

# Psychotherapy for Generalized Anxiety Disorder

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**A**s discussed in previous chapters in this volume, generalized anxiety disorder (GAD) is a relatively common disorder that is associated with significant distress and functional impairment. Fortunately, advances in both pharmacotherapy and psychotherapy have resulted in a greater likelihood of providing effective treatment. Unfortunately, many more inroads remain to be made to clarify what works for whom and how. In this chapter, we concentrate on what we do and do not know about psychosocial treatments for GAD. First, we describe the psychological aspects of GAD that appear to be involved in the maintenance of the disorder and, thus, must be addressed in treatment. Then, we review the outcome literature relevant to GAD. Finally, we discuss empirically supported psychological treatment strategies and suggest potential directions for future clinical research.

## Psychological Aspects of Generalized Anxiety Disorder

GAD is a relatively new diagnosis, changed from a "wastebasket" diagnosis pertaining to anyone with anxiety whose symptoms did not fit into another anxiety disorder listed in DSM-III (American Psychiatric Association 1980) to a discrete entity, more "carved at its joints" in DSM III-R and DSM-IV (American Psychiatric Association 1987, 1994).

### Worry

GAD consists of two major components: worry and somatic symptoms associated with hyperarousal (e.g., muscle tension, sleep disturbance, feeling keyed up). Clearly, worry is the major cognitive component of GAD and may be considered the cardinal feature of the disorder. People who have GAD tend to worry most of the day, nearly every day (Brown et al. 1993). However, worry in itself is not pathological. It is an attempt to predict future danger and/or an attempt to gain control over events that appear uncontrollable (and usually negative or dangerous) (Rapee 1991). Under appropriate circumstances, worry may lead one to take positive actions. In fact, some researchers posit that worry usually facilitates

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problem solving and that difficulties are attributed to lack of confidence in solutions, as opposed to lack of ability in solving problems (Davey 1994). However, it is clear that pathological worry is dysfunctional in that it is, by definition, excessive and/or unrealistic. As a result, patients overpredict the likelihood of negative events and exaggerate consequences if the events were to occur (Brown et al. 1993).

Patients with GAD and control subjects appear to worry about similar topics (Sanderson and Barlow 1990), although patients with GAD tend to worry more frequently about minor matters (Brown et al. 1994). Spheres of worry endorsed by patients with GAD include concerns about family, health, social matters, finances, work, and world events. The topics of worry may change with age and life situation.

Two main aspects of *pathological worry* (which have been elucidated through a combination of descriptive studies and information-processing studies) differentiate it from normal worry (for a review, see Mathews 1990). First, pathological worry appears to be uncontrollable. In a study by Abel and Borkovec (1995), 100% of the patients with GAD described their worry as uncontrollable compared with none of the nonanxious control subjects. Second, pathological worry is excessive for a given situation, in that patients overestimate the threat in their environment, especially when interpreting ambiguous cues (Mathews 1990). In fact, these two features may be the result of GAD patients' intolerance of uncertainty, leading to more excessive and uncontrollable worry (Dugas et al. 1998). In addition, anxious subjects tend to selectively attend to threatening, personally relevant stimuli (Mathews 1990). The overprediction of danger may lead patients with GAD to worry more often than others because they perceive the environment as more threatening. Frequently, the implied belief is that worry will make the world more controllable and predictable. For example, one patient stated, "When I fly in an airplane, I worry that the plane will crash. If I stopped worrying about it, it probably would crash." Consistent with this, worriers report five major functions of worry: 1) superstitious avoidance of catastrophes, 2) actual avoidance of catastrophes, 3) avoidance of deeper emotional topics, 4) coping preparation, and 5) motivating devices (Borkovec 1994).

Research supports the idea that pathological worry has a functional role for patients with GAD. Ironically, worry inhibits autonomic arousal in patients with GAD when they are shown aversive imagery (Borkovec and Hu 1990). Worrying may cause the avoidance of aversive imagery, which is associated with an even greater emotional state (Borkovec et al. 1991). Thus, worry may be maintained by both the avoidance of certain affective states and the reduction of anxious states through the decrease in arousal that occurs along with worry. Counterintuitively, relaxation has been shown to increase the amount of worry in some patients with GAD (Borkovec et al. 1991). In these patients, relaxation may signal a lack of control, triggering an increase in anxiety, or these patients may sit quietly with their thoughts, causing greater exposure to their worries.

### Somatic Symptoms

In addition to worry, patients with GAD experience unpleasant somatic sensations. Although both the worry and the somatic sensations usually increase during the course of a worry episode, they can be described as relatively persistent and pervasive. The most common somatic symptom reported by patients with GAD is muscle tension. Often associated with worry and tension are other symptoms including irritability, restlessness, feeling keyed up or on edge, difficulty sleeping, fatigue, and difficulty concentrating.

### Characteristics of Patients With Generalized Anxiety Disorder

GAD has been shown to be a relatively chronic disorder with an onset in childhood (Brown et al. 1994). In view of these and other data, some argue that, in contrast to other anxiety disorders, a subtype of GAD (chronic, pervasive symptoms since childhood) may be better conceptualized as an underlying personality trait that increases one's vulnerability to developing anxiety disorders per se (Sanderson and Wetzler 1991). GAD typically starts in childhood, but often, a major stressor will exacerbate symptoms. One clinical example that we have seen several times is having a child. It appears that the increased responsibility and the desire for perfectionism in child rearing may extend these traits to the point of interference and distress. This may be partially because of the increased reports of childhood trauma in patients with GAD (Borkovec and Whisman 1996). In addition, new conceptualizations of GAD have started to focus on interpersonal deficits that may have developed in childhood (Borkovec 1994; Crits-Christoph et al. 1996). Research (Wells 1994) and our clinical experience with GAD have led us to believe that patients with GAD are often driven toward being perfectionistic, feel a greater need for control in their environment, have difficulty tolerating ambiguity, and feel increased

personal responsibility for negative events that occur or are predicted to occur in their environment.

