Chapter 22
Anxiety Disorders, Obsessive-Compulsive and Related Disorders, Trauma- and Stressor-Related Disorders

Gretchen Gavero

Anxiety is one of the most common presenting symptoms in psychiatry and general medical practice. It can serve as a window into various causes of distress. Anxiety can manifest as an isolated episode (such as in panic attack) or as a debilitating and chronic illness (such as in obsessive-compulsive disorder, OCD, or posttraumatic stress disorder, PTSD). *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* defines fear as "the emotional response to real or perceived threat" and anxiety as "the anticipation of future threat" (APA 2013). Anxiety disorders exhibit excessive fear and anxiety associated with situations or objects. Note that both fear and anxiety are necessary components of our "fight and flight response" as humans. When the response is out of proportion, persistent, and falls beyond the cultural context, anxiety and fear may interfere with one's functioning, hence a disorder. To emphasize the diversity of the etiology of anxiety, the conditions that fall under "Anxiety Disorders" in *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV TR*; APA 2000) were recategorized into three separate chapters in *DSM-5* (APA 2013) as follows (Table 22.1):

At the end of this chapter, the reader will be able to:

1. Discuss the epidemiology, mechanisms, clinical presentation, clinical evaluation, differential diagnosis, and treatment of common anxiety disorders, obsessive-compulsive and related disorders, and trauma- and stressor-related disorders.
2. Describe the mechanisms of action and potential adverse effects of anxiolytics.

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Table 22.1 *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* revision of anxiety disorders (APA 2013)

Anxiety disorders
Separation anxiety disorder
Selective mutism
Specific phobia
Social anxiety disorder (social phobia)
Panic disorder
Agoraphobia
Generalized anxiety disorder
Substance/medication-induced anxiety disorder
Anxiety disorder due to another medical condition
Other specified anxiety disorder
Unspecified anxiety disorder
Obsessive-compulsive and related disorders
Obsessive-compulsive disorder
Body dysmorphic disorder
Hoarding disorder
Trichotillomania (hair-pulling disorder)
Excoriation (skin-picking) disorder
Substance/medication-induced obsessive-compulsive and related disorder
Obsessive-compulsive and related disorder due to another medical condition
Other specified obsessive-compulsive and related disorders
Unspecified obsessive-compulsive and related disorders
Trauma- and stressor-related disorders
Reactive attachment disorder
Disinhibited social engagement disorder
Posttraumatic stress disorder
Acute stress disorder
Adjustment disorders
Other specified trauma- and stressor-related disorder
Unspecified trauma- and stressor-related disorder

Case Vignette 22.1.1 Anjelique A
Your psychiatric consult-liaison team was requested to evaluate Anjelique, a 55-year-old female who is currently admitted to the medical floor for management of chest pain. She initially presented with symptoms of tachycardia, chest discomfort that is non-tender to palpation, shortness of breath, and tachypnea. She states that she is feeling "nervous."

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.1.1

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

A differential diagnosis should include:

- Cardiac event or arrhythmia
- Substance intoxication or overdose
- Anxiety due to a general medical condition
- Panic attack or disorder
- Generalized anxiety disorder
- Hyperthyroidism
- Hypoglycemia

Case Vignette 22.1.2 Continuation

You obtain further history: Anjelique reveals that she usually has feelings of nervousness and finally decided to go to the hospital since it has worsened over the past year. She describes herself as "always being on edge" with increasing irritability. She often feels anxious for days at a time. She feels easily fatigued despite having a "stress-free job." She is having difficulty concentrating at work because she is "worried about too many things." She describes constantly planning for the future. She was encouraged by her supportive husband to get a medical checkup. He reminds her not to worry too much about things that have not happened. She denies any major recent stressors or significant life events.

