Recent Advances in the Understanding and Treatment of Anxiety Disorders

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Anxiety is ubiquitous. *Everyone* experiences episodic or situational anxiety symptoms. Diagnosable anxiety disorders are the most common mental health disorders, more prevalent than both affective and substance abuse disorders. In the general population, 1-year prevalence for any criterion-based anxiety disorder is 16% [1], and lifetime prevalence is 28.8% [2]. Compared with median age of onset among mood disorders (age 30), median age of onset among anxiety disorders is much younger (age 11) [2].

Anxiety disorders can adversely affect quality of life, mobility, education, employment, social functioning, health care, and physical well being. Although the directional sequence of comorbidity varies, a primary anxiety disorder often contributes to secondary depression or substance abuse. The presence of an anxiety disorder is significantly associated with thyroid disease, respiratory disease, gastrointestinal disease, arthritis, migraine headaches, and allergic conditions, and, this comorbidity with physical conditions is significantly associated with poor quality of life and disability [3].

Anxiety disorders impose a societal economic burden comparable with the cost of depression, with 54% of the cost expended for nonpsychiatric medical care of physical complaints [4]. Individuals with anxiety disorders incur two-fold the primary care costs and overall health care costs compared with those without anxiety disorders, even when adjusted for medical comorbidities [5].

Among patients presenting to their primary care physician with a new complaint, point prevalence of anxiety disorders was 16.4% [6] Lifetime prevalence rates for anxiety disorders in primary care settings range from

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14% to 30% [7]. Most people suffering from anxiety disorders seek treatment in primary care settings, and, most present with generalized anxiety disorder (GAD), panic disorder, and posttraumatic stress disorder (PTSD) [7].

Although anxiety disorders are prevalent, costly, and disruptive to patients' lives, rates of detection and of evidence-based treatment remain low in primary care settings [7]. Surveyed family physicians report that they are much more knowledgeable about effective treatments for depression (88%) compared with panic disorder (17%) and generalized anxiety disorder (13%) [8]. Nearly half of primary care patients with anxiety disorders remain untreated; however, when treated, the care received from primary care physicians and psychiatrists is similar [9].

This review summarizes the phenomenology, diagnosis, and evidence-based treatment of panic disorder, specific phobia, social anxiety disorder, generalized anxiety disorder, and obsessive–compulsive disorder (OCD). (Posttraumatic stress disorder [PTSD] is reviewed in the article by Nakell in this issue.) Given the brevity of this review, preference is given to literature from the last 4 years that has contributed to better understanding and treatment of the anxiety disorders.

Panic disorder and agoraphobia

Prevalence

Lifetime prevalence is 22.7% for isolated panic attacks, 3.7% for panic disorder, and 1.1% for panic disorder with agoraphobia (ie, anxiety or avoidance related to situations in which escape may be difficult or in which help may not be available) [10]. Although agoraphobia especially is associated with substantial severity, impairment, and comorbidity, even isolated panic attacks are associated with meaningful role impairment [10]. Other recent data suggest higher lifetime prevalence for panic disorder (5.1%) and lower lifetime prevalence for agoraphobia (0.17%) but confirm that the presence of agoraphobia reflects a more severe variant of panic disorder [11]. Individuals with panic disorder coupled with agoraphobia were more likely to seek treatment and had earlier ages at onset and first treatment, longer episodes, and more severe disability, impairment, panic symptomatology, and Axis I and II comorbidity than those having panic disorder without agoraphobia [11].

Etiology and perpetuation

Despite the obvious burst of sympathetic arousal, no specific biological dysfunction seems to underlie most panic attacks. Isolated panic attacks are common; panic disorder is much less common. Susceptibility to panic disorder is moderately heritable, but etiology is multifactorial [1], including adverse early experiences that may sensitize an individual to feelings of being overwhelmed or loss of control.

Components of the fear-conditioning process and temperamental "anxiety sensitivity" (ie, fearful response to anxiety symptoms) both seem to aggregate in families. Panicky arousal and compelling symptoms that occur in the context of such preexisting vulnerabilities may initiate a vicious cycle. In short, fearful self-monitoring and efforts to control or avoid panicky arousal that is deemed dangerous only escalate panic proneness.

Clinical presentation and impact

In the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR), panic disorder is defined by discreet episodes of marked autonomic arousal (eg, tachycardia, palpitations, sweating, trembling, shortness of breath, chest pain, dizziness) that are accompanied by catastrophic thinking (eg, fear of fainting, going crazy, losing control, dying) and are not directly caused by a substance or medical condition. Episodic, acute panic is the defining feature, but the ongoing impact of panic disorder is more a function of worry about and avoidance of anxious arousal and/or physical symptoms between panic attacks. Panic attacks can occur in any of the anxiety disorders; however, fear of panicky arousal that feels dangerous, unprovoked, and unexplained, plus the consequences of that fear, are what define panic disorder.

When, in about half of cases, panic disorder includes attribution of possible panic to particular places or situations (eg, driving, crowds, flying, enclosed places), often with significant avoidance, it is designated as panic disorder *with agoraphobia*. The DSM-IV-TR portrays agoraphobia as a complication of panic disorder; however, recent data suggest that such a one-way causal relationship between spontaneous panic attacks and agoraphobia is incorrect [12].

Panic attacks, unlike ordinary anxiety, can feel truly life threatening. Therefore, sufferers usually first seek care in emergency or primary care settings and may be quite persistent in seeking medical consultations despite reassurance. They often are consumed by daily "what if?" worries related to the perceived dangerousness of panic attacks (eg, "What if I pass out while driving? What if my doctor is wrong and this *is* cardiac? What if I can't sleep at all? What if this happens while I'm sitting in church?"). If there is prominent depersonalization or derealization during panic, fear usually focuses on "going crazy" or "losing control."

A person may also experience being awakened from sound sleep by terrifying panic. Nocturnal panic attacks are non–rapid eye movement events that are distinguished from sleep terrors, sleep apnea, nightmares, or dream-induced arousals and are not linked with differences in sleep architecture. Nocturnal panic attacks are common among patients with panic disorder, with 44% to 71% reporting at least 1 experience [13]. In a randomized, controlled trial, cognitive–behavioral treatment effectively reduced panic

disorder severity, frequency of daytime and nocturnal panic attacks, and worry about nocturnal panic [14].

In primary care, patients typically present with unexplained symptoms or pain rather than direct complaints about panic attacks. It often is difficult to distinguish whether the presenting symptoms are a contributor to panic, a correlate of panic, or a compounding factor in the experience of panic. Various reports have suggested that panic disorder frequently contributes to noncardiac chest pain (40%), palpitations (45%), unexplained faintness (20%), irritable bowel syndrome (40%), and unexplained vertigo and dizziness (20%) [1].

