Psychotherapy for Generalized Anxiety Disorder

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As discussed in other chapters in this volume, generalized anxiety disorder (GAD) is a relatively common disorder that is associated with significant distress and functional impairment. Recent advances in both pharmacotherapy and psychotherapy have resulted in a greater likelihood of providing effective treatment. However, reports suggest that people with GAD respond less robustly compared with those who have other anxiety disorders, which highlights the need for continued work in understanding the nature and treatment of GAD. In this chapter, we provide an overview of empirically based psychotherapeutic treatment of GAD. First, we briefly describe the history of psychosocial approaches to GAD, which have been predomi-

nantly cognitive-behavioral. Next, we elucidate the psychological mechanisms associated with GAD that appear to be involved in the maintenance of the disorder and, thus, must be addressed in treatment. We then provide a review of the treatment outcome literature relevant to GAD, and briefly review how treatment has been applied to special populations such as children and older adults. Finally, an overview of empirically supported psychological treatment strategies is provided. This chapter ends with a treatment algorithm to suggest what techniques to use and when to use them.

The Nature of Generalized Anxiety Disorder

GAD is a relatively new diagnosis, transformed from a "wastebasket" diagnosis pertaining to anyone with anxiety whose symptoms did not meet criteria for any other anxiety disorder listed in DSM-III (American Psychiatric Association 1980) to an independent diagnosis, more "carved at its joints" in DSM-III-R and DSM-IV (American Psychiatric Association 1987, 1994) (see also Chapter 11, "Phenomenology of Generalized Anxiety Disorder," in this volume). Until the advent of DSM-III-R in 1987, the development of treatment for GAD was aimed at treating "anxious neurotics." Two primary techniques were utilized: relaxation or biofeedback to address physiological tension and arousal (Rice and Blanchard 1982), and cognitive therapy to address the anxious thoughts associated with GAD (Beck 1976). Most CBT treatment protocols developed since then continue to integrate these two major strategies. However, as a result of greater precision in the definition of GAD and an increased understanding of the nature of worry and anxiety (Heimberg et al. 2004), newer treatment protocols also include strategies to address these recently identified components (e.g., techniques to minimize experiential avoidance, techniques to enhance problem solving).

Worry

The diagnosis of GAD depends on the existence of two core symptoms: worry (i.e., preoccupation with negative events occurring in the future) and physiological hyperarousal (e.g., muscle tension, sleep disturbance, feeling keyed up). Clearly, worry is frequently the most prominent symptom of GAD and is considered the cardinal feature of the disorder. Worry is a cognitive activity often referred to as anxious apprehension. It is elicited by

the perception of *potential* future danger (Craske 2003) such as "What if I fail the licensing exam I am taking next week and as a result I am not able to get a job?" Worry is often accompanied by behavior directed at gaining control to avoid the occurrence of the negative event (Rapee 1991; e.g., "What can I do to prevent failing the exam?"). Indeed, the appropriate "function" of worry will lead one to take action to decrease the likelihood of potential negative outcomes (e.g., increase studying to avoid failing the exam), thereby decreasing the anxiety.

Although worry in itself is not pathological, and is in fact very common in the population at large, individuals diagnosed with GAD suffer from excessive worry; that is, reporting worry most of the day, nearly every day (Brown et al. 1993; Dupuy et al. 2001). Even though worry often activates attempts at problem solving in nearly everyone, individuals with GAD lack confidence in their solutions, thereby leading to continued worry (Davey 1994). This raises an important issue to consider: if worry is a ubiquitous experience, how does it differ in individuals with GAD versus those without the disorder? There are two main aspects of pathological worry that differentiate it from "normal" worry (descriptive studies such as Ruscio and Borkovec 2004 and information-processing studies such as Mathews 1990 provide supportive evidence). First, pathological worry appears to be uncontrollable. In a study by Abel and Borkovec (1995), all (100%) of the patients with GAD described their worry as uncontrollable, in comparison with none of the 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 their 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 feature, worriers report five major functions of worry: 1) superstitious avoidance of catastrophes, 2) actual avoidance of catastrophes, 3) avoidance of deeper emo-

tional topics, 4) coping preparation, and 5) motivating devices (Borkovec 1994).

Research has demonstrated 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 allow for the avoidance of aversive imagery, the latter being associated with a 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 (see Borkovec et al. 2004 for a review). 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.

In addition, individuals with GAD often have a heightened sense of the likelihood of negative events (i.e., increased risk perception) and often exaggerate the negative consequences that would 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.

Physiological Hyperarousal

In addition to worry, patients with GAD experience unpleasant somatic sensations associated with physiological hyperarousal. The presence of physiological arousal is seen as a component of the *"fight-or-flight"* response that is activated by GAD patients' perceptions of danger. Although both the cognitive and the somatic sensations usually increase during the course of a "worry episode," for the most part, these symptoms are relatively chronic, and not limited to episodes of worry. The most common somatic symptom reported by patients with GAD is muscle tension. Other common symptoms include irritability, restlessness, feeling keyed up or on edge, difficulty sleeping, fatigue, and difficulty concentrating.

Characteristics of Patients With Generalized Anxiety Disorder

GAD is a relatively chronic disorder that begins in childhood (Brown et al. 1994). In view of these and other similar 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 (Sanderson and Wetzler 1991). Along this line, Barlow (2002) considers GAD the "basic anxiety disorder." GAD-like symptoms typically start in childhood, but often, a major stressor at some point in the individual's life will exacerbate symptoms and raise the condition to a clinical disorder. For example, one common example of a trigger we see clinically is becoming a parent. It appears that the increased responsibility and desire for perfection in child rearing may exacerbate these traits to the point of interference and distress.