### **Differentiating Generalized Anxiety Disorder From Other Disorders**

Accurate diagnosis is an essential first step in providing the appropriate treatment for a particular disorder. In fact, differentiating GAD from other anxiety disorders can be extremely complicated. First, worry is a relatively generic feature of anxiety disorders (i.e., worry about panic attacks, worry about embarrassing oneself). In addition, a high level of comorbidity exists among the anxiety disorders, and GAD in particular, which requires one to consider diagnosing multiple disorders as well as making differential diagnoses (Sanderson and Wetzler 1991). The primary distinction between GAD and other anxiety disorders is the focus of the patient's concern. Patients with GAD experience uncontrollable worry about several different areas in their life. In fact, they often worry about their worrying (known as *metaworry*; Wells 1994). In contrast, the focus of concern for patients with other anxiety disorders is specific to their respective disorder.

#### ***Panic Disorder***

Patients with panic disorder are worried about having a panic attack or the consequences of experiencing certain bodily sensations. Their focus is on internal states. What makes the differential diagnosis particularly confusing is that the worry experienced by patients with GAD can lead to a panic attack. However, unlike patients with panic disorder, patients with GAD are concerned primarily about some future event, not about having a panic attack or the symptoms of anxiety per se. Another distinction is the course of onset of worry compared with that of panic. Some patients with GAD are focused on the physical symptoms of their anxiety, and this can lead one to think that the preoccupation with bodily sensations is a sign of panic disorder. However, the onset of a panic attack is sudden, and its peak typically lasts for several minutes, whereas the onset and course of GAD-related anxiety are usually longer and more stable.

#### ***Social Phobia***

Because social concerns are a common area of worry for patients with GAD, they are often given diagnoses of comorbid social phobia (Sanderson et al. 1990). However, some guidelines for differentiating the two disorders are available. The basic distinction is that GAD concerns are more global, focused on several different areas that may include social situations. In contrast, patients with social phobia are specifically concerned with being evaluated, embarrassed, or humiliated in front of others.

#### ***Obsessive-Compulsive Disorder***

Although the differentiation between obsessive-compulsive disorder and GAD seems obvious because of the behavioral rituals that are unique to obsessive-compulsive disorder (Brown et al. 1994), some cases still can be extremely difficult to differentiate. This is especially true of patients with obsessive-compulsive disorder who do not have compulsions or who have only mental rituals. Obsessions and worries can be differentiated by assessing the focus of concern. Obsessions are focused on overexaggerated or unrealistic expectations and are usually short lived (e.g., "If I don't seal this envelope correctly, my kids will be injured on the way home from school"). In addition, obsessions often take an "if-then" form (e.g., "If I do or don't do something, then something bad will happen") or include vivid imagery (Wells 1994). Worry, on the contrary, usually is focused on future negative events that are not caused by the patient. According to nonanxious subjects, it lasts longer and is more distracting (Wells and Morrison 1994). Worry also is usually predominantly verbal thoughts as opposed to images (Wells and Morrison 1994). The thought content of a worry may be specified in a "what if" fashion, without a consequence being stated ("What if I get ill?"). Another difficult aspect of the differentiation of GAD and obsessive-compulsive disorder is that patients with GAD may engage in reassurance-seeking behaviors that can be somewhat ritualistic and superstitious. Patients with GAD may report feeling compelled to act to neutralize this worry (Wells and Morrison 1994) (e.g., to call one's wife at work to lessen a worry about something happening to her). However, these behaviors are not as consistent, methodical, or ritualized as compulsive behaviors in patients with obsessive-compulsive disorder.

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## *Mood Disorders*

The final differentiation is between GAD and mood disorders, especially major depression and dysthymia. According to DSM-IV-TR, if GAD symptoms are present only during the course of a depressive episode, then it is not diagnosed as a comorbid disorder. More often than not, anxiety symptoms occur within the context of depression, and thus GAD is diagnosed as a separate disorder only when the symptoms have occurred at least at some point independent of depression. However, regardless of DSM exclusionary criteria, the nature of cognitions associated with each disorder can be distinguished: ruminations (common in depressive disorders) tend to be negative thought patterns about past events, whereas worries (associated with GAD) tend to be negative thought patterns about future events. This is consistent with theoretical conceptualizations of anxiety and depression, which posit that depression is a reaction to uncontrollable, inescapable negative events, leading to feelings of hopelessness and helplessness and deactivation, whereas anxiety is a reaction to uncontrollable negative events that the person attempts or plans to escape from (for a more detailed explanation, see Barlow et al. 1996).

## **Review of Treatment Outcome Studies**

Since 1990, several reviews have been written about the treatment of GAD (Barlow et al. 1997; Borkovec and Whisman 1996; Butler and Booth 1991; Chambless and Gillis 1993; Durham and Allan 1993). These reviews have focused on cognitive and behavioral techniques for alleviating worry and tension and have concluded that these techniques generally are effective. In fact, the Task Force of the Division of Clinical Psychology of the American Psychological Association, involved with identifying empirically supported treatments, found that only techniques used in cognitive-behavioral therapy (CBT) meet criteria to be included as empirically supported treatments for GAD (Chambless et al. 1998; Woody and Sanderson 1998). Preliminary evidence (Crits-Christoph et al. 1996; Durham et al. 1994) suggests that both long- and short-term psychodynamic treatments for anxiety disorders may be effective, but adequate controlled studies have yet to be conducted. Therefore, consistent with the literature, our review emphasizes CBT.