Untreated panic disorder often is a chronically recurring, stress-sensitive disorder with a waxing and waning course marked by residual symptoms such as agoraphobia and somatization even during periods when panic attacks have ceased [15]. It is linked with higher medical utilization, medical comorbidity (eg, asthma, irritable bowel syndrome), poorer subjective physical and emotional health, depression, substance abuse, higher likelihood of suicide attempts, lower educational achievement, higher likelihood of unemployment and low work productivity, impaired social and marital functioning, and financial dependency that cannot be attributed to comorbid disorders [16].

Assessment

Screening with the five-question Anxiety and Depression Detector's two panic disorder questions (ie, In the past 3 months: "Did you ever have a spell or an attack when all of a sudden you felt frightened, anxious or very uneasy?" "Would you say that you have been bothered by 'nerves' or feeling anxious or on edge?") yields high sensitivity (.92) and modest specificity (.74) [17].

A positive screening result should prompt further questioning informed by the DSM-IV-TR criteria, a review of recent stressors, screening for affective disorders and substance abuse, and inquiry about the perceived danger in panic. There are many other instruments for assessing panic disorder and agoraphobia [18], but most are too time consuming or redundant for routine use in primary care.

Assessment must include consideration of medical conditions commonly associated with anxiety or panic (eg, paroxysmal atrial tachycardia, supraventricular tachycardia, asthma, hyperthyroidism, Meniere's). Most patients with panic disorder will not have positive findings that explain their panic attacks. However, panic disorder has been linked with a twofold increase in risk for coronary heart disease even when relevant confounding factors are controlled [19].

Treatment

Both pharmacologic and nonpharmacologic treatments have an evidence base of established effectiveness for panic disorder. Limitations of these evidence bases and evidence regarding alternative treatments will be summarized in another section below.

Selective serotonin reuptake inhibitors (SSRIs) are the drug of choice for treatment of panic disorder with no indication of differential efficacy within this class. Many placebo-controlled, randomized trials, meta-analyses and systematic reviews have reported medium to large effect sizes for SSRIs relative to placebo for periods up to 1 year [20].

Data also support comparable efficacy of the extended-release form of the serotonin/norepinephrine reuptake inhibitor (SNRI), venlafaxine, in panic disorder [21]. Although other second-generation antidepressants may also be helpful, supporting evidence is modest. Use of bupropion in panic disorder usually is discouraged because evidence supporting its use is lacking, and many patients report that it is uncomfortably activating or worsens panic attacks. Both the tricyclic antidepressants and monoamine oxidase inhibitors have shown effectiveness in panic disorder but have been relegated to second-line use.

One report suggests that benzodiazepines prevail as the most common treatment for panic disorder in primary care despite treatment guidelines to the contrary [22]. However, a more recent report suggests that SSRIs/ SNRIs are most commonly used for anxiety disorders by both primary care physicians and psychiatrists and that primary care physicians are *less* likely than psychiatrists to prescribe benzodiazepines [9]. Benzodiazepines are considered second-line or adjunctive treatment because of failure to address frequent comorbid depression, tolerance or abuse potential, effects on driving, and possible deleterious effects on cognitive–behavioral treatment (CBT), especially with as-needed use [22]. Benzodiazepines, usually in extended-release or longer-acting forms, are sometimes administered concomitant to the first few weeks of an SSRI trial. Neither buspirone nor beta blockers have shown effectiveness for panic disorder in controlled trials [20].

Both initiating and discontinuing drug treatment of panic disorder often are complicated by side effects that can mimic or augment symptoms of panic attacks. Beginning antidepressants at half (or less) of the usual starting dose, gradual increases, and repeated reassurance usually are recommended. Because of its short half-life, paroxetine is especially prone to causing both common (eg, dizziness, nausea, lethargy, headache) and uncommon (eg, anxiety, tremor, confusion, paresthesias) discontinuation symptoms. Among SSRI-treated patients with panic disorder, 45% experienced a discontinuation syndrome, which subsided within a month in all but three patients who had been taking paroxetine for a long time. Discontinuation syndromes appeared to be fairly common even when performed with slow tapering and during clinical remission [23].

Approximately 40% of patients with panic disorder cannot tolerate or do not respond to SSRI or venlafaxine trials of adequate dose and duration. Many patients who do not respond to medication trials will respond to CBT; and, many patients who do not respond to CBT will respond to medication trials. The addition of CBT to imipramine treatment of panic disorder was associated with less severe side effects and fewer dropouts as a result of

perceived side effects than treatment with imipramine alone [24]. It should be noted also that physician experience (ie, years since residency training) has been linked with medication response in panic disorder even in drug trials [25].

Many patients seem to benefit from the combination of medication and CBT in the short term, but combined treatment actually may be associated with worse outcome in panic disorder compared with CBT alone [26]. A recent Cochrane Database Review suggests that either combined therapy or psychotherapy alone may be chosen as first-line treatment for panic disorder with or without agoraphobia, depending on patient preference [27].

In more than 24 controlled trials, CBT has shown effectiveness for panic disorder that is at least comparable to pharmacologic treatment and may have effects of greater duration when treatment ends. True remission of panic disorder with high end-state functioning occurs in 50% to 70% of patients who receive CBT [28].

The cognitive component of CBT usually begins with patient education (eg, symptoms, autonomic nervous system, fear conditioning, generalization) and gentle challenging of the distorted assumptions and catastrophic thinking that perpetuate the vicious cycle of panic disorder. The belief that panic is dangerous must be addressed repeatedly, often with encouragement of relevant self-talk (eg, "This *feels* dangerous but it's not"). Patients need very specific reassurance, (eg, "No, you will not faint, have a heart attack, go crazy, or lose control because of panic").

Avoidance of bodily arousal or places associated with past panic attacks is gradually reframed not as a solution but as the primary perpetuator of panic disorder. Every effort is made to encourage patients' willingness to accept panic and, eventually, to *seek* panic to defuse its power over them. This process usually requires time, patience, and repetition, often over a period of months.

The behavioral component of CBT emphasizes exposure to panicky arousal with the goal of gradual habituation to such cues. If there is no agoraphobia, *interoceptive* (ie, focused on stimuli within the body) exposure may focus on voluntary provocation of bodily symptoms associated with panic, (eg, running stairs to recreate tachycardia, hyperventilating to recreate shortness of breath, spinning to recreate dizziness, staring in the mirror to recreate depersonalization). With agoraphobia, in vivo exposure may focus on graduated exposure to places or situations associated with panic, (eg, driving, riding the subway, shopping, elevators).