Anjelique has a past medical history of diabetes mellitus type II, which is currently managed with Metformin 500 mg po daily. Her most recent hemoglobin A1C is 2.0. She has no other medical conditions. She has a surgical history of an elective C-section at 25 years old after a normal, healthy pregnancy. She denies use of cigarettes, alcohol, and other drugs. She drinks one cup of decaffeinated coffee every morning. Family psychiatric history is positive for a sister with panic disorder. There is no family history of thyroid disorders. She is currently married to her husband of 30 years and has a 25-year-old daughter. She is working as an office manager for a successful realty company.

Physical exam on initial presentation reveals—vital signs: temperature 98.7, heart rate (HR) 105, blood pressure (BP) 130/72, respiratory rate (RR)

25, O_2 saturation 99 % on room air. General appearance: a 55-year-old female who is well groomed, appearing anxious, in moderate distress. Skin: mildly diaphoretic. Cardiovascular (CV) exam: Tachycardia, with regular rhythm. No murmurs. Respiration: No accessory muscle use, tachypnea. The remainder of the physical exam is negative. An accucheck reveals glucose level of 103 mg/dL. Urine toxicology and urinalysis are negative. Complete metabolic profile, thyroid-stimulating hormone (TSH), and thyroxine (T4) have no abnormalities. Electrocardiogram (ECG) shows sinus tachycardia with nonspecific T-waves. Overnight observation ruled out cardiac etiology.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.1.2

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Anjelique's presentation is consistent with generalized anxiety disorder (GAD). While GAD has multiple medical comorbidities, her medical work-up currently rules out medical causes of her anxiety. GAD is characterized by excessive anxiety or worry occurring most days of the week for at least 6 months. Patients with GAD are often apprehensive about the future or various situations/events. The worry is difficult to control and is associated with at least three of the following six symptoms: (1) restlessness or feeling keyed up/on edge, (2) easily fatigued, (3) difficulty concentrating or mind going blank, (4) irritability, (5) muscle tension, and (6) sleep disturbance. It is important to perform a comprehensive medical history in patients with GAD, as there may be associated medical conditions that are often seen with anxiety.

In panic disorder, panic attacks are recurrent and may occur "out of the blue." There is a fear of having more attacks causing avoidance of situations that one believes would trigger an attack. The fear is intense, abrupt, peaks within minutes, and is associated with physical discomfort (i.e., shortness of breath, choking sensation, and palpitations), feelings of unreality ("derealization") or detachment from self ("depersonalization"), or fear of losing control or dying. Panic attacks are not limited to panic disorders and are commonly present in other psychiatric disorders. While agoraphobia (intense fear/anxiety of being exposed in at least two of the following situations: public transportation, open or enclosed spaces, being in crowds, or outside of the home alone) was considered a specifier in *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*, note that in *DSM-5*,

agoraphobia is now recognized as a diagnosis separate from panic disorder to acknowledge that there are people who experience agoraphobia without panic attacks.

In the USA, the 1-year prevalence of panic disorder in adults/adolescents is approximately 2–3 %. For GAD, the prevalence is 2.9 % in adults and 0.9 % in adolescents. For both conditions, females are twice more likely than males to have these disorders.

Case Vignette 22.1.3 Continuation
You obtain further history: Anjelique mentions, "that pill calmed me down a lot." She was given one dose of Lorazepam 1 mg in the emergency department (ED). She experienced a quick relief of her anxiety soon after taking the medication. She expresses desire to start a medication that can help with her anxiety; however, she is concerned about being addicted to any pills. She asked for your advice on alternative options.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.1.3

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Benzodiazepines are considered "anxiolytics" which bind to the benzodiazepine receptor sites at the gamma-aminobutyric acid (GABA)-A ligand-gated chloride receptor. Benzodiazepines increase the frequency of GABA channel opening, thereby increasing the inhibitory effects of GABA. This action occurs in the amygdala-centered fear circuits, hence alleviating symptoms in anxiety disorders. Although benzodiazepines may help in acute anxiety episodes or panic attack due to the rapid onset of action, they are reserved for short-term use due to their addictive potential. If needed for long-term maintenance, some recommend that benzodiazepines need to be continued 6 months after the resolution of symptoms before tapering off slowly. The pharmacology of benzodiazepines is summarized in Table 22.2.