New conceptualizations of GAD have focused on interpersonal deficits that may have developed in childhood (Crits-Christoph et al. 2005; Newman et al. 2004). In fact, interpersonal difficulties and concerns appear to be common triggers for worry episodes. Along this line, Sanderson and Barlow (1990) found that the majority of patients with GAD suffer from clinically significant social evaluative concerns. Other recent conceptualizations have focused on emotion regulation problems in individuals with GAD (e.g., Mennin et al. 2005). It is likely that the interpersonal and emotion regulation deficits interact to create difficulties (e.g., Erickson and Newman 2007). Other common characteristics of GAD patients include perfectionism, extraordinary need for control in their environment, difficulty tolerating ambiguity, and feelings of increased personal responsibility for negative events that occur or are predicted to occur in their environment (Wells 1994).

AUTHOR: Please provide a full reference to correspond to the above citation of Erickson and Newman 2007.

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 (or anticipatory anxiety) is a relatively generic feature of anxiety disorders (e.g., patients with panic disorder often worry about future panic attacks, patients with social anxiety disorder worry about embarrassing themselves in forthcoming social situations). In addition, a high level of comorbidity exists among the anxiety disorders, and GAD in particular, which requires one to consider diagnosing multiple disorders to account for the full range of psychopathology displayed by the individual (Sanderson and Wetzler 1991). To do this, the clinician must distinguish between symptoms that can be subsumed within GAD versus those that are signs of an additional, independent disorder. The primary distinction to be made in differential diagnosis is not the presence of worry per se, but the *focus* of the worry. Patients with GAD experience uncontrollable worry about multiple areas of their life. Common worries include minor matters, work and family responsibilities, money, health, safety, and the well-being of significant others. Moreover, patients with GAD often end up worrying about their worry (known as *metaworry*; Wells 1994). We will review differential diagnostic considerations below, with an emphasis on the distinctions that are relevant to CBT treatment (see Chapter 11, "Phenomenology of Generalized Anxiety Disorder," for other considerations of differential diagnosis).

Panic Disorder

Patients with panic disorder are worried about having a panic attack or about 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 the negative consequences of having a panic attack or the symptoms of anxiety per se. Some patients with GAD focus 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, there is a distinction between distress about the presence of bodily sensations (e.g., muscle tension) and catastrophic misinterpretations of such sensations (e.g., my heart racing means I am having a heart attack). Another distinction is the course of onset of worry compared with that of panic symptoms. 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 Anxiety Disorder

Social concerns are a common area of worry for patients with GAD, and these patients are often assigned a comorbid diagnosis of social phobia (Sanderson et al. 1990). For diagnosis of GAD, additional concerns beyond the social evaluative fears must be present. As opposed to the concerns of individuals with social anxiety disorder, interpersonal concerns in individuals with GAD frequently include interactions with close friends and relatives (e.g., "Did I say something wrong to my wife?") and are not as focused on rejection by others specifically because of inadequate content or behaviors (i.e., saying or doing things that are perceived as strange or unintelligent). In contrast to patients with social anxiety disorder, the evaluative concerns of patients with GAD extend beyond fears of embarrassment. In addition, patients with GAD are less likely than patients with social anxiety disorder to engage in significant avoidance, either overt (e.g., not going to parties, not meeting new people, not talking to people) or social anxiety-specific (e.g., censoring one's thoughts, staying on the edge of groups, rehearsing sentences in one's mind before speaking) which are focused on the prevention of negative evaluations and embarrassment.

AUTHOR: Above: 1) For clarity, should social anxiety disorder be identified as another term for social phobia? Or use one or the other throughout?

2) Sentence beginning "In addition,…" was missing a word. To fix, "significant overt avoidance" has been changed to "significant avoidance, either overt" Correct?

Obsessive-Compulsive Disorder

Although the differentiation between obsessive-compulsive disorder (OCD) and GAD seems obvious because of the behavioral rituals that are unique to OCD (Brown et al. 1994), some cases still can be extremely difficult to differentiate. This is especially true of patients with OCD who do not have overt compulsions (i.e., have only mental rituals). In these cases, a distinction must be made between the obsessions and the worries. To do so, it is necessary to assess the focus of concern. The nature of obsessions tends to be unrealistic and often takes an "if-then" form (e.g., "If I don't cancel the thought that my child will be hurt in a car accident

by imagining him safe at home, then he will be in a car accident"). In contrast, worry associated with GAD is usually focused on future negative events that are potentially more realistic; and it is more likely to be specified in a "what if" fashion, without a consequence being stated (e.g., "What if I am in a car accident on the highway and my children are injured?" or "What if I become ill?"). In research examining the distinction, nonanxious subjects reported that worry lasts longer and is more distracting (Wells and Morrison 1994). Worry also usually takes the form of predominantly verbal thoughts as opposed to images (Wells and Morrison 1994). Although compulsive behaviors are associated with OCD, patients with GAD often engage in reassurance-seeking and checking behaviors that can be somewhat ritualistic and superstitious (i.e., similar to compulsive behavior; Schut et al. 2001). In addition, patients with GAD may report feeling compelled to act to neutralize their worries (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.

Mood Disorders

A differentiation must also be made 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 GAD is not diagnosed as a comorbid disorder. More often than not, anxiety symptoms occur within the context of depression; 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 2002). The high comorbidity rates, symptom overlap, and genetic similarities between GAD and depressive disorders (see Huppert,

in press, for a review) support the notion that GAD and depression may have a common underlying predisposition. In fact, it has been suggested that GAD be moved into a category of dysphoric disorders in DSM-V and not be included among the anxiety disorders (Watson 2005).

AUTHOR: Above: 1) Please update press status of Huppert reference above.

2) In sentence beginning "According to DSM-IV-TR," "then GAD" has been substituted for "then it," to clarify. Please confirm this is correct.