Many patients do not have access to specialist-delivered CBT because of financial means, insurance barriers, or geographic location. Books based on CBT principles are available for physician-assisted, self-directed treatment [29]. Web-based, self-directed CBT for panic disorder is evolving, but there are data suggesting that it may be an effective alternative [30]. Many physicians recommend aerobic exercise, relaxation exercises, diaphragmatic breathing exercises, or yoga for patients with panic disorder. Although there is a limited evidence base for judging the effectiveness of such techniques,

their likely amelioration of bodily sensitization (ie, lowered threshold for panic and hyperreactivity to bodily sensations) suggests that they may have indirect benefits for patients with panic disorder.

Panic disorder: pearls

- Do not underestimate the importance of patient education, (eg, "The tachycardia and hypertension you have during panic are not dangerous and will keep you from passing out", "Your chest pain and shortness of breath are caused by hyperventilation but are not dangerous"). Educate about how symptoms reflect false alarms from the autonomic nervous system, that panic feels dangerous but it's not, and that panic is usually short circuited by the very willingness to have it rather than trying to control or avoid it.
- Encourage reading and CBT, (eg, self-directed CBT [29] or referral for specialist-delivered CBT [31–34]). Emphasize that the best route to recovery is through willing acceptance and, eventually, even *seeking* panic.
- When initiating an SSRI or SNRI for panic disorder, start low, go slow, reassure often, and, when discontinuing, taper slowly. Use benzodiazepines judiciously.

Specific phobias

Prevalence

Lifetime prevalence of specific phobias is 12.5% [2]. Developmentally normal, transient fears (eg, darkness, separation, intruders, water) are common among children; however, prevalence of specific phobias among children has been reported as high as 17.6% [35].

Etiology and perpetuation

The etiology of specific phobias is likely multifactorial with variation across phobia types and individuals. Conditioning and genetic models have both garnered support and criticism. The fear-conditioning model depicts a specific phobia as the product of pairing an alarm of anxious arousal with a situation that has high likelihood of acquiring phobic properties. However, twin studies support a nonassociative model that postulates largely innate vulnerability to phobias based on exaggerated fear response to evolutionary, survival-relevant cues or a largely innate deficiency in adaptation to such cues [36].

Clinical presentation and impact

In DSM-IV-TR, specific phobias are defined by excessive and persistent fear that is cued by presence or anticipation of a specific stimulus. Although

the person usually recognizes that the fear is excessive or unreasonable, exposure to the stimulus almost invariably provokes immediate anxiety that may take the form of a panic attack. Contact with the phobic stimulus is endured with intense distress or it is avoided entirely. The avoidance, anxious anticipation, or distress must interfere significantly with the person's normal routine, occupational or academic functioning, or social activities and relationships.

Most people who have specific phobias do not present for treatment. Conversely, most anxiety disorders that present in primary care settings are *not* specific phobias. The DSM-IV-TR requires that the distress and avoidance associated with the phobic stimulus are not better accounted for by another disorder that may have different treatment implications. For example, if panic attacks occur primarily in response to catastrophic thinking about anxious arousal, panic disorder is the likely diagnosis, and a selective serotonin reuptake inhibitor or interoceptive exposure to bodily arousal is indicated. Apparent phobias may focus primarily on contamination and illness concerns or fear related to intrusive thoughts about losing control that would suggest OCD. A trauma history could be relevant to onset or perpetuation of some apparent phobias that actually reflect posttraumatic stress disorder.

Typical phobic stimuli include small animals (eg, dogs, cats, snakes, spiders, bees, rats, mice); natural environment (eg, heights, water, dark, thunderstorms); situational (eg, closed spaces/confinement, flying, bridges); other (eg, choking, vomiting); and, blood-injury-injection phobia. Rather than a specific phobia, so-called ''school phobia'' in children may reflect separation anxiety, social anxiety, panic attacks, depression, attention/learning problems, bullying, or willful refusal without anxiety.

Specific phobias cued by commonly encountered stimuli (eg, pets, insects) or accompanied by panic attacks may significantly affect mobility, social or employment possibilities, and quality of life. In contrast, someone with a severe snake phobia could easily arrange a lifestyle that precludes potential contact with the phobic stimulus.

Dental phobia or blood-injury-injection phobia may lead to avoidance of needed health care with potentially serious consequences. Similarly, poor diabetic control has been reported among diabetics with blood-injury-injection phobia [37].

Assessment

Although screening instruments and phobia-specific questionnaires are available [18], they are unlikely to be helpful in the primary care setting. If a specific phobia is suspected, the primary care physician should clarify first whether the presentation is best explained by another anxiety disorder with different treatment implications. If specific phobia seems the likely diagnosis, the physician should clarify the impact on functioning and decide

whether graduated exposure is indicated, either by encouraging patient education and self-conducted exposure or by making a specialty referral.

Treatment

Medication generally is not indicated in the treatment of specific phobias and may dilute the effectiveness of behavioral treatment. Graduated exposure to the feared stimulus is first-line treatment for specific phobias. Preliminary reports suggest that the effects of such exposure treatment for specific phobias may be augmented by acute administration of d-cycloserine just before exposure [38]. However, in one report, d-cycloserine did not enhance the reduction of spider fears or the generalization of treatment of a single session of exposure-based therapy [39].

Confronting a hierarchy from less to more fear-arousing situations and, most importantly, staying in the situation until anxiety diminishes, usually leads to gradual habituation of the fear response. Recent reviews have documented the effectiveness of CBT for specific phobias in both children [40] and adults [41]. For example, 14 controlled studies of in vivo (ie, in real-life situations) exposure for specific phobias have consistently shown benefit [41]. Although in vivo exposure is the standard, exposure may be helpful whether it is based on imaginal, in vivo, or virtual reality cues and whether it is self-conducted or specialist-conducted [41–43]. Self-help approaches yield greater benefit for specific phobias than for other anxiety disorders [44,45].

Preparatory cognitive therapy may set the stage for exposure treatment by addressing distorted risk assessments, anxiety-arousing self-talk, feelings of being overwhelmed, and the demoralization that accompanies chronic avoidance. Anxiety management skills may be taught to encourage acceptance of distress, without escape or distraction, to best facilitate extinction. Recent emphasis in CBT has moved toward encouraging willingness to seek and accept anxiety rather than to control it through conscious effort or techniques.

