review of outcome research comparing the effectiveness of CBT as a whole and its specific cognitive and behavioral components with a standard treatment of anti-depressant medication.

Major Depressive Disorder (MDD) is one of the most common mental disorders, with a lifetime prevalence of 15.8% (1). MDD causes considerable personal distress and decreased functioning and is the leading cause of suicide (2). Depressed people report reduced quality of life, and impaired academic performance, work productivity and social relations (3). In addition to the high personal cost, depression is among the most significant causes of worldwide disability and societal burden (4). Major depression is characterized by early onset, typically during the adolescent years, and it tends to recur across the lifespan (5). Depression severity can vary from mild symptoms to severe, chronic and debilitating symptoms, affecting most life domains of the individual.

Despite the high prevalence and severity of depression and its deleterious effects, treatments for depression have only been moderately successful (6). Furthermore, the majority of individuals suffering from depression do not receive appropriate care (7). Nevertheless, several psychosocial interventions have received good empirical support. Two treatments, cognitive behavioral therapy (CBT) and interpersonal therapy (IPT), were specifically identified as well-established treatments (6) with CBT being more widely employed and having a more substantial body of research to support its use. In this article, we describe the use of CBT to treat depression. It is important to note that CBT for depression is not a single form of treatment but rather a family of interventions, all based on the premise that biased cognition and maladaptive behavioral patterns contribute to depression.

CBT for depression was first developed by A. T. Beck in the 1960s, and it has since been expanded and studied extensively (8). Beck's cognitive model postulated that people's interpretations of negative life events play a role in the experience of depression. He argued that depressed individuals hold negative beliefs or schemas. These schemas are thought to develop in early childhood and to involve themes of loss, inadequacy, interpersonal rejection and worthlessness. In Beck's model, these beliefs constitute a cognitive vulnerability (*diathesis*) to depression. The beliefs are activated by adverse life events (*stress*) to produce event-specific negative (*automatic*) thoughts about the self, the world and the future (Beck's *cognitive triad*), which in turn lead to negative mood. Following this model, cognitive therapy aims to change clients' thought patterns in order to facilitate mood change and improved coping with stress.

A central extension of Beck's cognitive theory incorporated behavioral models of depression that examine the environmental context in which depression evolves. Early behavioral theorists (e.g., 9) argued that in order to understand depression

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one must examine what environmental reinforcers maintain depressive behavior. Similarly, Lewinsohn and colleagues (10, 11) claimed that depression can result from an increase in negative events and a decrease in positive ones. Based on these theoretical assumptions, early behavioral treatments of depression sought to increase the frequency of engagement in activities generally thought to be pleasurable (e.g., going for a walk). Modern behavioral approaches to depression (12, 13) have emphasized a functional analytic approach that focuses on the role of adverse events in the onset of depressive episodes. These approaches suggest that depressive behavior functions, largely, as avoidant coping in an environment that is characterized by few positive reinforcements and many aversive experiences. Specifically, these models see withdrawal and passivity, hallmarks of depression, as behaviors that serve to provide temporary relief at the cost of long-term disability. In addition to depriving depressed people of potential reinforcers in their environment, avoidant behavior may also lead to secondary problems.

Overview of the Treatment

The standard treatment lasts between 10 to 20 sessions. Treatment commences with a psycho-educational component in which the nature of depression and its maintaining factors (i.e., thought patterns and behavioral tendencies) are outlined. From the outset, therapists work to form a therapeutic alliance with their clients, who are encouraged to act as active partners in the therapeutic process. Therapists and clients collaboratively set goals for therapy and jointly agree on the agenda for sessions. In addition, therapists assign between-session "homework" that assists clients in implementing techniques learned in the therapy sessions and in practicing important cognitive and behavioral skills outside the therapeutic context (7, 14, 15).

The typical course of CBT for depression consists of three phases. The first phase of treatment focuses on symptom relief. The aim of this phase is to re-engage clients in their daily activity and to promote resumed functioning. The middle phase of treatment addresses cognitive change. In this phase clients learn to identify automatic thoughts, critically evaluate these thoughts and examine alternative modes of thinking. The final phase focuses on maintenance of treatment effects and on relapse prevention. In this phase, clients are encouraged to challenge their underlying negative schemas by engaging in behavioral experiments that test the veracity of the schemas as well as their adaptiveness (7, 14, 15).

The Initial Phase of Treatment

The first phase emphasizes behavioral change. This phase is often termed "behavioral scheduling" or "behavioral activation." Initially, clients learn to monitor their daily activities and experiences. Oftentimes, depressed individuals' routines are characterized by patterns of inactivity and avoidant coping. In order to identify these patterns, clients are asked to keep a log of daily activities that assists them in observing the link between their behavior and their mood. Thus, they gather information on activities that enhance their mood as opposed to those that impair it. Using the activity log, therapists and clients work together on setting behavioral goals in important life domains such as social relations, employment, education, leisure, health, etc. Clients are encouraged to set realistic short- and long-term goals, and to delineate the steps needed to achieve these goals. Importantly, goals are defined in terms of behavioral rather than emotional outcomes. Subsequently, clients gradually tackle each of their goals while paying specific attention to patterns of avoidance and replacing them with active coping. As they make progress toward their goals, clients take note of their success and reward themselves for their achievements. Importantly, recently researchers have advocated that behavioral activation can serve as a stand-alone therapy and that the cognitive components of treatment may not be necessary for recovery (16–18) .