Review of Treatment Outcome Studies

In our previous review of GAD (Huppert and Sanderson 2002), we reviewed meta-analyses and studies conducted between 1987 and 2000. Since 2000, several reviews have been written about the treatment of GAD (Borkovec and Ruscio 2001; Covin et al. 2008; Gould et al. 2004; Hunot et al. 2007; Mitte 2005; Roemer et al. 2002; Rygh and Sanderson 2004; Siev and Chambless 2007; Westen and Morrison 2001). As in earlier reviews, the efficacy of cognitive-behavioral therapy (CBT) and related strategies (e.g., cognitive restructuring, relaxation training) has received the most supportive evidence when used to alleviate worry and anxiety. In fact, the Task Force of the Division of Clinical Psychology of the American Psychological Association, which is involved with identifying empirically supported treatments, found that the only psychosocial treatment with sufficient research support to be labeled "empirically supported treatment" is CBT (Chambless et al. 1998; Woody and Sanderson 1998). Independent reviews of treatments for GAD by the National Institute for Clinical Excellence in the United Kingdom (McIntosh et al. 2004) and by the International Consensus Group on Anxiety and Depression (Ballenger et al. 2001) concluded that CBT is equivalent to medication as a first-line treatment. Furthermore, Dutch guidelines for treatment of anxiety by primary care physicians also recommend CBT (van Boeijen et al. 2005). These treatment recommendations are based on the accumulated literature demonstrating the efficacy of CBT for GAD as well as support for the cost-effectiveness of such treatments (Heuzenroeder et al. 2004). Although there is some preliminary evidence suggesting short-term

psychodynamic treatments for anxiety disorders may be effective (Crits-Christoph et al. 2005; Ferrero et al. 2007), adequate controlled studies have yet to be conducted. Therefore, consistent with the empirical literature, our review emphasizes CBT.

Previous Reviews

Borkovec and Ruscio (2001) conducted a meta-analysis of treatment outcome studies for GAD. Their primary conclusion was that CBT for patients with GAD is more efficacious in treating both anxious and depressive symptoms than no treatment or nonspecific control conditions, and that the combination of cognitive and behavioral strategies tends to be better than either alone. Specifically, they reported large between-group effect sizes for acute CBT when compared with no treatment, medium effect sizes when compared with placebo or alternative therapies, and small effect sizes when compared with cognitive or behavioral therapy alone. Nonspecific treatments (e.g., supportive psychotherapy) were reported to have large within-group effect sizes, but smaller than CBT. Long-term follow-up suggested smaller, but sustained, advantages of CBT over other treatments. Similar conclusions about the efficacy of CBT for GAD were reported by Gould et al. (2004). However, in their review, Hunot et al. (2007) concluded that it is difficult to determine whether CBT is substantially more effective than supportive therapy. A meta-analysis by Mitte (2005) in which CBT was compared to medications revealed that overall, CBT was superior to no treatment or placebo control conditions and was similar in effectiveness to medications. However, further analyses suggested that medications for GAD may be somewhat more effective than CBT, even though CBT may be more tolerable than medications (based on lower dropout rates). In her conclusions, Mitte stated that it is clear CBT for GAD has specific treatment effects beyond common factors. Most reviews conclude that approximately 50% of patients receiving CBT are categorized as responders.

AUTHOR: Above, "Long-term follow-up suggested…": Please clarify how this report of a follow-up finding relates to the 2001 meta-analysis of many studies by Borkovec and Ruscio, and provide a reference and citation if necessary. Thanks.

Newer Studies

As shown in Table 14–1, during the period 2000–2007, 17 outcome studies on GAD were published. A few of these studies presented follow-up data to previously conducted trials; most included 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. For Table 14–1, we calculated percentage improvement in anxiety and worry by subtracting posttreatment averages from pretreatment averages and then dividing by the pretreatment averages. Data were gathered from information provided in the published reports. 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, the rate of dropout is presented in the last column. Note that many percentages of improvement were calculated by using treatment-completer analyses; these results could have been substantially different if intent-to-treat analyses had been used. We do not review each study here because many of them are included in the previous discussion of meta-analytic reviews.

AUTHOR: In sentence above beginning "Note that many percentages," please check edited version to ensure it keeps the intended meaning.

Table 14–1 is currently at the end of the chapter. It will be positioned about here at a later phase of production.

The 17 studies can be divided into numerous categories: studies examining the efficacy of CBT versus wait-list conditions, dismantling designs that examined relaxation versus cognitive therapy (and/or their combination), studies attempting to improve CBT outcomes by adding other techniques, and studies examining psychodynamic therapies. Some of these studies also provided analyses to determine predictors of treatment outcome, which will be discussed later. Studies varied in terms of the length of treatment sessions employed and in the number of treatment sessions included. As in our review of studies that were published during the 1990s (Huppert and Sanderson 2002), percentage of improvement was rated consistently greater by "blind" clinicians

than by patients' self-reports. According to independent evaluators, CBT yielded from 30% to 66% improvement in anxiety, and self-report measures yielded between 11% and 61% improvement. With regard to follow-up, all but one study revealed no significant changes (either deterioration or improvement) from posttreatment to follow-up. However, one study did show statistically significant continued improvement after acute treatment (i.e., improvement from posttreatment to follow-up). With regard to comparisons with other treatments, overall, CBT was seen as significantly more effective than the waitlist control condition, and results for those who received CBT after being in the waitlist group showed they improved similarly to those who initially received CBT (Bowman et al. 1997; Ladouceur et al. 2000). Dismantling studies found that cognitive therapy, relaxation, and their combination yielded similar effect sizes (see also Siev and Chambless 2007).

AUTHOR: Above, in last sentence, "dismantling studies": Please clarify this phrase (or define this term).