### **Previous Reviews**

In a review of the outcome literature on psychotherapy for GAD, Butler and Booth (1991) concluded that 1) CBT, behavior therapy, and nondirective psychotherapy were all better than no treatment, and 2) gains made at posttreatment appear to be maintained at follow-up evaluation. Thus, GAD appears to be responsive to psychosocial treatments. The authors also stated that CBT is better than behavior therapy at least in retaining patients and retaining treatment gains.

In a meta-analytic review of the literature, Chambless and Gillis (1993) reviewed nine studies evaluating the effectiveness of cognitive therapy for GAD. Most studies used a treatment protocol composed of a combination of cognitive therapy for anxiety (A. T. Beck et al. 1985) with behavioral relaxation techniques, such as progressive muscle relaxation (Bernstein and Borkovec 1973). Seven investigations reported that CBT was more effective than placebo or wait-list control. Follow-up studies showed that gains were maintained. However, because of the number of nonresponders who sought further treatment, follow-ups could not be compared using wait-list or control conditions. Chambless and Gillis reported that the overall effect size for cognitive therapy for GAD was very large (1.69), on average, based on a mean of self-report and evaluator ratings. However, they concluded that these effects were clinically modest and that improvements in treatment were still warranted.

In another review, Durham and Allan (1993) reported that approximately 50% of the patients given a diagnosis of GAD achieved high end-state, or normal, functioning following a trial of CBT. They analyzed 11 studies through 1991 and found that there was a 25% improvement on the *State* section of the State-Trait Anxiety Inventory (Spielberger et al. 1983), which remained at follow-up. On the Hamilton Anxiety Scale (Hamilton 1959), a clinician-rated scale, there was an average of 50% improvement, which was maintained at follow-up. These change scores were significantly different from those of wait-list control subjects. However, the relative efficacy of different therapies was inconsistent. Posttreatment results indicated that 57% of the patients who received CBT had recovered to normal range, whereas 22% of the patients who received behavior therapy alone had recovered. Studies that showed the greatest effects were those that included patients who were not taking any medications. In addition, patients appeared to make greater treatment gains if they were

recruited outside of psychiatric settings (e.g., by primary care physicians, newspaper advertisements) (Durham and Allan 1993). The authors also concluded that patients with coexisting Axis I or Axis II disorders were likely to improve less and that patients' negative expectations about treatment also predicted poor outcome.

A comprehensive review and meta-analysis of treatment outcome studies for GAD conducted by Borkovec and Whisman (1996) outlined a variety of important strengths and limitations. Their primary conclusion was that all psychosocial treatments evaluated to date were more effective than no treatment. Four of six studies found no difference between behavior therapy and CBT at posttreatment, but three of four studies evaluated showed long-term maintenance and gains for the CBT group only. Borkovec and Whisman (1996) used meta-analytic procedures that differed slightly from those of Chambless and Gillis (1993) (analyzing composite data for the former, analyzing individual measures common across studies for the latter) and concluded that CBT appears to be the most effective treatment for GAD. They reported large effect sizes ranging from 0.94 to 3.63 for CBT and 0.69 to 2.76 for behavior therapy. Nonspecific treatment and cognitive therapy also were reported to have large effect sizes. However, the conclusion was based on only one or two studies, as opposed to the six studies used for CBT and behavior therapy.

In a review of the same literature, Barlow and Lehman (1996) and Barlow et al. (1997) concluded that the most effective psychosocial treatment components for GAD are a combination of applied relaxation and cognitive therapy for anxiety disorders (i.e., CBT). Although Borkovec and Whisman (1996) and both reviews by the Barlow group noted that studies have shown that patients who met DSM-III-R criteria for GAD also were likely to meet DSM-IV criteria, they did not comment on the fact that 5 of the 11 studies they evaluated were published in 1988 or before, predating the use of DSM-III-R (DSM-III criteria were markedly different from DSM III-R and DSM-IV criteria). Because these studies have been previously reviewed, we focus our attention on the most contemporary studies. Thus, our review presents data and discusses only studies that used DSM-III-R, DSM-IV, or current Research Diagnostic Criteria.

**Newer Studies**

Several studies have been conducted since DSM-III-R was published (Table 12-1). Most studies used CBT and at least one other treatment group, a minimum of a 6-month follow-up assessment, and a variety of outcome measures, usually a combination of self-report and clinician-rated measures. We calculated percentage improvement by subtracting posttreatment averages from pretreatment averages and then dividing by the pretreatment averages. Data were gathered from information provided in published or presented reports of the research. Self-report and clinician-rated measures were separated because each type of information can be substantially different (i.e., a clinician may see improvement when a patient does not, or vice versa). Whether authors noted improvement, no change, or relapse during follow-up periods is noted next in the table. Finally, dropouts are presented in the last column. It is important to note that most percent improvement scores are treatment completer analyses and could be substantially different as intent-to-treat analyses.