The Middle Phase of Treatment

Once clients are more active and engaged in their environment, the focus of therapy shifts to cognitive assessment and restructuring. First, therapists help clients examine their thought patterns using *Socratic questioning*, which is a non-confrontational

method that utilizes a progression of questions to assist clients in evaluating faulty beliefs and refuting them. In this process, a *thought record* is often used. Clients complete thought records in which they report the occurrence of perceived adverse events and identify negative feelings as well as automatic thoughts elicited by these events. Second, therapists lead clients through a process of *cognitive restructuring*. As part of this process, clients are taught to ask themselves questions regarding their automatic thoughts and beliefs: What is the evidence for or against my belief?

What are possible alternative ways of thinking? What are the implications for my life if this thought is true? Is this thought helpful? The thought record is typically used in this phase to record rational cognitive responses and their effect on subsequent emotion.

Beck (14) and others (e.g., 19) have argued that thoughts reported by depressed individuals typically involve a number of *cognitive distortions*. For example, depressed individuals often overgeneralize the consequences of negative events, focus on negative while ignoring positive aspects of situations, engage in all-or-none thinking, and predict that negative events are likely to occur in the future. Clients learn about these distortions and are trained to recognize them in their own thinking. They are taught to entertain alternative and more helpful modes of relating to themselves and the world.

The Final Phase of Treatment

The last phase of treatment is a relapse prevention phase, which consists of two components. In the cognitive arena, clients work on altering core beliefs that may trigger negative automatic thoughts. To achieve this goal, they conduct *behavioral experiments*. These are planned experiential activities designed to obtain new information to aid in testing the validity of clients' beliefs and replacing them with more adaptive ones. In the behavioral arena, clients perform a behavioral analysis of dysfunctional coping mechanisms and alternative problem solving strategies. Finally, they set future goals, anticipate obstacles and consider ways to overcome these obstacles.

Comparing Treatments for Depression

Because antidepressant medication (ADM) is a well-established treatment for depression (17, 18), the efficacy of CBT for depression has been tested in comparison to ADM as opposed to a placebo and/or waitlist control. An extensive line of research conducted in the 1970s, 1980s and in the early 1990s indicated that CBT fares at least as well as ADM in the acute phase of treatment (20, 21). A combined treatment involving both ADM and CBT was not superior to either of the mono-therapies (22, 23). Unfortunately, the percentage of patients responding to either CBT or ADM is moderate and does not exceed 60% (6).

Moreover, whereas the effects of ADM do not persist following treatment discontinuation, the effects of CBT are maintained after treatment has been terminated (24–27). Specifically, whereas the one-year relapse rates in CBT are acceptable (approximately 30%), relapse rates in ADM are high (approximately 60%) (21). Thus, these results suggest that CBT is a more effective relapse prevention tool than ADM.

The emerging picture favoring CBT over ADM was challenged by the National Institute of Mental Health Treatment of Depression Collaborative Research Program (28) (TDCRP). This major placebo-controlled trial compared ADM with CBT, IPT and a placebo control. The different interventions yielded similar effects among mildly depressed patients. However, among the severely depressed, CBT was inferior to both ADM and IPT (which did not differ from each other), and was not more efficacious than was the placebo. As DeRubeis and colleagues' mega-analysis reveals (29), the TDCRP was the only study to find that CBT was inferior to ADM in treating severe depression. The apparent discrepancy between the TDCRP and other randomized trials of CBT and ADM was attributed to factors such as therapists' expertise and adherence to the CBT protocol, which indeed, differed across research sites in the TDCRP (6, 30).

More recent work further suggests that the effect of CBT is contingent upon therapists' proficiency: severely depressed individuals who were treated by experienced CBT therapists showed similar therapeutic gains as did those who received ADM (43%

and 50% response rates at eight weeks, respectively; 58% for both interventions at 16 weeks) (31). Importantly, relapse rates among patients withdrawn from CBT (30.8%) were significantly lower than those among patients withdrawn from medications (76.2%) (32). Thus, CBT and ADM produce comparable improvements in the acute phase of treatment, but CBT produces lasting effects beyond treatment termination, whereas ADM's effects are more modest.

Having established the efficacy of CBT, researchers have attempted to examine differences between cognitive and behavioral components of the treatment and to identify active therapeutic ingredients. Early on, Jacobson and colleagues have demonstrated that the behavioral component of CBT was as effective as the cognitive component (16). A recent line of research has dismantled the two components of CBT in the context of an additional comparison group – ADM, in a randomized placebo-controlled design (17). As in the TDCRP, differential treatment effects were evidenced only among the more severely depressed. In this group, behaviorally-focused procedures and ADM were comparable, and both were superior to cognitively-focused procedures. However, in the one-year follow-up phase of this trial (18), patients who were in either of the CBT treatments were less likely to relapse than were patients treated with ADM and subsequently withdrawn onto pill placebo. Thus, taken together, these results suggest that the behavioral component of CBT is as effective as ADM and that it is more beneficial than the cognitive component in the acute phase of treatment. However, CBT as a whole is more effective than ADM as a relapse prevention intervention. Overall, the extant research supports the use of CBT as an effective treatment for depression.

Conclusions

CBT is a family of empirically-based treatments aimed at changing dysfunctional thinking and behavior, in which clients learn to identify faulty beliefs and challenge them, and to replace avoidant coping with active problem solving. CBT has been found to be equivalent to ADM in the acute phase of treatment, but to have more lasting effects and to be superior to ADM in relapse prevention. Although it was initially suggested that CBT is less effective than ADM in treating severely depressed patients, recent evidence has shown otherwise.

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