To date, attempts to improve outcome by adding or modifying techniques have yielded variable results, with some findings showing more promise than others. Durham et al. (1994, 2004) have examined longer- versus shorter-duration CBT, with mixed findings. Durham et al. (1994) suggested that 16 sessions of CBT may be more effective than 8 sessions. However, in a second study in which patients were a priori categorized into those likely to have good versus poor outcome, Durham et al. (2004) found that providing more CBT (20 vs. 10 sessions) to individuals predicted to have poor outcome did not improve outcomes. In contrast, providing short-duration CBT (6 sessions) to individuals predicted to have good outcomes worked quite well (equivalent to those receiving more sessions, in the group predicted to have poor outcomes), and improvement continued at follow-up (see Table 14–1). Borkovec et al. (2002) modified typical CBT by including 2-hour sessions for all conditions. Although they found somewhat larger effect-sizes compared with other studies using this treatment in the short run (at posttreatment), the results were not substantially better than previous findings at follow-up. As a result of this study and their clinical experiences, Borkovec et al. (2002) suggested the need to examine alternative strategies to CBT, such as addition of interpersonal and emotion-fo-

cused techniques, rather than just an increase in the amount of CBT. Indeed, Newman et al. (2008) have recently completed a trial of CBT alone compared with an integrated CBT plus interpersonal and emotion-focused therapy. Preliminary results suggest that CBT alone was as effective as the integrated treatment at posttreatment and at 1-year follow-up. However, for a subgroup of patients, advantages of the integrated treatment in anxiety symptom reduction at 2-year follow-up emerged (Newman et al. 2008).

At present, perhaps the area receiving the greatest amount of attention within the CBT field is the incorporation of *mindfulness meditation* and *acceptance-based techniques* into, or instead of, standard CBT approaches. These techniques have been examined in the treatment of GAD as well. Unfortunately, preliminary results from initial trials in which the outcomes are compared with other CBT trials have not supported the notion that these strategies provide an additional benefit. The inclusion of mindfulness and acceptance-based techniques (Evans et al. 2008; Roemer and Orsillo 2007) does not appear to enhance the efficacy of CBT for GAD (see Table 14–1).

Two therapeutic strategies that appear to be promising additions to CBT are the addition of well-being exercises (i.e., focusing on improving quality of life and positive aspects of one's life; cf. Fava et al. 2005) and meta-cognitive therapy (i.e., focusing specifically on positive and negative beliefs about worry, thought control strategies, and other techniques; Wells and King 2006). Table 14–1 provides more details of these and other studies modifying CBT.

Three studies have examined the efficacy of psychodynamic treatments for GAD. Although two of these studies are predominantly nonrandomized trials, the fact that they include psychodynamic treatment, which is a commonly utilized approach in clinical practice, merits their extensive consideration. Therefore, more details about these studies are described, although this should not be seen as an endorsement of these techniques over CBT approaches that have been studied more extensively. Each study used a different school of psychodynamic thought (psychoanalytic/classical Freudian, neo-Freudian interpersonal, Adlerian). Durham et al. (1994, 1999, 2003) were the only investigators to examine both cognitive and psychodynamic therapies for GAD. Crits-Christoph et al. (1996) conducted an open trial examining the effects of short-term psychodynamic therapy for GAD, for which 1-year follow-up data are available (Crits-Christoph et al. 2004).

The group also published a randomized trial, suggesting that nondirective, supportive therapy was equally as effective as their psychodynamic approach (Crits-Christoph et al. 2005). They presented their data in a combined sample. In addition, Ferrero et al. (2007) reported on a trial of short-term Adlerian psychodynamic therapy. Each of the treatments yielded improvements in symptoms, although the degree of improvement differed.

Durham et al. (1994) compared cognitive therapy (Beck et al. 1985) to anxiety management (a behavioral technique) and to psychoanalytic therapy. A total of 110 patients with GAD were divided into five groups: 1) brief CBT (average of 9 sessions), 2) extended CBT (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). Results of this study indicated that patients who received any form of CBT improved most and those who received psychoanalytic psychotherapy improved least, with the group receiving anxiety management showing levels of improvement somewhere in between. Patients who received psychoanalytic treatment deteriorated on three measures (although not significantly), whereas patients in the CBT groups improved on all measures at posttreatment and 6-month follow-up, and the anxiety management group maintained gains. Follow-up data revealed that patients continued to improve after CBT or anxiety management was terminated. Follow-up data at 1 year and 8–10 years have been published (Durham et al. 1999, 2003). At 1 year, CBT continued to show superiority to psychoanalytic therapy in terms of symptom reduction, response rates, and overall functioning, and there were some advantages found for more intensive CBT over fewer sessions. Anxiety management continued to be a bit less effective than CBT and more effective than psychoanalytic therapy. At the 8–10-year follow-up, many differences between CBT and psychoanalytic treatment on anxiety and response measures had disappeared, though functioning and global symptom measures continued to indicate CBT was superior. It is interesting to note that a greater number of patients who received psychoanalytic therapy sought further treatment between the posttreatment and follow-up assessments.

This study had several strengths. First, the authors measured patients' 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 respective theoretical perspectives, thus eliminating experimental bias (allegiance effects) for any one treatment. However, the study had several weaknesses as well. The researchers did not conduct adherence or competency ratings to ensure that the therapists in fact provided the said treatment components. In addition, few therapists were used in the study and, as a result, it was possible that some of the treatment differences could have been due to therapist differences.