The first-line treatment for GAD and long-term management of panic disorder is serotonin-selective receptor inhibitors (SSRIs). SSRIs are antidepressants that act on the 5-hydroxytryptamine (5-HT) system, which are not properly regulated in GAD and panic disorder.

Table 22.2 Pharmacology of benzodiazepines

Benzodiazepine	Pharmacokinetics	Adverse effects
Alprazolam (Xanax®) *short-acting*	Hepatic metabolism via CYP3A4; half-life about 6 h but XR formulation can go up to 27 h; fast to intermediate onset	Common: Sedation, dizziness, ataxia, forgetfulness, confusion; may also cause paradoxical hyperexcitability, nervousness
Lorazepam (Ativan®) *short/mid-acting*	Renal metabolism, liver is only affected when hepatic dysfunction is severe; half-life 10–20 h; intermediate onset	Life threatening side effects: respiratory depression especially in combination with CNS depressants
Diazepam (Valium®) *long-acting*	Hepatic metabolism via CYP450; half-life 20–50 h; accumulates with multiple dosing; fast onset	Alprazolam: Associated with less sedation but has a high incidence of inter-dosing anxiety
Clonazepam (Klonopin®) *long-acting*	Hepatic metabolism via CYP3A4; half-life is up to 18–50 h; slow onset	

CYP3A4 cytochrome P450 3A4, *CNS* central nervous system

Psychotherapy is another mode of treatment that has been studied to improve anxiety. Cognitive distortions, selective attention to negative details, classical conditioning that reinforces negative views, and coping make cognitive behavioral therapy (CBT) an effective mode of treatment in patients with GAD and panic disorder. If the anxiety is related to unresolved unconscious conflicts related to parents or early caregivers (i.e., overprotective parent or early loss of parent), psychodynamic psychotherapy may have a role. Newer forms of therapy such as mindfulness-based stress reduction are also gaining popularity in addressing anxiety disorders. Studies have shown that a combination of medications and psychotherapy can be an effective treatment for anxiety disorders. The mechanism below summarizes the pathophysiology of panic/anxiety disorder, which also shows the area of action of various treatment modalities (Fig. 22.1):

Case Vignette 22.2.1 Damian D.
Damian is a 62-year-old widowed male with no past psychiatric history who presents to your outpatient psychiatric clinic and complains of "anxiety." He first noticed this 9 months ago. He reports increasing anxiety when leaving the house for groceries or doctor's appointments. He is also often worried about his family, especially when they are travelling, fearful that they may experience an accident or fall ill. Prior to this, he has been socially active and was involved in regular recreational activities with his friends. Medical history is positive for arthritis. He takes multivitamins daily and no other medications. Surgical history is positive for appendectomy in his 20s. He has his own consulting business, which is currently thriving; he works from home. He lives alone, previously lived with his daughter who moved to another state about a