**Table 12-1.** Generalized anxiety disorder treatment studies that used DSM-III-R or DSM-IV criteria

Reference; follow-up period	Conditions (n)	Measures	% Improved
Butler et al. 1991; 6 months	CBT (19) BT (19) WTL (19)	BAI, STAI, Leeds, SelfA, HamA, AssessA, SelfD, AssessD, DAS, CCL, BDI, SPQ	CBT CI: 49.7 SR: 39.7 BT CI: 17.0 SR: 16.1 WTL CI: 8.5 SR: -0.7

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Barlow et al. 1992; 24 months	CBT (12) AR (16) CT (17) WTL (20)	HamA, HamD, STAI, CSAQ, EPI, BDI, FQ, SSS, monitoring	CBT CI: 34.9 SR: 28.8 AR CI: 50.7 SR: 33.4 CT CI: 45.8 SR: 18.8 WTL CI: -13.3 SR: 0.7
White 1998a, 1998b; White and Keenan 1992, 1997; 6 months, 2 years, 3 years, 8 years	CBT (26) BT (31) CT(26) PL (10) WTL (11)	STAI, DAS, FSS, BDI, MSPQ, SelfA	All SR CBT: 20.3 BT: 26.7 CT: 27.5 PL: 21.6 WTL: -3.4
Borkovec and Costello 1993; 12 months	CBT (22), AR (23), ND (21)	HamA, HamD, BDI, AssessA, Relax, STAI, Zung, PSWQ, monitoring	CBT CI: 68.2 SR: 39.3 AR CI: 61.5 SR: 42.9 ND CI: 42.1 SR: 23.2
Durham et al. 1994; 6 months	CBT short (20) CBT long (15) BT short (16) PSA short (15) PSA long (14)	AssessA, SAS, HamA, BSI, STAI, BAI, BDI, DAS, SES, monitoring	CBT CI: 41.3 Short SR: 16.0 CBT CI: 43.1 Long SR: 19.3 AR CI: 35.2 SR: 11.3 PSA CI: 35.8 Short SR: 13.8 PSA CI: 27.4 Long SR: 3.3
Sanderson et al. 1994a	CBT w/o PD (16) CBT w/PD (16)	BAI, BDI	w/o PD: 71.8 w/PD: 62.7
Crits-Christoph et al. 1996	SEP (26)	HamA, HamD, BAI, BDI, PSWQ, IIP	SEP CI: 47.2 SR: 35.4
Ladouceur et al. 2000; 6 months, 12 months	CBT (14) WTL (12)	PSWQ, WAQ, BAI, BDI, ADIS-IV, SORS	CBT CI: 58.6 CBT SR: 47.2

*Note.* ADIS-IV = Anxiety Disorders Interview Schedule for DSM-IV; AR = applied relaxation; BT = behavior therapy; CBT = cognitive-behavioral therapy; CT = cognitive therapy; PD = personality disorders; PL = placebo; PSA = psychoanalytic therapy; SEP = supportive-emoive psychodynamic therapy; WTL = wait list; 0 = no change; CI = clinician ratings average; Sr = self-report average; AssessA = assessor rating of anxiety; AssessD = assessor rating of depression; BAI = Beck Anxiety Inventory; BSI = Brief Symptom Inventory; CCL = cliniciansø checklist; CSAQ = Cognitive Somatic Anxiety Questionnaire; DAS = Dysfunctional Attitudes Scale; EPF = Fear Avoidance Program; FQ = Fear Questionnaire; FSS = Fear Survey Schedule; HamA = Hamilton Anxiety Scale; HamD = Hamilton Rating Scale for Depression; IIP = Inventory of Interpersonal Sensitivity; IAS = Inventory for Self-Assessment of Anxiety and Depression; MSPQ = Modified Somatic Perception Questionnaire; NA = not assessed; PSWQ = Penn State Worry Questionnaire; RAS = Ruminative Arousal Questionnaire; SAS = Social Adjustment Scale; SORS = Significant Others Rating Scale; STAI = State-Trait Anxiety Inventory; SelfA = self-rating of anxiety; SES = Self-Esteem Scale; SPQ = Subjective Probability Questionnaire; SSS = Subjective Symptom Scale; WAQ = Worry and Anxiety Questionnaire; Zung = Zung Self-Rating of Depression Scale

Possibly because the eight studies used a variety of different methodologies and outcomes measures, a relatively wide range of improvement was found across the studies. Percent improvement was rated consistently greater by blind clinicians than by patientsø self-reports. Clinician-rated improvement was between 34% and 68% for patients who participated in CBT, and self-report measures yielded between 16% and 71% improvement. In addition, four of six studies showed further improvement at follow-up, whereas two showed no change. Behavior therapy or relaxation yielded slightly lower effects, with clinician ratings ranging between 17% and 61% and self-report measures showing between 11% and 42% change. Two studies showed continued improvement, two showed maintained gains, and one reported deterioration at follow-up. The only other group reported in several of the studies was wait list, which had either no change or deterioration at both posttreatment and follow-up. See Table 1261 for more details.

Six studies have not been covered in previous reviews and, thus, are discussed in more detail because they provide important information about the treatment of GAD. The study by Durham et al. (1994) is the only study that has evaluated both cognitive and psychodynamic therapies for GAD and is the first study discussed here. Second, Crits-Christoph et al. (1996) conducted an open trial examining the effects of short-term psychodynamic therapy for GAD. Third, follow-up reports from White and Keenan (1992, 1997) and White (1998a, 1998b) showed that treatment gains were maintained in a short-term, group format of CBT. Fourth, Ladouceur et al. (2000) recently reported preliminary results of a new variant of CBT for GAD. The final two studies (Borkovec et al. 1995; Sanderson et al. 1994a) addressed issues of comorbidity of Axis I and Axis II disorders, respectively.