Crits-Christoph et al. (1996, 2004, 2005) conducted an open clinical trial and a small randomized trial of a short-term psychodynamically oriented treatment for GAD called supportive-expressive psychodynamic therapy (SEP). The authors used treatment manuals, adherence ratings, and therapists carefully trained in a psychodynamic treatment to target problems specifically thought to arise in GAD. SEP is grounded in psychodynamic theory, positing that anxiety is related to conflictual interpersonal attachment patterns and incomplete processing of past traumatic events. The treatment focused on conflicts in relationships through examining the interpersonal desires of the patient (wishes), reactions of others to these desires, and consequences of these reactions. Relationships explored included current and past relationships, as well as the therapeutic relationship. 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 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 61 patients with GAD (diagnosed by structured interview) were treated by therapists trained in SEP (Crits-Christoph et al. 2005). Posttreatment measures indicated significant improvement in all areas. There was less change in specific areas of interpersonal functioning (dominant and overly nurturing styles) than expected. Overall, effect sizes were similar to those

calculated for CBT and nondirective psychotherapy. A subset of these patients was part of an unpublished randomized trail comparing SEP with nondirective supportive therapy (see Borkovec and Abel 1991, in which CBT was superior to the same treatment). No differences in outcome were found on continuous measures. However, the quality of the response among patients receiving SEP was better than among those receiving the nondirective therapy (i.e., more were considered to be remitters), and the variability of response was less. Thus, preliminary data suggest that this new, innovative psychodynamic therapy may be effective for patients with GAD, and is certainly worthy of further investigation.

AUTHOR: Please provide a full reference to correspond to above citation of Borkovec and Abel 1991.

Another psychodynamic approach, Adlerian psychodynamic therapy (APT), was examined in a clinical trial by Ferrero et al. (2007). Patients with GAD were assigned to either APT, medication management, or the combination, based on clinical judgment of what was best for the patient by the treating psychiatrist. Results suggested that all three conditions were effective, although the percentage of improvement was somewhat lower than in CBT treatment trials. Given the lack of random assignment, it is difficult to make firm conclusions from this study. However, it appeared that APT was quite effective in reducing anxiety and depression and improving quality of life. In addition, there was no difference in outcome in the APT condition for those with Axis II disorders and those without, whereas for medication treatment, there appeared to be poorer response among patients with Axis II disorders. Overall, the results complement the findings of Crits-Christoph et al. (2005), demonstrating that short-term dynamic therapy focused on interpersonal issues can be therapeutic for individuals with GAD. Clearly, more research is needed on these psychodynamic treatments, especially controlled trials, as well as investigation into the mechanism of action of psychodynamic treatment and whether or not it differs from that of CBT (Ablon and Jones 2002).

Effect of Comorbidity on Outcome of Generalized Anxiety Disorder

Given the high rate of comorbidity in GAD (Sanderson and Barlow 1990), it is important to determine the impact of additional diagnoses on treatment outcome. Although many of the treatment studies described above have included patients with a variety of comorbid diagnoses, only four published studies have specifically 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 a 12-month follow-up, only two patients retained a clinically significant comorbid diagnosis, suggesting that in most cases, comorbid anxiety disorders may not need to be addressed directly. This may be largely a result of the fact that the treatment for GAD may be useful in reducing other anxiety symptoms as well. For example, learning cognitive restructuring as applied to worry in GAD may ultimately be generalized by the patient and used for coping with other anxiety symptoms. Ladouceur et al. (2000) reported that their sample of 26 patients included individuals with multiple comorbid diagnoses—most commonly, specific phobia and social phobia. At pretreatment, patients had an average of 1.6 additional diagnoses, whereas at posttreatment and follow-up, they had significantly fewer (an average of 0.4) additional diagnoses.

Sanderson et al. (1994) examined the influence of personality disorders on outcome in an open trial 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. A total of 32 patients with diagnoses of GAD were separated into two groups, based on whether or not they had a concurrent personality disorder. Of the 32 patients, 16 were diagnosed with a personality disorder and 16 without. Of the 10 dropouts (those not receiving what was defined as a minimal dose of treatment), 7 were given a diagnosis of a personality disorder at the pretreatment evaluation. Effect sizes of treatment completers in both groups were similar to those mentioned by Borkovec and Ruscio (2001). 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 therapeutic relationships, which is a consistent theme in a subgroup of GAD patients, as noted above).

Analogous to the finding in the Borkovec et al. (1995) study, a number of studies have focused on

changes in comorbidity rates in treated patients with principal diagnoses of panic disorder. Brown et al. (1995) reported that GAD remitted when the focus of treatment was on the principal diagnosis of panic disorder 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 (i.e., those with a comorbid disorder had more severe panic disorder). 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. Similar findings have been found by Tsao and colleagues in three studies (2005). Once again, considering that the strategies used in CBT for panic disorder are similar to those used for GAD, it is not surprising that the treatment would generalize to other anxiety symptoms as well (Sanderson and McGinn 1997).

Predictors of Outcome

Durham and colleagues (2004) have been the most systematic in examining predictors of treatment outcome. In two studies, they found that predictors of poor outcome include greater initial severity, low socioeconomic status, comorbidity, history of previous treatment, and relationship difficulties. The last is consistent with studies by Borkovec et al. (2002) and Zinbarg et al. (2007), both of which found pretreatment interpersonal style or hostile communication patterns with partners to be predictive of treatment outcome. In addition, Durham et al. (2004) found that the therapeutic alliance was a good predictor of acute outcome but a much less significant predictor of long-term outcome.

AUTHOR: In first sentence above, please provide a context for "have been the most systematic" (among all researchers of GAD? or among all whose studies are reviewed in this chapter?), or change wording (e.g., "... have been highly systematic...")

Special Populations

Older Adults

Although controversy exists as to whether or not the typical onset of GAD tends to be earlier versus later in life (Barlow 2002), it is safe to say that a significant percentage of older adults (i.e., >age 60 years), perhaps as high as 7% of the population, suffer from GAD (Flint 1994). Given that the vast majority of treatment trials on GAD examine considerably younger subjects (in fact, some exclude individuals over age 65), it cannot be assumed that the effectiveness of treatment found in those trials applies to older adults. Thus, a body of research has emerged examining the efficacy of CBT, as described above, for GAD in older adults (e.g., Stanley et al. 1996, 2003___; Wetherell et al. 2003). Clearly, the treatment with the most consistent support for late-life GAD is CBT (Ayers et al. 2007), with approximately half of patients achieving a significant improvement (Wetherell et al. 2005). Although these results are promising, it is important to note that, overall, responder rates in studies of GAD in older adults have been somewhat lower than those reported in the literature on younger adults (Stanley et al. 2003___). In light of this finding, a study by Mohlman et al. (2003) is particularly interesting. In a preliminary, uncontrolled study, they tested an "enhanced version" of CBT that included learning and memory aids designed to make the therapy more effective for elderly patients (e.g., homework reminder and troubleshooting calls) and found it to be superior to standard CBT. Investigating this modification in controlled trials is certainly warranted, and may eliminate the gap between response rates in younger and older adults suffering from GAD.

