How an anomalous finding led to a new system of psychotherapy

Aaron T Beck

Cognitive therapy is the fastest-growing psychological approach to psychiatric problems and is practiced in most regions of the world. The basis of this approach is the finding that individuals with psychiatric disorders develop biases and distortions in the way that they process external or internal stimuli. As a result, people with depression, anxiety or a wide range of other psychiatric disorders are prone to misinterpret and attach exaggerated meanings to their experiences. Consequently, they experience excessive emotional reactions and may engage in self-defeating or inappropriate behavior. Depressed individuals, for example, are disposed to interpret innocuous events as reflecting badly on their self-worth and acceptability, jump to conclusions that their future is hopeless, and experience profound sadness as a result of the negative bias. They are likely to withdraw from other people, give up on their usual life goals and consider suicide as a reasonable escape from their suffering and supposedly unsolvable problems. In contrast, individuals with panic disorder misinterpret bodily sensations as a sign of a physical or mental disaster and rush for medical help.

As with other psychotherapies, a strong working relationship between therapist and patient is crucial (**Fig. 1**). The specific therapy consists of the application of the scientific method to the patients' misinterpretations and other problems. A major strategy consists of testing their erroneous beliefs empirically and reframing them in a logical, more realistic way. The treatment of the individual patient is based on the psychological formulation of the specific disorder, and the conceptualization of the development of the patient's problem serves as a guide to the therapy. The therapy is generally short term—10 to 20 sessions for most Axis I disorders such as depression—but personality disorders, addiction and eating disorders require more time. Cognitive therapy is also useful as an adjunct to pharmacotherapy in the treatment of bipolar disorder and schizophrenia. Cognitive therapy has also been found to be useful in the treatment of a variety of medical problems, such as chronic pain, colitis and hypertension.

The evolution of cognitive therapy went through a number of twists and turns before it developed into a full-blown system of psychotherapy. The history is of some interest because the system stemmed from an 'anomalous' finding and several disconfirmations of strongly held hypotheses. I was not originally interested in psychiatry or psychotherapy, and after my internship, I embarked on a residency in neurology in 1948. I was attracted to this specialty by the highly disciplined diagnostic procedures and the rewarding experience of being able to pinpoint the precise lesion in the nervous system on the basis of careful clinical observations (this was prior to the era of sophisticated brain imaging, of course). A mandatory six-month rotation in psychiatry took me temporarily (I thought) out of neurology. I then became fascinated by psychiatry, and particularly psychoanalysis, which promised to reveal so much about the workings of the human mind. I was subsequently accepted by the Philadelphia Psychoanalytic Institute.

A puzzling finding

After I graduated from the Psychoanalytic Institute, I was eager to validate the psychoanalytic concepts to make them more acceptable to the scientific community. As depression was the most frequent disorder in my practice, I decided to focus on that disorder. According to the then-current psychoanalytic theory, the depressed individual experiences unconscious rage against other close persons but, as the rage is unacceptable, it is repressed and turned against the self. The question was how to validate this construct of retroflected hostility. Because, according to Freudian theory, dreams are the 'Royal Road to the Unconscious', I hit upon the idea of looking for hostility in the content of the dreams of depressed patients and then comparing them with the dreams of nondepressed patients. I used a system for rating hostility in dreams prepared by Leon Saul and fully expected to confirm this hypothesis. To my surprise, I found that the dreams of depressed patients contained *less* hostility than did those of nondepressed patients.

This unexpected finding seemed to contradict the basic motivational model of psychoanalysis, which posited that dreams as well as symptoms were expressions of forbidden but unconscious wishes. When I reexamined the dreams, however, I discovered an anomaly in the depressive dreams. Far from expressing hostility, the dreams portrayed the patients as the victims of the actions of other people or of circumstances: they were rejected, deserted or thwarted. I seriously considered other hypotheses such as the notion that the dreams were expressions of a need to suffer derived from guilt over unconscious hostility. I designed several experiments to test this hypothesis, but again was surprised to find the hypothesis disconfirmed. I also made another important observation, namely that the way the patients described themselves and their experiences was similar to the way they were portrayed in their dreams. So, there was continuity between the dream images and the patients' conscious ideation.

This observation then led me to a simple-minded hypothesis: the negative way in which the patients see themselves is actually the basic process, rather than a derivative of unconscious forces. There was no need to go any deeper. A model based on the patients' internal representations of themselves, their experiences and their future could account not only for the dreams but also for the symptoms. If the patients view themselves as defective and helpless, their future as

Aaron T. Beck is a University Professor of Psychiatry in the Department of Psychiatry, University of Pennsylvania, 3535 Market Street, Philadelphia, Pennsylvania 19104-3309, USA.
E-mail: abeck@mail.med.upenn.edu

Figure 1 Watching Dr. Beck interviewing a patient.

hopeless and their life as full of insurmountable problems, then it is inevitable that they will feel sad, be self-critical, give up and think of suicide as an escape from unrelenting pain.