Durham et al. (1994) compared CBT with anxiety management (a behavioral technique) and psychodynamic therapy. One hundred ten patients with DSM-III-R GAD diagnosed with a structured interview were divided into five groups: 1) brief cognitive therapy (average of 9 sessions), 2) extended cognitive therapy (average of 14 sessions), 3) brief analytic therapy (average of 8 sessions), 4) extended analytic therapy (average of 16 sessions), and 5) anxiety management training (average of 8 sessions). Patients who received CBT improved the most, patients who received relaxation strategies also improved but not as much, and patients who received psychoanalytic psychotherapy improved the least. Patients who received psychoanalytic treatment deteriorated on three measures, although not significantly, whereas patients in the CBT and behavior therapy groups improved on all measures at posttreatment and follow-up. Consistent with previous findings, patients continued to improve after CBT was terminated. However, note that fewer than 10% of each group was considered øbetter,ø or fully recovered (a conservative measure of improvement), at posttreatment and at follow-up. About 60% of those patients who received CBT were considered in the normal range of functioning (within one standard deviation of normal on various measures) at follow-up, whereas approximately 30% of the applied relaxation group and approximately 20% of the psychoanalytic group achieved the same status. Finally, the authors reported that patients who received only half the number of sessions of treatment fared as well as those who received a full course of treatment.

This study had several strengths. First, the authors measured patientsø expectancies of recovery through therapy, which showed that patients in both CBT and relaxation training had greater expectations of improvement than did those in the psychoanalytic groups after the third treatment session. In addition, they used well-trained therapists who were strong believers in their theoretical perspectives, thus eliminating experimental bias for any one treatment. However, the study had several weaknesses as well. The researchers did not use treatment manuals and did not conduct adherence or competency ratings to ensure that the therapists in fact provided the said treatment components. Also, the reliability of the diagnosis of GAD was not confirmed. Finally, pretreatment levels of severity were higher for psychoanalytic treatment groups (a reported statistical trend), but this was not adjusted for in statistical analyses.

Crits-Christoph et al. (1996) conducted an open clinical trial of their newly developed short-term psychodynamically oriented treatment for GAD. Because this was the only trial that used treatment manuals, adherence ratings, and carefully

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trained therapists for a psychodynamic treatment focused specifically on GAD, it is considered here in detail despite the fact that we endorse randomized clinical trials before making any firm conclusions about its efficacy. Crits-Christoph et al. described the treatment as supportive-expressive psychodynamic therapy (SEP). SEP is grounded in psychodynamic theory, suggesting that anxiety is related to conflictual interpersonal attachment patterns and incomplete processing of past traumatic events. The authors cite Borkovec (1994), indicating the relevance of current research supporting this notion. The treatment focused on conflicts in relationships through examining the interpersonal desires of the patient, reactions of others to these desires, and consequences of these reactions. Relationships explored included current and past relationships as well as the therapeutic alliance. In SEP, the proposed mechanism of change is through working with the patient on exploring alternative methods of coping with feelings and interpersonal conflicts. SEP orients the therapist to deal with hypothetically specific GAD-oriented wishes, mechanisms of defense, and resistances. In addition, the influence of termination on the patient is explored in depth.

A total of 26 patients with GAD (diagnosed by structured interview) were treated by five therapists trained in SEP. Three patients dropped out. Posttreatment measures indicated significant improvement in all areas. Seventy-nine percent of the patients did not meet criteria for a diagnosis of GAD at posttreatment. Overall effect sizes were similar to those calculated for CBT and nondirective psychotherapy by Borkovec and Whisman (1996). Crits-Christoph et al. (1996) found that expressive techniques were more related to change than supportive techniques were. Thus, preliminary data suggest that this new, innovative psychodynamic therapy may be effective for patients with GAD.

Ladouceur et al. (2000) reported on a new variant of CBT, which was shown to be effective compared with a wait-list control group. This treatment was designed to target a primary feature of GAD: the inability to tolerate uncertainty (see Dugas et al. 1998 for a detailed description of the model). Topics of worry were dichotomized into either immediate concerns or remote concerns. Immediate concerns were challenged with problem solving and cognitive restructuring (catastrophizing and realistic estimation of probability; techniques described below). Remote concerns were treated with worry exposure and worry behavior prevention (described below). At posttreatment, 20 of 26 (76.9%) subjects no longer met criteria for GAD, and 14 (53.8%) subjects met criteria for high response status and high end-state functioning. At 6- and 12-month follow-ups, 20 patients did not meet criteria for GAD. Twelve patients met criteria for both high response status and high-end state functioning at 6 months, and 14 patients met these criteria at 14 months. Effect sizes appeared to be somewhat higher than in previous studies. This treatment appears to be a promising extension of the work on CBT for GAD; thus, further investigation is warranted.

White (1998a, 1998b) presented follow-up results to his 1992 randomized clinical study demonstrating that treatment gains were maintained at 2-, 3-, and 8-year follow-ups. Essentially, their active treatment was group CBT conducted didactically in six 2-hour sessions. Throughout treatment, patients were encouraged to be their own therapists. The authors stated that they have been conducting such treatment with as many as 60 people in a group and believe that a self-help model for treating anxiety may be effective, especially for populations in which access to mental health services is limited or psychotherapy is stigmatized. In light of the current health care environment, a notable aspect of this treatment is that it provides standard CBT strategies in a cost-effective manner, with results comparable to those of individual treatments. White and Jones (1997) also are attempting to create a computer-based service delivery system, which has facilitated positive change in patients, and a self-help procedure known as *Stresspac* (White 1998b). As the authors themselves note, this type of treatment may be useful for many patients but probably would not benefit more severe or disorganized patients often seen at outpatient mental health clinics. Certainly, determining which patients may respond to a short-term, focused approach administered by oneself or computer is an area worthy of further evaluation.