Results of both functional magnetic resonance and positron-emission tomography imaging studies suggest that exposure-based CBT modifies the dysfunctional neural circuitry that underpins specific phobias [46–49]. However, relapse after successful treatment is likely if intermittent, self-conducted exposure is abandoned.

Blood-injury-injection phobia is a special case of specific phobia with different treatment implications. Contact with most phobic stimuli prompts increased arousal typified by tachycardia; however, exposure to blood-injury-injection cues provokes the opposite. Initial hyperarousal is followed moments later by abrupt bradycardia and hypotension thought to reflect remnants of evolutionary adaptation to predator attack, (ie, no movement and staunched blood flow promote survival). If this vasovagal response is marked, syncope can result and may contribute to subsequent phobic conditioning to such cues. Exposure treatment is indicated, often beginning

with verbal descriptions or pictures, but progressing to direct exposure to the relevant cues (eg, donating blood). The vasovagal response requires special adaptation. Patients are instructed to increase muscle tension or to stimulate memories of angry feelings to counter bradycardia and hypotension during exposure [50].

Specific phobias: pearls

- Most individuals with specific phobias do not present for treatment. Most individuals who present with ''phobias'' do not have specific phobias. Consider whether the presented fears are best explained by a diagnosis of panic disorder with agoraphobia, OCD, or PTSD.
- Graduated exposure, whether self/parent conducted [51] or specialist conducted, is likely to be helpful if it is repetitive and sustained long enough for anxiety to diminish before the exposure is terminated.
- Blood-injury-injection phobia is uniquely characterized by bradycardia and hypotension that can cause syncope. Although exposure treatment is still indicated, deliberate muscle tension or angry imagery may be necessary to prevent vasovagal syncope.

Social anxiety disorder (Social phobia)

Prevalence

Conservative estimates suggest that lifetime prevalence of social anxiety disorder is 5% [52]. Primary care data suggest similar lifetime prevalence (5.7%) [53]. Compared with patients with other psychiatric disorders in primary care, social anxiety disorder was characterized by greater functional impairment, fewer visits, and tenfold the number of concomitant substance abuse disorders [53].

Etiology and perpetuation

As with panic disorder, the vulnerability for anxious apprehension, caused by hypersensitive fear circuits in the brain or adverse developmental experiences, seems to be fundamental to the etiology of social anxiety disorder. Both shyness and behavioral inhibition (ie, wariness in response to novelty) are moderately heritable and associated with subsequent development of social anxiety disorder [1]. Understanding of the neurobiology of social anxiety disorder is evolving [54].

Most of us experience memorable embarrassment without becoming consumed by the possibility of recurrence. If embarrassment is accompanied by panic, shame, repetitive replays in memory, and preexisting propensities for performance anxiety and worry-proneness, social anxiety disorder is the likely result. More than one third of social anxiety disorder sufferers report posttraumaticlike reexperiencing of socially stressful events with

accompanying hyperarousal and avoidance [55]. Social anxiety becomes self-perpetuating, because self-absorption and self-monitoring impede social performance, creating a vicious cycle, and subsequent avoidance preempts exposure that would facilitate habituation and disprove distorted assumptions.

Clinical presentation and impact

Social anxiety disorder has evolved as the preferred term in the literature, but the DSM-IV-TR still uses the term *social phobia*. The diagnosis is defined by persistent fear of social or performance situations that involve possible scrutiny and disapproval by others. Exposure to a feared situation provokes marked distress, panic attacks, or preemptive avoidance. Worrying about possible bungled performance and subsequent embarrassment may be very specific (eg, public speaking, musical performance, or athletics) or may be generalized across many social situations (eg, dating, introductions, parties, speaking to authority figures, using the telephone, writing/eating in public, public restrooms).

Hyperhidrosis, body dysmorphic disorder, or paruresis may complicate social anxiety disorder. Comorbidity between social anxiety disorder and other anxiety disorders, substance abuse disorders, and affective disorders is common. The high prevalence of alcohol abuse, especially in socially anxious men, has been explained by the self-medication hypothesis [1], but the interrelationship is complex [56]. Social phobics experience similar anxiety with and without alcohol, but they remember this experienced anxiety less precisely, perhaps serving as a reinforcer for the use of alcohol for the purpose of self-medication in future situations [57].

Popular press critics have disparaged social anxiety disorder as merely the medicalization of shyness and normal performance anxiety. Shyness correlates with but does not effectively predict social anxiety disorder, (ie, true social anxiety disorder does not develop in most shy individuals) [1]. True generalized social anxiety disorder is usually marked by significant avoidance, with deleterious impact on social relationships, lower academic and occupational achievement, lower quality-of-life ratings, and a rate of attempted suicide as high as 22% [58].

Social anxiety disorder is characterized by early-onset (mean, 15 years) and a disruptive, unremitting course if untreated; yet, more than 80% remain untreated [53]. A long-term, prospective, longitudinal, naturalistic treatment study found that social anxiety disorder has a chronic course and a greater adverse impact on social functioning than depressive symptoms or chronic medical illnesses [59]. Only 35% of patients with social anxiety disorder recovered after 10 years of prospective follow-up, and the postrecovery relapse rate was 34% during the 10-year follow-up [59]. In short, the evidence confirms that generalized social anxiety disorder is trivialized by popular conflation with shyness.

Assessment

Two well-studied tools appropriate for assessment or for tracking treatment of social anxiety disorder in the primary care setting are the self-administered Social Phobia and Anxiety Inventory and the physician-administered Leibowitz Social Anxiety Scale [18]. However, for brief screening, use of only three questions identifies social anxiety disorder with 89% sensitivity and 90% specificity, (ie, "Is being embarrassed or looking stupid among your worst fears?" "Does fear of embarrassment cause you to avoid doing things or speaking to people?" "Do you avoid activities in which you are the center of attention?") [60].

Treatment

The SSRIs and the SNRI venlafaxine are established as effective treatments for social anxiety disorder with the added advantage of treating common comorbidities [61]. A recent meta-analysis of 15 randomized, double-blind, placebo-controlled trials reported effectiveness of the SSRIs for social anxiety disorder with benefits in both social and occupational functioning [62].

Second-line treatments may include clonazepam, mirtazapine, and gabapentin [63]. The benefits of beta blockers are limited to very specific performance situations (eg, public speaking, musical/dance/athletic performance) rather than generalized social anxiety disorder [61].