Concurrent with this formulation, I discovered that my patients' experiences of sadness, frustration and immobility were often preceded by a very rapid thought that apparently occurred automatically and that they were generally not very much aware of. These 'automatic thoughts' consisted of negative and distorted interpretations of innocuous experiences and demeaning self-evaluations. I found, to my surprise, that when I could guide the patients to examine and evaluate the validity of their cognitive distortions, they could interpret their experiences more realistically—and their sadness and other symptoms started to ease off. In about 10 to12 sessions, their depression remitted. John Rush, one of my residents, urged me to conduct a randomized controlled clinical trial of the treatment I had labeled 'cognitive therapy' and, to our satisfaction, it performed better than imipramine, both at the end of treatment and at 1-year follow-up.

Application to other disorders

Having found support for the cognitive model of depression and also for the efficacy of cognitive therapy of depression, I wondered whether the cognitive approach would clarify other psychiatric disorders by identifying the specific profile of cognitive distortions associated with each pathology and could provide the basis for the psychological treatment of these disorders. To carry out this theoretical-clinical-research effort, I organized a clinic initially labeled The Mood Clinic, later the Center for Cognitive Therapy. This organization enabled me simultaneously to treat individuals with a variety of disorders, use the clinical material from these individuals to develop formulations and provide training in cognitive therapy to full-time professionals who would also participate actively in the various research programs. The research strategy consisted of collecting a large number of clinical observations for a specific disorder (focusing on the automatic thoughts and beliefs), deriving a formulation or profile for the particular disorder and devising various inventory and rating scales to measure the specific clinical variables. Then, on the basis of the cognitive profile, we would adapt the generic cognitive model to fit the specific characteristics of the disorder.

When I embarked on research of the psychiatric disorders, I felt limited by the dearth of validated clinical and psychological instruments to provide a quantitative measure of the psychopathological and clinical variables. As I made a foray into the various disorders, I made a careful study of the phenomenology of each condition and developed instruments (such as the Beck Depression Inventory) to quantify them. These instruments in turn facilitated research by numerous other investigators elsewhere. After the formulations and specific treatment strategies were settled, my group moved on to developing treatment manuals to be used in randomized control studies. We successively applied the strategy to anxiety disorders, panic disorder, substance abuse, personality disorders and suicidal behavior. The manuals were generally expanded into books that covered diagnostic issues, cognitive descriptions of the disorder and the treatment protocol.

A continuing focus throughout my research career has been the systematic investigation of suicidal behavior. Initially, we constructed a new classification system and developed instruments to validate it. One of the burning questions in the field was: can we identify individuals at high risk for suicide and prevent this unfortunate complication of mental illness? In our own lab, we were able to increase our understanding of the predictors of suicide and treatment of patients at risk for suicide. We found, for example, that patients who had elevated levels of hopelessness were at significant risk for ultimate suicide. We

also found that other key predictors of eventual suicide for suicide attempters included their regret over the failure of the suicide attempt and increasing intensity of their suicidal ideation with each successive attempt. We then attempted to apply our understandings of those who had attempted suicide to the prevention of subsequent attempts. As shown in **Figure 2**, we found that a short-term 10-session cognitive therapy intervention reduced the rate of reattempt by close to 50% during an 18-month observational period[1]. This research has shown that it is feasible to identify those individuals at high risk for suicide and to administer adequate interventions to reduce the likelihood of suicide attempts.

Meanwhile, much of the work in cognitive therapy was expanded into new areas by researchers elsewhere, most of whom had studied at our Center. Although considerable fruitful research on cognitive theory and therapy was conducted in North America, the major exploration of new applications of cognitive therapy occurred in the UK. During the 1970s and 1980s, I made several prolonged visits to Britain and particularly to Oxford, where the chairman, Michael Gelder, was extraordinarily supportive of this approach. Later, much of the Oxford research group, headed by David M. Clark and Paul Salkovskis, moved to the Institute of Psychiatry in London and systematically followed the approach outlined above to the cognitive therapy of panic disorder, obsessive-compulsive disorder, post-traumatic stress disorder, chronic fatigue syndrome, hypochondriasis and other disorders. Dominic Lam, another former trainee, successfully applied this approach to the prevention of recurrence of bipolar episodes.

Cognitive therapy of schizophrenia?