AUTHOR: Please see reference list and identify the two Stanley et al. 2003 citations above as 2003a or 2003b.

Children

Although there are no studies examining the efficacy of CBT in an exclusive sample of children diagnosed with GAD, several trials have evaluated CBT on mixed samples, often including children with GAD, overanxious disorders, and social anxiety disorder. For example, a large study by Kendall et al. (2004) included 94 children who had an anxiety disorder—55 of whom were diagnosed with GAD. Data revealed significant improvement in anxiety symptoms from pretreatment to posttreatment. In a thorough review of the literature on

CBT for childhood anxiety disorders, Chorpita and Southam-Gerow (2006) concluded that CBT has "very strong empirical support" for childhood GAD. It is worth noting that although the treatment closely resembles the intervention package utilized for adults (i.e., it includes cognitive and behavioral components), the child intervention by Kendall (1990), labeled the Coping Cat Program, has been modified to be more child-friendly.

CBT Techniques for Generalized Anxiety Disorder

As should be clear by now, CBT is the only psychotherapeutic approach with strong empirical support from controlled research studies. Although there may be some subtle differences in treatment packages employed within these studies, for the most part, there are several common "essential" elements contained in almost every CBT manual for GAD. (For detailed descriptions of these techniques, see: Rygh and Sanderson 2004; Zinbarg et al. 2006.) These methods include psychoeducation, self-monitoring, cognitive restructuring, relaxation, worry exposure, worry behavior control, and problem solving. Of course, these techniques should be delivered in the context of a good psychotherapeutic atmosphere that includes all of the nonspecific effects of therapy (e.g., a good therapeutic relationship, positive expectancy, warmth). Each technique is briefly described below.

Psychoeducation

As in most cognitive-behavioral treatments, psychoeducation about GAD is an important aspect of therapy. Several 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. So, the first step in CBT treatment is educating patients about the biopsychosocial model of anxiety (Rygh and Sanderson 2004; Borkovec et al. 2004).

Many patients experience great relief in knowing that their experiences are not uncommon, that a considerable amount of scientific knowledge exists about the etiology and phenomenology of GAD, and that effective treatments designed specifically for their difficulties are available. Finally, providing education about GAD is a way to review the treatment rationale (i.e., what the purpose of each treatment strategy is) and thus may facilitate treatment compliance.

We recommend that psychoeducation be provided first in a written form (e.g., via a Web site on GAD such as the one available through the National Institute of Mental Health (http://www.nimh.nih.gov/health/topics/generalized-anxiety-disorder-gad/index.shtml) and then followed up in session. During the session, questions are answered and the information is reviewed in a manner that makes the information personally relevant to the patient.

Self-Monitoring

Self-monitoring is one of the most basic yet essential parts of CBT. 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 worried or 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 describes 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 (1–8), average depression (1–8),

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 are reviewed with the patient in the introduction to therapy and the psychoeducation discussion. Threaded throughout the biopsychosocial model is the theme that cognition plays a major role in eliciting and perpetuating the cycle of anxiety. Cognitive restructuring 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.

AUTHOR: Above, note change from "Threaded . . . is the fact that . . .": (One doesn't usually think of a "fact" as "threaded.") Change OK?

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), 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 exist within 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 about 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 these exercises is to reduce the physiological correlates of worry and anxiety by lowering the patient's overall arousal level. Relaxation reduces arousal, but it may play other roles as well. First, it may help broaden the focus of one's attention; anxiety tends to narrow attentional focus (Barlow et al. 1996). As a result of its anxiety-reducing property, relaxation may widen the scope of attention and thereby increase the patient's ability to consider alternatives in an anxiety-provoking situation. In addition, relaxation may serve as a distraction. Distraction is not effective as a sole method, because by constantly avoiding anxious cognitions, the patient is subtly supporting the belief that his or her 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 concepts described above and to conventional wisdom, which assumes that relaxation is solely 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, worrying prevents the processing of other, more fearful information (see Borkovec and Hu 1990), and relaxation helps reduce this "protective" worry and thus may ultimately aid in exposure to fearful thoughts, ideas, or images that were not fully processed through or evoked by worrying.

AUTHOR: 1) Please review edited last sentence above to ensure that it keeps the intended meaning. OK as edited?

2) Please provide a full reference to correspond to the above citation of Barlow et al. 1996.

Whether for any of the reasons cited above or for other reasons not discussed here, relaxation clearly helps patients with GAD. Most recent methods of teaching relaxation have adapted a flexible concept rather than insisting on any particular approach. 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 can also be encouraged, depending on the needs of the patient. Accordingly, 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 several 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 distraction to the point of reaching a trance state. This would be counterproductive in treating GAD because, as discussed in this section, these patients are already distracted from aversive states through worry. Our goal is facilitated exposure to worry-provoking stimuli, not avoidance.