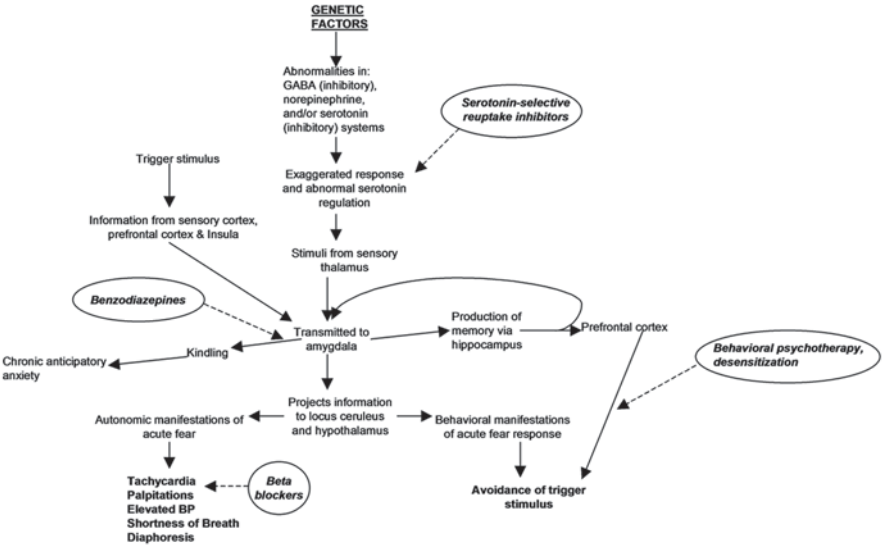

Fig. 22.1 Pathophysiology of anxiety/panic disorder. (Source: Anwati M. 2008. *Problem-Based Behavioral Science and Psychiatry, 1st Ed*)

year ago. He denies any substance use or smoking history. He does not drink coffee but drinks tea every morning. He had a recent physical exam and medical work-up from his family doctor and he was told that he is "healthy as a 20-year-old," and all his tests are negative.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.2.1

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Damian's current presentation lacks significant medical contributors to his anxiety. You may remember from earlier discussion that anxiety can represent various psychiatric disorders. At this point, a differential diagnosis should include:

- Generalized anxiety disorder
- Phobia or agoraphobia
- Social anxiety disorder

- Bereavement
- Depression
- Separation anxiety disorder

Case Vignette 22.2.2 Continuation
You obtain further information: Damian reveals that spending time with his daughter and his friends helped him cope when he lost his wife 10 years ago. His daughter recently married and moved out of the house into another state about a year ago. She visits him about once a month, which he appreciates very much especially that she lives 2-h flight away. He notices excessive worry that she may get into an accident when she is travelling. When she visits, he prefers to stay home with her rather than go out of the house. When she is away, Damian is hesitant to leave the house worrying that he may miss her phone call and has given up most of his outdoor activities because of this. He continues to enjoy his hobbies at home. He is happy about his daughter's marriage and new life. He denies feeling depressed, just "severely anxious" and hopes to overcome his anxiety and return to his normal activities.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.2.2

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Social anxiety disorder or social phobia is when one experiences excessive anxiety and fear of situations that call for social interactions. One may avoid situations where he/she may be judged by others. A prominent belief is that others may reject or humiliate him/her. As a result, there is a tendency to avoid situations that may cause fear of being negatively evaluated by others. This description is not consistent with Jon's presentation.

Damian's symptoms are suggestive of the diagnosis of separation anxiety disorder. In *DSM-5,* this diagnosis was moved from the section "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence" in order to recognize it as an anxiety disorder that may also have an adult onset. In the USA, the 12-month prevalence of separation anxiety disorder is 0.9–1.9% in adults, 1.6% in adolescents, and about 4% in children. About half of adult cases of separation anxiety have onset in childhood; separation anxiety in children or spouses is common. In children, studies have shown genetic heritability of separation anxiety disorder.

The diagnostic feature of separation anxiety disorder is a "developmentally inappropriate and excessive fear/anxiety concerning separation from attachment figures." This distinguishes this diagnosis from other anxiety disorders. The duration of fear/anxiety/avoidant behaviors must be at least 4 weeks in children/adolescents and at least 6 months in adults. Symptoms must include at least three of the following: recurrent/excessive distress when anticipating/experiencing separation from attachment figures, persistent/excessive worry about losing or harm to attachment figure or events that may cause separation from attachment figure, reluctance to go out due to separation or being alone (in children, school refusal is common), repeated nightmares about the separation, or repeated complaints of physical symptoms when separation is anticipated.

Like GAD and panic disorder, separation anxiety along with other anxiety disorders is treated with psychotherapy with or without the use of medications (antidepressants, anxiolytics such as benzodiazepines, sometimes atypical antipsychotics).