As in specific phobias, preliminary evidence shows that d-cycloserine may augment exposure therapy in social anxiety disorder. In a randomized, double-blind, placebo-controlled trial, 50 mg of d-cycloserine administered 1 hour before exposure therapy sessions (ie, public speaking) resulted in greater effectiveness compared with a placebo before exposure sessions [64].

Five meta-analyses support the efficacy of cognitive behavioral therapy for social anxiety disorder, suggesting that in vivo exposure to social cues and cognitive interventions are most efficacious [65]. A subsequent, randomized, double-blind, placebo-controlled trial found that both fluoxetine and CBT were effective for social anxiety disorder, but combined treatment had no further advantage, and many patients remained symptomatic after 14 weeks of treatment [66]. In a Norwegian primary care setting, exposure therapy combined with sertraline showed deterioration at 1-year follow-up compared with exposure alone [67]. In a randomized, controlled trial, individual CBT for social anxiety disorder was superior both to intensive group CBT and to SSRIs [68].

Active ingredients in CBT for social anxiety disorder are being identified. For example, in a randomized, controlled trial, cognitive therapy showed superiority to social anxiety exposure therapy coupled with applied relaxation techniques [69]. Similarly, in a randomized, controlled trial comparing group therapy based on CBT versus exposure without explicit cognitive

intervention, only participants who received the cognitive component continued to improve after treatment ended with data suggesting that this was mediated by changes in the estimated "social cost" in anxious situations [70]. Given frequent comorbidity with depression, it is noteworthy that CBT's effect on social anxiety mediated 91% of the improvement in depression, but decreases in depression only accounted for 6% of the improvement in social anxiety [71].

Patients' accessibility to CBT is a continuing concern. Initial data suggest that internet-delivered CBT supplemented with telephone support or exposure is effective for social anxiety disorder [72,73].

Social anxiety disorder: pearls

- When patients present shyness, apparent isolation, or interpersonal discomfort, screen for social anxiety disorder by asking about fears of embarrassment and related avoidance of social activities.
- Among patients with social anxiety disorder, watch for comorbid substance abuse (especially alcohol in men), depression, and other anxiety disorders.
- SSRIs and venlafaxine may be useful for social anxiety disorder; however, a more conservative approach would begin with self-help CBT readings [74] and/or referral for specialist-delivered CBT [31].

Generalized anxiety disorder

Prevalence

Reported 1-year and lifetime prevalence of GAD is 2.1% and 4.1% [75]. In an earlier study, 1-year prevalence for GAD was 1.5%; however, 3.6% presented with at least subthreshold syndromes of GAD [76]. Such subthreshold presentations are as seriously impairing as full GAD [77] and are significantly related to elevated risk of subsequent psychopathology [78]. There is an 8% point prevalence of GAD in primary care settings, suggesting that this is the anxiety disorder most often seen by primary care physicians [79].

Etiology and perpetuation

Generalized anxiety disorder seems to be the product of biological and psychological vulnerabilities similar to those described for panic disorder and social anxiety disorder. Although GAD is moderately heritable, findings suggest that it is a nonspecific tendency to develop emotional disorders that is heritable rather than GAD specifically [1].

For vulnerable individuals, worry becomes a self-perpetuating, self-reinforcing habit. Worry reduces subjective uncertainty, contributes to subjective vigilance and preparedness, usually dampens autonomic arousal, and

fuels the belief that uncertain events and risk can be controlled [1]. Such relief, coupled with the nonoccurrence of low-probability feared events, provides salient reinforcement for the worry process. Repetitions tend to shape superstitious beliefs that worry is akin to problem solving that can somehow preempt bad things from happening. Worry functions as cognitive suppression and avoidance that becomes self-perpetuating and persistently distressing, in part, because it blocks other emotional processing [1].

Patients with GAD tend to overvalue the worry process, but their worries also distress them. Thus, they often cycle between indulging their worries, while at other times trying to suppress their worries. Recent evidence suggests that efforts to suppress intrusive thoughts are not effective and actually tend to increase distress [80]. Thus, efforts to suppress worries may sometimes serve as a short-term solution but, over time, probably contribute to the vicious cycle of worry-proneness.

Clinical presentation and impact

The current DSM-IV-TR characterization of GAD emphasizes excessive anxiety and worry about multiple foci of concern that occur more days than not for at least 6 months with significant disruption to daily life. In contrast to the tenth edition of the International Classification of Diseases (ICD-10), DSM-IV-TR emphasizes excessive worry and difficulty controlling worry. Accompanying symptoms include muscle tension, restlessness, irritability, difficulty concentrating, fatigue, or sleep disturbance. Because subthreshold presentations can be as impairing as full generalized anxiety disorder, the DSM-IV-TR diagnostic criteria (eg, 6-month duration, excessive worry) remain controversial [78,81].

Many patients with generalized anxiety disorder readily report, "I've been a worrier all my life." However, in one sample, 87% of primary care patients with GAD did not present with the complaint of anxiety or worry; most had nonspecific somatic complaints (eg, insomnia, head/muscle aches, fatigue, gastrointestinal symptoms) [82].

Although there are many reports of GAD's high comorbidity with depression, other anxiety disorders (especially panic disorder and social anxiety disorder), and substance use disorders, there is also a high proportion of pure GAD in primary care that is significantly impairing, poorly recognized, and rarely treated appropriately [82]. GAD is associated strongly with alcohol, drug, and nicotine dependence [75]. GAD is the anxiety disorder linked to the highest frequency (35.6%) of self-medication with alcohol and drugs, which, in turn, was associated with greater comorbidity and suicidality [83]. Comorbidities notwithstanding, recent data support the concept of generalized anxiety disorder as an independent disorder with significant impairment and disability [75].

Generalized anxiety disorder is associated with significant economic costs because of lost productivity and because of high use of medical resources.

GAD is associated also with significant personal costs reflected in role and quality of life impairment comparable to major depression [84]. Impairment and effects on quality of life are comparable in both pure GAD and GAD that is comorbid with other disorders [85,86].

Assessment

Pragmatic screening for generalized anxiety disorder in primary care should include queries about worry-proneness (eg, nearly daily, variable content); somatic symptoms of anxiety (eg, muscle tension, gastrointestinal distress, fatigue, restlessness); and impact on daily life (eg, insomnia, demoralization). The content of worries may indicate a different anxiety disorder such as panic disorder (ie, worry that arousal and related symptoms are dangerous), OCD (eg, fear of losing control, doubt or uncertainty, contamination or disease), or social anxiety disorder (eg, bungled performance, embarrassment).