Worry Exposure

As noted above, the perpetuation of worry in GAD patients may be caused by incomplete processing of the worry, which may be a result of avoiding focusing on the worry itself. Instead of focusing on a worry that will increase anxiety in the short run, patients attempt to avoid fully processing the worry through various behaviors (discussed in the next section), as well as through constant shifting of worries. For this reason, 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. Similar procedures (called *cognitive exposure*) are used to facilitate intolerance of uncertainty in the treatment developed by Dugas et al. (2003). Borkovec et al. (1983) developed a similar technique referred to as *stimulus control*. In this approach, patients are asked to postpone worrying when it begins to happen, make a list of the worries that occur, and then set aside an hour in the evening to focus

exclusively on the worries. This exercise allows for a concentrated effort to process the worry, and theoretically it will result in habituation to the content of worry, thereby decreasing anxiety and the worry process itself. Even though there are subtle differences between worry exposure and stimulus control, the basic mechanism of action may be the same, namely, cognitive processing and habituation. If the function of worry is similar to that of agoraphobia or compulsions, in that it reduces the overall anxiety experience in the short run, then repeated exposure will cause extinction.

AUTHOR: Above: For clarity, can "of the specific worry," or similar language, be added to end of last sentence?

Worry Behavior Control

Many patients who worry may behave in certain ways to try to avoid it. Although it is an aversive experience, uncontrollable worry 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 explanation, the patient's preoccupation with worry 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, in a technique similar to that 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 to see if he has a fever, then every other day, and so on).

Problem Solving

Teaching problem solving is a classic CBT approach for many disorders. Dugas and colleagues (1998, 2003) outline two main problems for individuals with GAD. They suggest that the core problem of GAD is the intolerance of uncertainty, and that this has an impact on two types of problems that GAD patients face. The first type are "unrealistic problems." These problems cannot be solved rationally and must be dealt with via *worry exposure* (for example, for a person who continually worries about his or her health, there is no way to rationally guarantee that the person will never become ill, so exposure to the fear is recommended). The second type of problem is "catastrophic thinking" about real issues. For example, consider a person who worries about losing his job because he received some negative feedback on an evaluation. In this case, there are steps that can be taken—a problem-solving approach—to reduce the likelihood of this negative outcome. Often, GAD patients become so focused on the catastrophic outcome and on attempting to avoid the anxiety associated with it that they lose their natural ability to problem solve. Therefore, problem solving must be deliberately instituted. Problem solving includes identification of the problem, goal setting, generation of alternative solutions, selection of a solution, and implementation and evaluation. The goal in introducing these steps is not just to solve the problem being focused on, but to help the patient learn better problem-solving skills and learn that there are often multiple solutions to problems.

AUTHOR: Note changes to last sentence above (Original: "The goal of problem solving is to help the patient learn better problem solving skills (not just to solve the problem focused on), and to learn that there are often multiple solutions to problems." OK as edited?

Future Directions

As noted in this chapter, the technique of challenging worries through cognitive restructuring, worry exposure, and problem solving is not sufficient for all patients with GAD. If we conceptualize worry as a reaction generated in order to avoid a more intense 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 affect they experience. For example, 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 (Mennin et al. 2005), then simply eliminating the worry through relaxation and cognitive techniques will not work unless they are taught other strategies for dealing with the triggers for the affect. Borkovec et al. (2004) 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 addition, others have suggested working more directly on emotion regulation strategies through CBT techniques (Huppert and Alley 2004), emotion-focused therapy techniques (Mennin 2004), or acceptance and mindfulness techniques (Roemer and Orsillo 2007). Promising research has been conducted in the area of adding concepts of well-being and/or approaching valued, positive experiences (Fava et al. 2005).

AUTHOR: In above paragraph, note additions of "the technique of" to first sentence and "generated" to second sentence (both added to avoid possible misreading). OK?

Along these lines, some have suggested 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 one 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 patients who are CBT nonresponders may fit into the characterological model of GAD; thus, an approach that focuses on these core issues may be warranted (McGinn et al. 1994). However, at this point, the idea is based on our clinical experience and not on research

data. Our recommendation for treating GAD is to begin with the standard CBT approach, and then apply the schema-focused approach to those patients who have not responded.

AUTHOR: In sentence above beginning "We have previously hypothesized," please clarify what "these core issues" refers to. Thanks.

Finally, as an overall approach to treatment, a stepped-care approach should be further examined. The basic idea of a stepped-care approach is to provide treatment in "steps," depending on need. Given the promising outcomes of self-help programs for some patients with GAD (White 1998a), as well as the benefit of CBT provided in group format (White 1998b), these are both reasonable first-line approaches and can be followed by more intensive CBT methods for those patients who do not respond to the initial intervention. The stepped-care approach highlights the need for more research on modifying standard CBT treatment to address treatment-refractory illness (Durham et al. 2004). Modification of standard treatment raises not only the prospect of providing more intensive CBT, but also the question of whether alternative approaches, such as mindfulness/acceptance-based or psychodynamic approaches, can improve outcome in patients with CBT-refractory GAD.

AUTHOR: Please review edits to sentence above beginning "Modification of standard treatment raises..." OK as edited?

Conclusion

Considerable progress has been made in understanding the nature and treatment of GAD, especially given that GAD only became an independent Axis I disorder in 1987. In fact, this progress is largely a result of the continued refinement of the diagnosis from DSM-III to DSM-III-R and, more recently, DSM-IV, in which GAD went from a residual disorder to an independent disorder with worry advanced as its cardinal feature. With a focus on the nature and function of worry, clinical researchers have been able to develop treatments that specifically target the putative underlying psychopathological mechanisms. Demonstrating the process of developing empirically derived treatments, investigators have not been satisfied with treatment results from

standard CBT packages (which appear to help approximately 50% of patients), and though unsuccessful to date in finding strategies to significantly improve CBT treatment, they continue to develop and test new strategies. These continuing research efforts suggest a promising future in the treatment of GAD.

AUTHOR: Last two sentences above OK as edited?

◀   **Key Clinical Points**   ▶

- Substantial evidence suggests that cognitive-behavioral therapy for generalized anxiety disorder is effective, helping approximately 50% of GAD patients achieve significant symptom reduction and high end-state functioning.
- CBT typically consists of psychoeducation, self-monitoring, relaxation, and cognitive restructuring.
- Additional techniques such as worry exposure, problem solving, and focusing on improving positive aspects of one's life are also potentially helpful.