Case Vignette 22.3.1 Jon

Jon is a 31-year-old male who was referred to your outpatient psychiatric clinic by his primary care physician (PCP) for anxiety. He recently quit his work due to severe anxiety. He worked as a pizza deliveryman and describes having habits that interfere with his job tasks. He has had multiple minor car accidents (bumper scratches, rear-ending other cars) and driving tickets, explains that during his deliveries, his mind has been preoccupied with counting items on the road such as cars, signs, and light posts. He fears that if he does not count, he will encounter a problem on his delivery. He notes that he has had fascination with counting since he was young; however, it has now begun to affect his work.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.3.1

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Jon's symptoms suggest a diagnosis of obsessive-compulsive disorder (OCD). *Obsessions* are repetitive/persistent, intrusive thoughts, images, or urges that one attempts to ignore or neutralize with another thought or by performing an action. Such actions are called *compulsions,* which are repetitive behaviors (e.g., checking) or mental acts (e.g., counting) that one feels are necessary to reduce the distress

from the obsessions. Common themes of obsession/compulsions include: contamination/cleaning, symmetry, taboo thoughts, and harm. Avoidant behaviors to minimize triggers for obsessions and compulsions are common. At times, individuals with OCD feel that a compulsion is necessary in order to prevent harm related to the obsession. There is a severe anxiety, discomfort, or nagging feeling of incompleteness if rituals are not performed. The Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is a common tool used in identifying symptoms. In OCD, one is usually aware that the obsessions and compulsions are excessive and unreasonable; they are time-consuming and may cause significant impairment in functioning. In *DSM-5,* the diagnosis of OCD is further specified as having good or fair insight, poor insight, absent insight/delusional beliefs, or tic related. Most patients with OCD are encountered in primary care setting (APA 2013).

The 12-month prevalence of OCD in the USA is 1.2%, with a slightly higher rate in female adults than males; in childhood, prevalence is higher in males than females. The course of OCD can be episodic and if untreated, may be chronic. It is highly comorbid with anxiety and mood disorders. Individuals with OCD are also more likely to exhibit other OCD-related disorders (body-dysmorphic disorder, trichotillomania, and excoriation disorder). OCD may also be associated with schizophrenia spectrum of illness, Tourette's disorder, and eating disorders.

Neuroimaging studies reveal that there is hyperactivity in the ventral cognitive loop in the brain, which includes the orbitofrontal cortex, the caudate nucleus, and the dorsomedial thalamus. A mechanistic diagram of OCD pathophysiology is presented below (Fig. 22.2a, b):

In children, OCD may present as a manifestation of pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS). This condition may be similar in mechanism to other nonsuppurative post-group A beta hemolytic streptococcal (GABHS) complications such as rheumatic fever. In addition to the presence of OCD and/or tic disorder, other diagnostic features of PANDAS include pediatric onset, abrupt onset with episodic course of symptom severity, related GABHS infections, and associated neurological abnormalities. With prompt treatment of the infection, the psychiatric symptoms (e.g., OCD, anxiety, and tic) may resolve as quickly as in 2 weeks.

Case Vignette 22.3.2 Continuation

You obtain further information: Jon relays that he had multiple repetitive behaviors that began in his teenage years, including washing his hands multiple times a day for at least 5 min at a time; he estimates doing this about 15–20 times a day. He fears that he will contract a disease or cause others to fall ill if he does not wash his hands for a long time. Because of this and other ritualistic behaviors, he saw a psychotherapist for about 3 months while he was in college. He was able to decrease some of his behaviors since then; however, he notices that since his recent stress, they have begun to occur