### Effect of Comorbidity on Outcome of Generalized Anxiety Disorder

Although some of the studies described in the previous sections included patients with a variety of comorbid diagnoses, only four published studies have examined the effect of comorbid disorders on the treatment of GAD. Borkovec et al. (1995) found that comorbid anxiety disorders tended to remit when treatment focused on GAD. Of 55 patients with a principal diagnosis of GAD, 23 (41.8%) were rated as having at least one clinically significant comorbid Axis I diagnosis (patients with major depression had been ruled out of the study, thus decreasing the overall rate of comorbidity). At 12-month follow-up, only two patients retained a clinically significant comorbid diagnosis, suggesting that in many cases comorbid anxiety disorders may not need to be addressed directly. Furthermore, Ladouceur et al. (2000) reported that their

sample of 26 patients had multiple comorbid diagnoses, most commonly specific phobia and social phobia. At pretreatment, patients had an average of 1.6 additional diagnoses, while at posttreatment and follow-up, they had significantly fewer (an average of 0.4) additional diagnoses.

Sanderson et al. (1994a) examined the influence of personality disorders on outcome and found that CBT treatment effects were equivalent for GAD patients with and without personality disorders. However, patients with personality disorders were more likely to drop out of treatment. Thirty-two patients with diagnoses of GAD were separated into two groups, with ( $n = 16$ ) and without ( $n = 16$ ) personality disorders. Of the 10 dropouts, 7 were given a diagnosis of a personality disorder. Effect sizes of treatment completers in both groups were similar to those mentioned by Borkovec and Whisman (1996). In light of these data, it appears that attention should be paid to issues related to dropout in patients with personality disorders (e.g., difficulties forming relationships).

In a study that focused on treating patients with principal diagnoses of panic disorder, Brown et al. (1995) reported that GAD remitted when the focus of treatment was on panic attacks in patients with a comorbid diagnosis of GAD. Of 126 patients with panic disorder, 32.5% received an additional diagnosis of GAD. Comorbidity did not appear to influence completer status but did appear to influence initial severity of panic. Of the 57 patients available for follow-up analyses, 26.3% were given diagnoses of GAD at pretreatment, whereas only 7.0% were given such diagnoses at posttreatment, 8.8% at 3-month follow-up, and 8.8% at 24-month follow-up. Thus, 11 of 15 (73.3%) patients did not meet criteria for a clinical diagnosis of GAD at posttreatment, and gains were maintained throughout follow-up assessments. Considering that the strategies used in CBT for panic disorder are similar for GAD, it is not surprising that the treatment would generalize to other anxiety symptoms as well (Sanderson and McGinn 1997).

## **Psychosocial Techniques for Generalized Anxiety Disorder**

Several techniques are involved in the treatments in the above-mentioned studies that appear to have positive additive influence to treatment outcomes. (For detailed descriptions of these techniques, see Brown et al. 1993; Craske et al. 1992.) These techniques include psychoeducation, self-monitoring, cognitive restructuring, relaxation, worry exposure, and worry behavior control. Of course, these techniques should be delivered in the context of a good therapeutic alliance. Each is discussed below.

### **Psychoeducation**

As in most cognitive-behavioral treatments, psychoeducation about GAD is an important aspect of therapy. A number of rationales exist for starting treatment with education about anxiety and worry. First, we believe that knowledge is an important factor in change. Many patients who have come in for treatment have never been told their diagnosis and frequently have misconceptions about their disorder (e.g., that anxiety will lead to psychosis) and misunderstandings about common responses (e.g., physiological, emotional) to worry and stress (e.g., that all worry is bad or that increased heart rate means that you are more likely to have a heart attack). In addition, some patients want a greater understanding of why they are anxious and what they can do about it. Although educating patients about the biopsychosocial model of anxiety (Barlow et al. 1996; Borkovec 1994) will not result in a *cure*, some patients experience great relief in knowing that their experiences are not uncommon, that considerable knowledge exists about the etiology and phenomenology of GAD, and that treatments are available designed specifically for their difficulties. Finally, providing education about GAD is a way to review the treatment rationale and, thus, may facilitate treatment compliance.

We recommend that psychoeducation be provided first in a written form (e.g., via a brochure such as the *Generalized Anxiety Disorder Brochure* available through the Anxiety Disorders Association of America) and then followed up in a session. During the session, questions are answered and the information is reviewed in a manner making the information personally relevant to the patient.

### **Self-Monitoring**

Self-monitoring is one of the most basic, yet essential, parts of cognitive-behavioral treatment. Monitoring is used as both an assessment procedure (to identify the context and content of worry) and a treatment strategy (becoming aware of

patterns and focusing on worry and anxiety may lead to reduction in worry and anxiety). The basic concept of monitoring is that each time the patient feels anxious, he or she should record when and where the anxiety began and the intensity of the experience, including symptoms that were present. The patient can monitor his or her experience on a full sheet of paper that contains the entire week or record one situation or day at a time. The amount of information gathered may vary with each patient, according to each individual's abilities and needs. It should be noted that avoidance of monitoring is seen as detrimental to treatment because of the likelihood that the patient is avoiding anxiety. Thus, we prefer to simplify and problem solve to attain compliance rather than eliminate the monitoring altogether.

To enhance compliance, the therapist should inform the patient of the reasoning behind the monitoring: to help elicit specific patterns that occur and lead to worry episodes, to obtain a good estimate of current symptoms, to be able to notice effects of treatment on symptoms, and to further examine worry (e.g., cognitions, behaviors). The basic aspects of worry monitoring are date, time began, time ended, place, event (trigger), average anxiety (from 1 [minimal] to 8 [extremely distressing]), peak anxiety (168), average depression (168), and topics of worry. Once cognitive restructuring is introduced, monitoring the specific thought process involving worries is added.