For more thorough assessment or treatment tracking, options include the revised Generalized Anxiety Disorder Questionnaire, which conforms to the DSM-IV-TR criteria, and the Penn State Worry Questionnaire (PSWQ) [18]. Because worry is a common feature of all anxiety disorders, the PSWQ is not specific to GAD but is a well-established measure of worry-proneness with norms for GAD [87]. A newer, seven-item scale (GAD-7) has shown reliability, validity, and adequate sensitivity (89%) and specificity (82%) in a primary care setting [88].

Treatment

The standard drug treatments for generalized anxiety disorder for many years were benzodiazepines and buspirone, both of which have established efficacy in GAD [89]. However, other reports question the deleterious effects of benzodiazepines (eg, driving, memory, sedation, tolerance, and possible dependence), possible adverse impact of as-needed use on CBT, and poor effectiveness for cognitive anxiety (ie, worry) as opposed to somatic anxiety [90]. Despite US Food and Drug Administration (FDA) approval for use with GAD, others conclude that buspirone is not well established as monotherapy and may be no more effective than placebo for most patients [90].

Because of established efficacy for generalized anxiety disorder and comorbid anxiety and affective disorders, the SSRIs, particularly escitalopram, paroxetine, and sertraline, are now considered first-line drug treatments. Venlafaxine and duloxetine are alternatives [91,92]. Other alternatives include tricyclic antidepressants (especially imipramine) [93] and possibly pregablin [94]. Despite practice guidelines established in 1998 that recommended SSRIs and venlafaxine for GAD, benzodiazepines remain the most common treatment [95]. There is no evidence that combined psychopharmacologic and psychological treatment is more effective than either treatment alone [26].

A recent Cochrane Database Review reported that 13 studies showed the effectiveness of CBT for GAD compared with treatment as usual or waiting list control; however, when compared with supportive therapy, the efficacy of CBT was less clear [96]. A meta-analysis of studies comparing drug treatment and CBT for generalized anxiety disorder suggested no difference in efficacy but lower attrition rates for CBT [97]. A recent controlled trial of worry-based CBT showed effectiveness for GAD, with indications of continued improvement over the course of 2-year follow-up [98].

Current CBT for generalized anxiety disorder typically includes a variety of components, (eg, education about worry, self-recording of worries, relaxation training, exposure to worries paired with coping strategies, designated worry periods, focus on mindful attention to present experience, worries as "just thinking" rather than valid risk assessment and management, and challenging the worrier's intolerance for uncertainty and rationalization of worry as adaptive safety-seeking) [99].

Historically, relaxation training has been the hallmark of treatment for GAD, but there is no evidence that physiological activation actually decreases even when patients report benefit from this treatment [100]. Alternatively, recent interest has focused on the integration of mindfulness meditation with CBT for GAD to reframe worried thought content, to encourage a present-moment mindset that is contrary to worrying, and to offer an alternative to ineffective suppression. Initial findings suggest effectiveness of this approach for GAD [101]. Similarly, initial data support "metacognitive" approaches for GAD that address patients' reactivity to and efforts to control their own worried thoughts [102]. Other reports suggest that CBT for GAD also has significant impact on insomnia [103] and comorbid conditions [104] even if they are not specifically targeted.

Generalized anxiety disorder: pearls

- The SSRIs, particularly escitalopram, paroxetine, and sertraline, and the SNRI venlafaxine, are now considered first-line treatments for both the cognitive and somatic manifestations of GAD. As with panic disorder, it is prudent to start at half the usual starting dose.
- CBT for GAD is at least as effective as drug treatment but seems to be associated with less attrition from treatment and more durable effects over time. Both drug treatment and CBT are helpful for insomnia and conditions commonly comorbid with GAD.
- Worry management skills [105] and mindfulness meditation [106] encourage greater tolerance for uncertainty, an alternative to ineffective suppression, a focus on the present moment rather than future-oriented worrying, and devaluation of the worry process as "just thinking" rather than effective risk management. Although some patients will benefit from physician-directed self-help, specialist-delivered treatment for GAD may be necessary [31].

Obsessive-compulsive disorder

Prevalence

The prevalence of OCD is not well established, but lifetime prevalence in the general population usually is estimated at 2% [107]. Other data suggest lifetime prevalence as high as 3.5% for OCD and 8.7% for obsessive-compulsive symptoms short of criterion-based diagnosis [108]. A large scale study of a Kaiser Permanente database suggested 1-year OCD prevalence of 0.84% with higher prevalence among women than men but higher prevalence among boys than girls [109]. The heterogeneity of OCD and continuing controversy about diagnostic boundaries have complicated understanding of prevalence.

Etiology and perpetuation

Obsessive–compulsive disorder aggregates in families with reported four-fold greater lifetime prevalence among primary relatives compared with controls [110]. Twin studies suggest that obsessive–compulsive symptoms in children are heritable, with genetic influences ranging from 45% to 65% [111]. Vulnerability to OCD seems to be greater when personal or family history is marked by excessive responsibility taking, rigid codes of conduct, equation of thought and action, perfectionism, cognitive inflexibility, or black-and-white perception that tends to be intolerant of uncertainty and ambiguity [1].

Many findings suggest that OCD is underpinned by the prefrontal cortex–basal ganglia–thalamic circuitry and the serotonergic and dopaminergic systems [107]. There are many reports of distinctive imaging studies, deranged neurocircuitry, and abnormal sertononin and dopamine activity in OCD; however, effective treatment seems to correct such changes in many patients whether the treatment is biological or behavioral.

Because OCD can first appear in children after a group A beta-hemolytic streptococcal infection, there has been much interest in possible immune triggers in the onset or worsening of OCD [112]. The validity of pediatric autoimmune neuropsychiatric disorders and the significance of streptococcal infections in later onset and recurrent OCD both remain to be clarified.

During periods of stress, an individual who is genetically vulnerable to OCD may experience compelling intrusive thoughts (eg, possible loss of control, possible human immunodeficiency virus [HIV] contamination) that are hard to dismiss. When alarmed by these intrusions, the individual is very likely to increase efforts to neutralize such thoughts or to seek reassurance repetitively, both of which, over time, worsen anxiety and make the intrusions more salient. A cycle of escalating intrusions, hypervigilance, futile control of inherently uncontrollable thoughts, reactive panic, and powerfully reinforcing relief through neutralizing rituals becomes self-perpetuating [1].