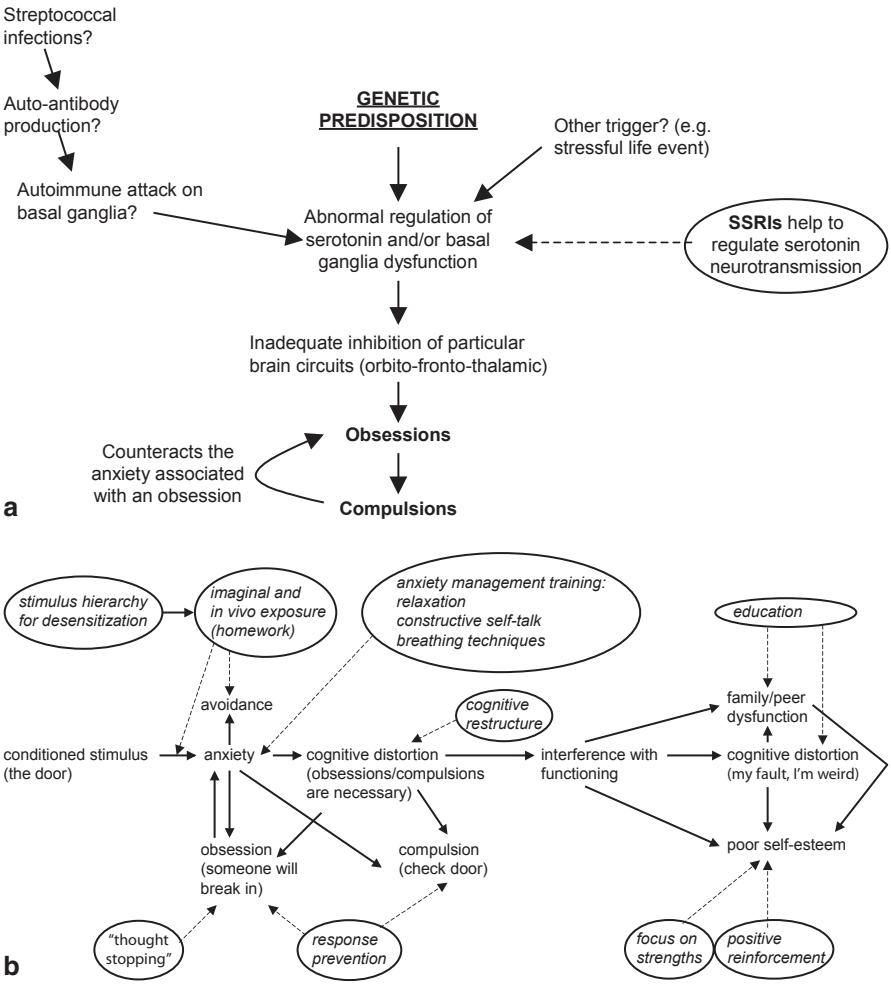

Fig. 22.2 Pathophysiology of obsessive-compulsive disorder *(OCD)*, from both a neurobiologic (**a**) and psychosocial (**b**) perspective. (Source: Anwati M. 2008. *Problem-Based Behavioral Science and Psychiatry, 1st Ed*)

more often. Jon denies any other psychiatric or medical history. No one in his family has ever been diagnosed with a psychiatric illness; however, he mentions that his mother has an unusual "hoarding behavior." They also share the habit of checking the house doors multiple times to ensure they are locked. Jon denies any use of alcohol or other drugs. His physical exam, including recent basic labs, is unremarkable.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.3.2

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

A combination of pharmacotherapy and psychotherapy is recommended for the treatment of OCD. If the symptoms are mild, psychotherapy alone may be sufficient. First-line pharmacologic treatment of OCD includes serotonin-reuptake inhibitors (SSRIs), including clomipramine, paroxetine, sertraline, fluoxetine, and citalopram; for OCD, high doses of SSRIs are often required. When a patient achieves a good treatment response with medication, it is recommended for pharmacotherapy to continue for 12–18 months before attempting to discontinue medication.