### Cognitive Therapy: Restructuring the Worry

As stated earlier, worry is a predominantly cognitive process, thereby making cognition an important aspect to address. Cognitive therapy is an effective strategy for this purpose. Patients with anxiety disorders, and with GAD in particular, overestimate the likelihood of negative events and underestimate their ability to cope with difficult situations (A. T. Beck et al. 1985). These "cognitive distortions" can play a major role in the vicious cycle of anxiety, and they accentuate the patient's feelings of danger and threat. Thus, cognitive therapy targets the faulty appraisal system and attempts to guide the patient toward more realistic, logical thinking.

The idea of cognition and its influence on anxiety is reviewed in the introduction to therapy and the psychoeducation discussion. Threaded throughout the whole biopsychosocial model is the fact that cognition plays a major role in eliciting and perpetuating the cycle of anxiety. Cognitive restructuring (J. S. Beck 1995) is introduced in detail by discussing the concepts of automatic thoughts, anxious predictions, and the maintenance of anxiety through unchallenged/unchecked negative predictions about the future.

*Automatic thoughts* are described as learned responses to cues that can occur so quickly that they may be outside of one's awareness. However, these cognitions can create, maintain, and escalate anxiety if their content contains information with a danger-related theme. Thus, the patient is taught to observe his or her own thoughts at the moment of anxiety (or immediately after) and to assess what cues may have brought on the feeling and to elaborate on what thoughts were going through his or her mind. The goal is to bring the thoughts into awareness. Initially, the thoughts are not immediately challenged but collected as data to determine common thoughts that occur during worry. In addition to self-monitoring during anxiety episodes, anxious cognitions are accessed within the therapy session through Socratic questioning (asking questions to lead the patient to uncover his or her thoughts during anxiety-provoking situations), role-playing (if worry occurred during a social interaction, playing the role of the friend and replaying the event in the session), and imagery (trying to visualize a worry-provoking event to access thoughts and fears). Increases in levels of anxiety either in or outside of the session are opportune times to monitor "hot" cognitions. This often needs to be modeled by filling out a thought record and helping the patient elicit thoughts (e.g., "I won't be able to do the homework right") in session before patients can accurately monitor their thoughts for homework. It is often helpful to warn patients that monitoring thoughts can provoke anxiety because one is focusing on anxious cognitions. It should be explained that exposure to such thoughts, while uncomfortable, is necessary for change.

Once thoughts have been monitored sufficiently to determine frequency and themes, categories of distorted thinking are introduced. Several cognitive distortions have been identified as common in patients with GAD, the three most common being probability overestimation, catastrophizing, and all-or-none (black-and-white) thinking (A. T. Beck et al. 1985; Brown et al. 1993).

Frequently, many distortions may exist in one statement. In our clinical experience, it can be very helpful to address all of the distortions in each statement. This will help the patient have a "fully loaded armamentarium" against anxious thoughts. A patient may remain anxious after challenging a thought focus on a single type of distortion because he or she is still apprehensive because of another distortion. Thus, we believe that the most effective strategy is to thoroughly process all cognitive distortions. For example, a patient presents with a worry statement that he is not going to be able to

pay the rent on time because he thinks that his paycheck will come in the mail late. We would have the patient evaluate the probability that he will not pay the rent based on past experiences of receiving his paycheck, evaluate the consequences of his paying the rent late, and evaluate his belief that if he is 1 day late with the rent, it is as if he will never pay it. Thus, the one worry may contain all three categories of distortions. Challenging in this fashion focuses on automatic thoughts. This may be sufficient for some patients, but for others, it may be necessary to examine core beliefs (i.e., consistent thought patterns about oneself, the environment, or the future) (J. S. Beck 1995).

## Relaxation

Relaxation exercises are an important component of most CBT-oriented treatments for GAD. The function of the relaxation exercises is to reduce the physiological correlates of worry and anxiety by lowering the patient's overall arousal level. Relaxation clearly reduces arousal, but it may play other roles as well. First, relaxation may help broaden the focus of one's attention. Anxiety tends to narrow attentional focus (Barlow et al. 1996); thus, as a result of its anxiety-reducing property, relaxation may widen the scope of attention and, therefore, increase the patient's ability to consider more alternatives in an anxiety-provoking situation. In addition, relaxation may serve as a distraction. As a sole method, distraction is not effective because by constantly avoiding anxious cognitions, patients are subtly supporting their belief that their thoughts are threatening and/or harmful. However, distraction can be an effective tool when the GAD patient is stuck in a worry pattern and needs to break the perseverating thoughts. Finally, contrary to the above concepts and conventional wisdom that view relaxation solely as a coping strategy, relaxation may at times facilitate the activation of anxious thoughts that are otherwise not being processed (Borkovec and Whisman 1996), thereby assisting in exposure to the anxious thoughts. This may explain why some patients describe becoming *more* anxious when initially engaging in relaxation exercises. Specifically, because worrying prevents processing of more fearful information (see Borkovec and Hu 1990) and relaxation helps reduce the "protective" worry, it may ultimately aid in exposure to fearful thoughts, ideas, or images that were not fully processed through or the result of worry.

Whether it be for any of the above reasons or alternatives not discussed here, relaxation clearly helps patients with GAD. Most recent methods of relaxation have adapted a flexible concept of teaching relaxation rather than insisting on any particular method. Thus, although progressive muscle relaxation techniques are emphasized for most patients and have the most empirical support, if a patient prefers another method and is able to use it effectively, then we recommend continued use of that strategy. At times, a combination of relaxation techniques is also encouraged, depending on the needs of the patient. Thus, yoga, transcendental or other types of meditation, and tai chi are all acceptable, especially if the patient is already engaged in such activities and/or if progressive muscle relaxation does not appear effective.