Clinical presentation and impact

The DSM-IV-TR defines OCD as the presence of *either* (1) obsessions: anxiety-arousing thoughts or images (eg, "What if I unwittingly harm my child with this bleach?" "What if I carelessly left appliances on that could start a fire?" "How can I be certain that this is not impending insanity?") that are experienced as remarkably intrusive and inappropriate, *or* (2) compulsions: anxiety-relieving, repetitive behaviors (eg, hand washing, checking, reassurance seeking) or mental acts (eg, praying, covert words or images, counting) that aim to neutralize distress or "prevent" bad outcomes. Obsessional thoughts are much more compelling than worries about real-life problems, such as those noted in GAD. OCD is a remarkably heterogeneous disorder across individuals, within individuals, and across time. There are both common (eg, safety checking) and uncommon (eg, "What if I run outside naked?") presentations across a spectrum of insight from known irrationality to quasi-delusion.

Obsessive-compulsive disorder usually has gradual onset during childhood or adolescence and, without treatment, remains persistently disruptive. High health care use and low productivity are primary economic costs; diminished quality of life, functional impairment, and disruption of relationships are primary personal costs [107]. OCD has also been linked to other sources of diminished physical well being. For example, 35% of OCD patients had irritable bowel syndrome compared with only 2.5% of matched controls [113].

The similar DSM-IV-TR terms, *obsessive–compulsive disorder* on Axis I and *obsessive–compulsive personality disorder* on Axis II, have confused many physicians. Obsessive–compulsive personality disorder (OCPD) is not marked by the usually distressing obsessions and compulsions of OCD; rather, OCPD is characterized by orderliness, control, rigidity, and perfectionism that the individual sees as virtues even at the cost of flexibility, efficiency, and relationships. Although OCD and OCPD are linked, a systematic review reported that neither is a necessary or sufficient component of the other; indeed, 75% of those with OCD do not have OCPD, and 80% of those with OCPD do not have OCD [114].

Despite some overlap, popular terms for impulse-control disorders like *compulsive shopping* and *compulsive gambling* must be distinguished from the anxiety-relieving compulsions of OCD. The relationship between impulsivity and compulsivity is complex, but there are important differences such that treatment is usually dissimilar [115].

Overlap between OCD and apparently related disorders, such as hoarding, trichotillomania, skin picking, Tourette's syndrome, body dysmorphic disorder, and hypochondriasis, is frequently observed but poorly understood. For example, unlike the DSM-IV-TR, some contend that hypochondriasis is a variant of OCD, whereas others report that, despite overlap, OCD and hypochondriasis are separable and valid diagnoses [116]. Although hoarding can function as an anxiety-relieving compulsion in OCD, hoarding

in the absence of other OCD symptoms is marked by significantly less distress and poorer response to treatment and seems to be a clinically distinct syndrome [117]. Because OCD overlaps with so many other similar disorders, some have proposed an obsessive–compulsive spectrum of disorders, but this remains controversial [118]. The question remains whether OCD will be removed from the anxiety disorders section of DSM-V in favor of a new grouping of spectrum disorders with obsessive–compulsive features [119].

In addition to such overlapping disorders, OCD is frequently comorbid with other psychiatric disorders. In one large sample of children and adults, three of four with OCD had comorbid psychiatric disorders [109]. Depression, bipolar disorder, and other anxiety disorders are the most commonly reported comorbidities. Sex differences also have been reported: Mood disorders, anxiety disorders, eating disorders, and skin picking were more prevalent in women or girls with OCD, whereas tics, Tourette's syndrome, and alcohol dependence were more prevalent in men or boys with OCD [120].

Although postpartum depression has been well publicized, postpartum-onset OCD is also common. In one sample, the incidence of postpartum OCD was 4% 6 weeks postnatally [121]. Given the helplessness of a newborn, the most reprehensible and frightening obsession for a new mother is that she might unwittingly harm her infant. Such obsessions are common in new mothers and, in the absence of a history of aggressive, impulsive, or psychotic behavior, can be ameliorated by appropriate education and reassurance [122].

Assessment

Obsessive–compulsive disorder should be considered when patients present unrelenting reassurance seeking, frightening intrusive thoughts, persistent and marked concern about HIV/cancer/contamination, or repetitive behaviors, including repetitive avoidance. The standard assessment instrument for OCD is the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) [18]. A physician-administered form is available online [123].

Treatment

First-line pharmacotherapy for OCD consists of those drugs with potent serotonergic actions (ie, SSRIs and, secondarily because of side effects, clomipramine) [124]. Direct comparisons with SSRIs suggest that the SNRI, venlafaxine, may be a viable alternative, but double-blind, placebo-controlled trials are lacking [125]. OCD often requires higher eventual SSRI dosing (two to four times the standard doses) and longer treatment (more than 1 to 2 years) compared with other anxiety disorders [107]. SSRIs also may be useful in some cases of other obsessive–compulsive spectrum disorders such as hypochondriasis and body dysmorphic disorder [126].

The treatment effect for OCD is usually gradual and partial, and many patients do not respond adequately to first-line treatment [127]. If OCD remains

refractory after at least 3 months of maximal-tolerated SSRI dose administration, there is evidence to support augmentation with antipsychotic medications, especially risperidone; however, only about one third of this group responds, particularly those with comorbid tic disorders [128]. A recent Cochrane's Database Review reports that antipsychotic augmentation can benefit refractory OCD but questions the efficacy of augmentation over the longer term and the value of medication augmentation compared with other strategies (eg, switching medication, adding psychotherapy) [129]. Some cases of very refractory and seriously impairing OCD may also respond to neurosurgical procedures, brain stimulation techniques, or electroconvulsive treatment [130].

Findings from several meta-analyses suggest that cognitive–behavioral treatment is at least as effective as medication for OCD [107]. CBT usually begins with challenging the beliefs that underpin OCD (eg, errant assumptions about safety, futile certainty seeking, thought–action fusion, compulsions momentarily relieve anxiety but only perpetuate OCD). Such cognitive work is usually preparation for eventual "exposure and response prevention" (ERP), (ie, creative exposure to anxiety-arousing obsessive thoughts coupled with delay or blocking of anxiety-relieving compulsions). There are reports of greater effectiveness of cognitive interventions [131] and other reports that cognitive intervention adds little to ERP [132]. One review notes that ERP is the most effective treatment currently available (ie, 50% to 60% recovered); however, when the asymptomatic criterion is used as the index of outcome, ERP and cognitive therapy have low and equivalent recovery rates (approximately 25%) [133]. There is some evidence that CBT may be helpful for obsessive–compulsive spectrum disorders such as hypochondriasis and body dysmorphic disorder [134].