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Web Sites

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Anxiety Disorders Treatment Center: General anxiety: summary. Available online at http://anxieties.com/gad.php. Accessed _____

AUTHOR: Please provide date of access for all Web sites.

TABLE 14–1 QUERIES

AUTHOR:

1) In row below Durham et al. 2004, left column: 6-month *follow-up* **meant?**

2) In row below Wells and King, left column: 12-month *follow-up* **meant?**

3) Crits-Christoph studies and Zinbarg study have no info about follow-up. Should row below reference in left column read "No follow-up" as it does for some other studies?

4) Has "N/A" been correctly defined as "not applicable"? (or should it be "not available"?)

5) Please provide definitions of 0, +, and – in last column, and clarify meaning of "0/–".

6) Please provide a footnote "b" to correspond to the asterisk next to "61" in Crits-Christoph *N* **column.**

7) Please review all empty cells in follow-up column and consider whether "N/A" should appear in them.

Thanks.

TABLE 14–1. Results of recent psychosocial treatment outcome studies of generalized anxiety disorder

Study and follow-up period	Conditions (treatment length in sessions)	N	% Improvement in anxiety (IE; SRs)	% Drops	Follow-up
Durham et al. (1994,[a] 1999, 2003)	CBT (8 or 20)	38	IE: 55%; SR:30%	10%	+
1-year and 8–10-year follow-ups	PSA (8 or 20)	39	IE: 40%; SR: 4%	24%	0/–
	BT (8)	22	IE:44%; SR:15%	27%	0
Bowman et al. (1997); Floyd et al. (2002)	SET (CBT self-help)	19	IE: 33%; SR:20%	11%	0
2-year follow-up	Waitlist	19	IE: –3%; SR:4%	5%	N/A
Crits–Christoph et al. (1996, 2004, 2005)	SEP (16)	61*see query	IE: 44%; SR: 57%	1	0
	NDT (16)	16	N/A	2	
Ladouceur et al. (2000)	CBT (16)	14	IE: 47%; SR: 42%	0	0
1-year follow-up	Waitlist	12	IE: 9%; SR: 4%	0	
Ost and Breitzholz (2000)	CT (12)	18	IE: 47%; SR:21%	5%	0
1-year follow-up	AR (12)	15	IE: 47%; SR:20%	12%	0
Bond et al. (2002)	CBT (7)+PBO	12	IE: 48%	N/A	N/A
No follow-up	NDT (7) +PBO	14	IE: 44%	N/A	
	CBT (7) +buspirone	11	IE: 56%	N/A	
	NDT (7) +buspirone	7	IE: 51%	N/A	
Arntz (2003)	CT (12)	25	SR: 18%	20%	0
6-month follow-up	AR (12)	20	SR: 20%	15%	0
Borkovec et al. (2002)	CT (14)	25	IE: 66%; SR:26%	8%	0
2-year follow-up	AR (14)	26	IE: 57%; SR:27%	15%	0
	CBT (14)	25	IE: 64%; SR:28%	4%	0
Dugas et al. (2003)	CBT (14 group 2 hours)	25	IE: 47%; SR:40%	8%	0
2-year follow-up	Waitlist	27	IE: 9%; SR: 8%	7%	0
Durham et al. (2004)	CBT good prognosis (5)	29	IE: 41%; SR 11%	34%	0
6 months	CBT poor prognosis (10)	27	IE: 35%; SR 21%	33%	0
	CBT poor prognosis (20)	30	IE: 33%; SR 13%	40%	0
Linden et al. (2005)	CBT (24 sessions)	36	IE: 35%; SR: 15%	14%	0

TABLE 14–1. Results of recent psychosocial treatment outcome studies of generalized anxiety disorder

Study and follow-up period	Conditions (treatment length in sessions)	N	% Improvement in anxiety (IE; SRs)	% Drops	Follow-up
4 months treatment, 8-month follow-up	Contact control (CCG)	36	IE: 6%; SR: 3%	11%	N/A
Fava et al. (2005)	CBT (8)	10	IE: 32%; SR: 48%	20%	0
1-year follow-up	CBT+well-being (4+4)	10	IE: 54%; SR: 90%	20%	0
Wells and King (2006)	CT (2–12)	10	SR: 61%	0%	0
12 months					
Ferrero et al. (2007),	PSD (12 sessions)	34	IE: 29%	3%	0
3 months treatment, 9-month follow-up	Medication	33	IE: 43%	15%	0
	PSD+medication	20	IE: 27%	10%	0
Zinbarg et al. (2007)	CBT (12)	8	IE: 55%; SR 39%	12%	N/A
	Waitlist	10	IE: 0%; SR: 4%	0%	
Roemer and Orsillo (2007)	ABT (16 sessions)	19	IE: 54%; SR: 49%	16%	0/–
3-month follow-up					
Evans et al. (2008)	MBCT (8, group)	12	SR: 41%	8%	N/A
No follow-up					

Note. ABT=acceptance based behavior therapy, AR=applied relaxation, BT=behavior therapy, CBT=cognitive behavioral therapy, CT=cognitive therapy, IE=independent evaluator ratings, MBCT=mindfulness-based cognitive therapy; N/A=not applicable; NDT=non-directive supportive therapy, PBO=placebo, PSA=psychoanalytic therapy, PSD=Adlerian psychodynamic psychotherapy, SEP=supportive expressive psychodynamic therapy, SR=self-report ratings.

[a]In the Durham et al. (1994) study there were five conditions, but because of the similarities in outcomes between long (20 sessions) and short (8 sessions) treatments, these were combined in the table.
AUTHOR: PLEASE PROVIDE A NOTE TO CORRESPOND TO ASTERISK AT N=61 IN CRITS-CHRISTOPH ROW OF MANUSCRIPT TABLE.