There are a couple of caveats to be noted about conducting progressive muscle relaxation. First, the goal is to have the patient feel relaxed. Although similar procedures are used to help patients with insomnia, the goal here is not to have the person fall asleep. Second, this procedure is similar to those used in initiating a hypnotic trance; because of this, patients may react to the procedure with anxiety, fearing a "loss of control." It is important to explain to the patient the difference between hypnosis and relaxation as used in CBT for GAD is that in progressive muscle relaxation, the focus is on awareness of bodily sensations. Hypnosis has the goal of distracting to the point of reaching a trance state. This would be counterproductive in treating GAD because these patients already are distracted from aversive states through worry. Our goal is facilitated exposure to worry-provoking stimuli, not avoidance.

## Worry Exposure

Another technique that recently has been developed but has not gained empirical support to date is worry exposure. As noted above, perpetuation of worry in GAD patients may be caused by ineffective processing, which is a result of avoiding concentration on the worry itself. Instead of focusing on a worry, patients attempt to avoid fully processing the worry through various behaviors (discussed below), as well as through constant shifting of worries. Thus, Brown et al. (1993) described a technique in which patients purposely expose themselves to both worry and images associated with the worry for an extended period. The concept is to have the patient activate the worst possible outcome in order to process it and habituate to the anxiety associated with it. Habituation of the anxiety is facilitated through cognitive challenging after the patient focuses on the image for 20-30 minutes. Borkovec et al. (1983) developed a similar technique referred to as *stimulus control*. In this technique, patients are asked to postpone worrying when it begins to occur, make a list of the

worries that occur, and then set aside an hour in the evening to worry. The two procedures have subtle differences, but the basic mechanism of action may be the same. If, as suggested earlier in this chapter, the function of worry is similar to agoraphobia or compulsions, then repeated exposure will cause extinction.

### Worry Behavior Control

Many patients who worry may behave in ways to try to avoid it. As stated earlier in this chapter, uncontrollable worry, although an aversive experience, may serve the function of avoiding an even more intolerable experience (i.e., by focusing on the worry instead of the other experience). Behaviors that facilitate the avoidance of the worry itself may then result in avoidance of both the anxiety created by worry and the experience avoided through worrying. According to this rationale, the patient's preoccupation with worry and its reduction distracts him or her from the original source of the negative state (e.g., fear, depression). Therefore, eliminating worry behaviors allows the patient to fully experience and process the worry.

To prevent worry behaviors, the patient carefully monitors what he or she does when he or she notices the onset of worry. Both subtle and explicit variants of these avoidance behaviors are detected through careful monitoring, assessment, and questioning. Then, similar to the technique of response prevention used in the treatment of obsessive-compulsive disorder, the patient is asked to refrain from these behaviors and instead to use the techniques described earlier to cope with the worry. If many behaviors are involved or if the patient is too anxious to just give up the worry behaviors, hierarchies are created to assist the patient in systematically giving up the behaviors, starting with easier ones and moving on to more difficult behaviors, making the task considerably less overwhelming (e.g., checking the child's forehead once daily, then every other day, and so on).

## Future Directions

As noted in this chapter, the concept of challenging worries through problem solving, cognitive restructuring, and worry exposure is not sufficient for all patients with GAD. If we conceptualize worry as a reaction to an underlying affective state, then elimination of worry will be helpful to only those patients who have sufficient coping skills and strategies to deal with whatever states the worry exposes them to. That is, just as exposure is helpful in agoraphobia, most cognitive-behavioral treatments of panic work by providing coping skills that will be used instead of avoidance strategies. If some patients with GAD are avoiding affect (Yamas et al. 1997), then simply eliminating the worry through relaxation and cognitive techniques will not work unless they are taught other strategies to deal with the triggers for the affect. Borkovec (1997) recently proposed that interpersonal strategies (i.e., Safran and Segal 1990) be tested in addition to cognitive techniques to determine whether processing of interpersonal difficulties facilitates activation and modification of affective structures (Foa and Kozak 1986).

In a similar notion, we have recently been working on applying schema-focused therapy to those patients who have not responded to traditional CBT (McGinn et al. 1994). This approach focuses on addressing underlying "early maladaptive schemas," which theoretically influence current symptomatology. Schemas are defined as persistent beliefs one develops about the self, based on formative experiences (which are often recurrent). Negative or faulty interpretations of positive and negative life experiences may lead to lifelong cognitive, behavioral, and emotional patterns of interacting with others and the environment. Based on our observations of patients with GAD, we hypothesize that they may have schemas that include unrelenting standards (the belief that one needs to be the best or perfect at everything he or she does), vulnerability to harm (the belief that the world is a dangerous place and one can easily be hurt in it), and emotional inhibition (the belief that expressing one's emotions is dangerous to the self or others and must be prevented). We have previously hypothesized that CBT nonresponders may be patients who fit into the characterological model of GAD, and, thus, an approach that focuses on these core issues may be warranted (McGinn et al. 1994). However, it is important to note that at this point, this is based on our clinical experience and not research data. Our recommendation for treating GAD is to begin with the standard CBT approach and to apply the schema-focused approach to those patients who have not responded.

## Conclusion

A considerable amount of progress has been made in the treatment of GAD, especially considering that it only recently became a formal Axis I disorder. The progress is in part a result of the refinement in the diagnosis through the development of DSM III-R and DSM-IV, which has allowed for more accurate diagnosis. In addition, advances in the understanding of the nature and function of worry have allowed investigators to develop treatments that directly target these mechanisms. Some of the most innovative work to further increase the effectiveness of CBT is focusing on facilitating emotional and interpersonal processing of information. The direction of the future appears to be initially treating patients with CBT and then following up with interpersonal and affective techniques in nonresponders. If assessment allows for prediction of nonresponders, alternative methods of combination may be fruitful. At present, we await the data to make conclusions about these promising methods.

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