One of my most pleasant surprises has come from the work in the UK by David Kingdon and Douglas Turkington, who found that modified cognitive therapy was successful as an adjunct treatment for residual symptoms of schizophrenia. Other independent groups in the UK obtained equally promising results and, as a result, schizophrenia is now one of the disorders for which the National Institute of Clinical Excellence of the National Health Service has recommended cognitive therapy.

Much of the work in North America has focused on depression, spearheaded by my former students Steve Hollon and Rob DeRubeis in the US and David A. Clark and Zindel Segal in Canada. David Brent in Pittsburgh has modified the treatment for children, and Martin Seligman of the University of Pennsylvania initiated cognitive therapy programs to prevent depression in schoolchildren and college students.

Of course, cognitive therapy did not develop in a vacuum. This approach emerged during the so-called cognitive revolution in psychology, but while behavior therapy was still flourishing. In organizing the therapeutic interviews, I drew heavily on the structural components of behavior therapy as a vehicle for delivering cognitive therapy, based on the cognitive (rather than the behavioral) model. Systematizing the interview, operationalizing the therapeutic strategies, and measuring the outcome were core ingredients of 'methodological behaviorism', which I incorporated into my own work. In the 1970s and 1980s, many behavior therapists started to use cognitive techniques, a number of which had previously been developed by Albert Ellis. Donald Meichenbaum in Canada was a pioneer in promoting the hybrid cognitive and behavioral therapies, which he termed 'cognitive behavior therapy'. Unfortunately, confusion has occurred over the years, because this umbrella term has been applied not only to the standard or 'pure' cognitive therapy that our group developed, but also to therapies that are essentially behavioral in theory.

Looking back over the years since my early publications on depression, I am struck by the widespread influence that these initial observations have had on research in psychopathology and psychotherapy. I realized early on that the Litmus test of the efficacy of cognitive therapy of depression would lie in head-to-head comparisons with the 'gold standard'—pharmacotherapy. Seventeen studies found that cognitive therapy had minimal superiority to antidepressants[2] and, in an analysis of four studies, contrary to expectations, cognitive therapy was found to be equally effective as antidepressants in treating patients with severe depression[3]. A more recent trial showed that cognitive therapy and antidepressants were equally effective in treating moderate to severe depression, but also that cognitive therapy performed better in terms of relapse[4]. Recently, we reviewed 15 meta-analyses of treatment outcomes of cognitive therapy for a wide range of psychiatric disorders. Compared to other treatment approaches, cognitive therapy was effective in treating a diverse range of conditions beyond unipolar depression, such as generalized anxiety disorder, panic disorder, social phobia, obsessive-compulsive disorder, post-traumatic stress disorder, schizophrenia, bulimia nervosa, marital distress, anger, childhood internalizing disorders, chronic pain and sexual offending[5]. Research has also shown preliminary evidence for the efficacy of the cognitive approaches for the treatment of personality disorders and substance abuse.

The future?

Continuing progress has been made in our understanding of the neuropsychological basis of cognitive theory and therapy. Several studies, for example, have shown important neuropsychological correlates of the dysfunctional thinking and beliefs in depression[6,7], as well as the neurophysiological changes associated with cognitive therapy for depression[8]. Such studies have expanded our understanding of the mind-brain relationship and highlight the interaction between psychological and physiological mechanisms in the maintenance of depression.

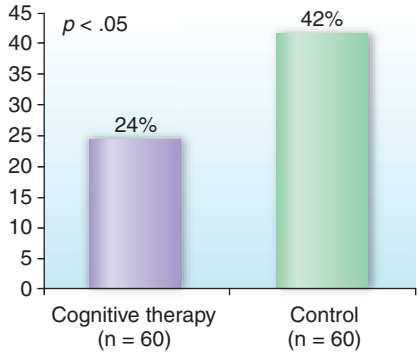

Figure 2 Number of patients with repeated suicide attempts after cognitive therapy.

Cognitive theory and therapy have stood the test of time. This raises the question: where do we go from here? The biggest problems of the present time are in the implementation and dissemination of the empirically validated therapies, and the training of therapists to apply them. Investigators like Ken Wells and Jeanne Miranda at the University of California, Los Angeles, for example, have been leaders in conducting effectiveness studies in the US. Despite the evidence that cognitive therapy is effective in community settings, there is considerable inertia in the training of psychiatrists, psychologists and social workers in cognitive therapy. Although training in cognitive therapy is recommended for psychiatric residents, very few programs have available cognitive therapists to provide the training. But unless some organized effort is made on a statewide or national scale to foster such training and implementation, the newer therapies will be available only for a small fraction of those individuals who need them.

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