Because both drug treatment alone and CBT alone are significantly effective for only about half of OCD sufferers, there has been much interest in combined treatments but little indication that combined treatment is superior [135]. One recent trial comparing both treatments and their combination reported that CBT had a more specific anti-obsessional effect than medication, but CBT plus medication showed the greatest improvement in mood [136]. In contrast, another study reported that at 5-year follow-up, both individual and combined treatments were equally effective [137].

Given the limited availability of OCD specialists in many communities, self-help efforts with limited professional direction may also be helpful as initial intervention in stepped care [138]. Increasing OCD sufferers' willingness to seek anxiety-arousing obsessions [139] and addressing the overly accommodating or overly antagonistic responses of family members [140] may be integral to supporting self-help efforts.

Obsessive-compulsive disorder: pearls

- Contrary to common stereotypes of cleaning and checking, OCD is characterized by much more variability in presentation and phenomenology.

Consider OCD when patients present unrelenting reassurance seeking, frightening intrusive thoughts, persistent and marked concern about HIV/cancer/germs/toxins, or repetitive behaviors, including repetitive avoidance.

- The SSRIs are first-line drug treatment for OCD. Clomipramine and venlafaxine may be alternatives. Compared with SSRI indications for other disorders, drug treatment for OCD will likely require higher doses, longer duration of treatment, and multiple drug trials; yet, only about half of treated patients will improve significantly.
- Cognitive–behavioral treatment that encourages willing exposure to anxiety-arousing obsessions and willing disruption of anxiety-relieving compulsions is at least as effective as drug treatment for OCD. Physicians may direct OCD sufferers to appropriate self-help resources [141] or specialist referrals [31,34] consistent with the CBT approach.

Caution about evidence-based treatments

Psychopharmacologic agents and cognitive–behavioral interventions have earned the status of evidence-based treatments for anxiety disorders. However, a few cautionary notes are indicated.

Regarding drug trials, the placebo response rate for anxiety disorders regularly exceeds 30%; yet, a minority of antidepressant trials shows statistical superiority when compared with such a high placebo response rate [142]. Hence, negative or nonsignificant trials are not rare but rarely are published given the current climate of research sponsorship. Noncompleters often are deleted such that trials for anxiety disorders may be based on as little as one third of the original sample [143].

In a climate of competitive pressure for market share among drug manufacturers, statistically significant results may have more modest clinical significance. For example, duloxetine recently received an FDA-approved indication for generalized anxiety disorder [144]. Patients assigned randomly to either 60 mg or 120 mg once daily experienced an average 46% improvement in anxiety symptoms compared with 32% for those who took placebo. Psychic anxiety symptoms improved significantly compared with placebo, but somatic anxiety failed to separate from placebo. As has been true with other agents, there was both a modest treatment effect and a significant placebo effect. Although the measured drug response of some individuals is robust, grouped data suggest that an impressive evidence base should be tempered by humility about the efficacy of current drug treatments. Direct-to-consumer advertising may lead to unrealistic expectations about remission rates, recovery, and the burden of adverse effects associated with drug treatment.

Participants for drug and CBT studies are so carefully screened that they are not typical of the real-world comorbidities familiar to primary care physicians [143]. Treatment in outcome studies is brief, usually without

long-term follow-up; yet, anxiety disorders typically are chronic or recurrent disorders that are stress sensitive and have a fluctuating course. In one large meta-analysis, 36% of those who completed evidence-based treatment reentered treatment within 18 months [143]. Successful treatment of anxiety disorders usually requires longer treatment times, recurrent treatment, and a more individualized approach than is characteristic of published trials.

Cognitive–behavioral treatment is so well established primarily because it lends itself to the manualized treatment desirable for clinical trials. On rare occasions when non-CBT approaches are standardized and scrutinized, similar efficacy has been noted [145]. Fundamental questions have been raised about whether CBT's ostensible components are, in fact, the active ingredients [146]. Specific CBT techniques, even exposure methods, are probably less important than the relationship in which they are embedded; different clinicians get different results using the same CBT techniques [1,147]. The relationship with the physician prescriber may be just as critical to patients' tolerance of adverse effects, perseverance with medication, eventual medication response and willingness to pursue other forms of treatment [24,25].

Because many patients or rural areas have limited access to CBT-oriented treatment by an anxiety specialist, self-help efforts deserve consideration, perhaps coupled with some physician direction or telephone or online support. Such approaches have shown improved symptoms and psychological well being for panic disorder and phobias [148].

Various alternative therapies for anxiety disorders have been advocated with widely varying evidence and safety. For example, kava extract was once commonly recommended for anxiety until extended use was linked to potential liver damage [149]. A systematic review suggested best evidence of effectiveness for exercise (GAD), relaxation training (GAD, panic disorder, dental phobia, test anxiety), and bibliotherapy (specific phobias); more limited evidence supported effectiveness for acupuncture, music, autogenic training and meditation (GAD), inositol (panic disorder, OCD), and for alcohol avoidance by people with alcohol-use disorders to reduce a range of anxiety disorders [45]. More recent reports suggest antipanic effectiveness of aerobic exercise [150] and lifestyle modification [151]. A rigorous review suggested that anxiety reduction was the largest effect of ongoing massage therapy, yielding an effect size comparable to a course of psychotherapy [152]. In a national sample, 57% of individuals with panic attacks reported using alternative treatment methods, and most reported that conventional and complementary methods were similarly helpful [153].

Summary

Anxiety disorders usually are chronic or recurrent disorders characterized by stress sensitivity and a fluctuating course. Both psychopharmacologic and cognitive-behavioral approaches are well established, evidence-based

treatments for panic disorder, social anxiety disorder, generalized anxiety disorder, and OCD. Exposure-based behavioral treatment is well established as evidence-based treatment for specific phobias.

Despite impressive evidence of treatment effectiveness, there are many indications that primary care patients with anxiety disorders are not well identified and treated. Among the top two reasons given by primary care patients for their not receiving both pharmacotherapy and psychotherapy was that the patient did not "believe in" that form of treatment for emotional problems; however, "my doctor didn't recommend it" was also a highly patient-rated reason for no treatment [9]. Such data highlight the importance of effective patient education about anxiety disorders and the range of treatment options.

In one review, only 25% of primary care patients with anxiety disorders received adequate medication trials, and fewer than 10% had received specialist counseling with elements of CBT [154]. Primary care physician–delivered, guided self-help [155] and specialist-delivered CBT [156] may be helpful alternatives or additions to drug treatment of anxiety disorders. Primary care physicians can make a significant impact on patients' lives by identifying and educating about anxiety disorders, directing patients to appropriate self-help resources, choosing evidence-based drug treatment when indicated, and making referrals for specialist care.

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