Case Vignette 22.3.3 Continuation

Jon admits feeling severely stressed since he has been unemployed. Since then, he noticed an increased urge to check the news online every time he comes home, to see if there were any hit-and-run accidents in his area because of the fear that he caused a motor vehicle accident (i.e., hit a pedestrian) on the way home. At times, he could spend up to 2 h searching for evidence that he did not cause harm to anyone. This has obviously caused him severe distress. Jon feels very frustrated; he knows that his thoughts are irrational but cannot resist compulsively checking the news. He worries that medications may not be enough to address his concerns and asks for a referral to resume psychotherapy.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.3.3

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Cognitive and behavioral therapies are common treatment modalities for OCD. Exposure and response prevention (ERP) therapy is a specific type of behavior therapy that is the first-line of treatment for OCD, with good response as monotherapy or in combination with medications. ERP involves a hierarchal inventory of the obsessions and compulsions, and individuals are gradually exposed from the least anxiety-provoking to the most anxiety-provoking stimuli that trigger their OCD symptoms. Avoiding exposure to the stimuli (such as when one gives in to the compulsion or neutralizing act), although initially reducing acute distress, causes one to be hypersensitive to the triggers of anxiety and essentially further feeds the obsession-compulsion cycle. In ERP, individuals learn ways to cope with the anxiety brought upon by the obsessions while resisting the compulsions.

Case Vignette 22.4.1 Zinnia Z.
Zinnia is a 22-year-old graduate student who presents to your outpatient clinic complaining of difficulty with sleep. She has difficulty with sleep onset and has broken sleep, often wakes up from bad dreams most nights of the week with trouble getting back to sleep. She has done well in school but recently finds it difficult to concentrate on finishing her schoolwork. She was doing well up until the beginning of the last semester 3 months ago when she failed to submit her projects on time and had to ask for due date extensions. Her PCP has prescribed her Ambien, but she discontinued this due to one episode of sleepwalking.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.4.1

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

At this point, the differential information should include:

- Primary insomnia
- Caffeine or substance-induced disorder
- Adjustment disorder (i.e., graduate school)
- PTSD
- Acute stress disorder

- Anxiety due to a general medical condition (i.e., hyperthyroidism)
- Other anxiety disorder
- Depression

Case Vignette 22.4.2 Continuation
You obtain further information: Zinnia has no past psychiatric history or family history of anxiety, depression, or suicide. She describes a good childhood; she enjoys learning and has always done well in school. She currently lives alone in her own apartment and denies any substance use. She has no known medical condition and takes no medications. Past medical history is positive for a broken wrist after a car accident about 9 months ago. She was a passenger involved in a motor vehicle accident, where the car flipped after the driver lost control causing her injury. She mentions she eventually returned to an active social life, however, notices that she often gets anxious when riding in a car with others. Since the accident, she tries to avoid going to events that require driving. If she has to go somewhere far, she prefers to drive herself than let others drive while she is a passenger. She also notes that she is often "hyper-alert" when driving.

Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.4.2

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Zinnia's symptoms are related to the traumatic experience of the motor vehicle accident and her symptoms are consistent with the diagnosis of PTSD. In PTSD, there is exposure to death (actual or threatened), serious injury, or sexual violence in one of the following ways: direct experience, as a witness, learning that the event occurred to a close family member or friend, or repeated/extreme exposure to details of event such as those experienced by first responders (e.g., police officers). There are four major symptom clusters in PTSD: reexperiencing the event (e.g., flashbacks), heightened arousal (e.g., sleep disturbance or hypervigilance), avoidance (e.g., avoiding memories or triggers), and negative thoughts and mood/feelings (e.g., estrangement or decreased interest in activities). Some individuals also experience feelings of detachment ("depersonalization") or unreality of surround-

ings ("derealization"). In Zinnia's case, the diagnosis of PTSD is specified to have "delayed expression" since at least 6 months have passed before the onset of symptoms. A diagnosis of acute stress disorder is appropriate if the symptoms occur and resolve within 1 month of the traumatic event. The diagnostic criteria for PTSD in children have unique features such as the presence of "PTSD preschool subtype" to specify diagnosis in children under 6 years old. There are various screening tools such as the "Trauma History Questionnaire (THQ)" and "PTSD Checklist" that may help in diagnosing PTSD.

The 12-month prevalence of PTSD in adults is 3.5 %; rates in children are varied due to the different developmental stages. PTSD rates are higher in veterans and individuals whose occupations involve risk of exposure to traumatic events (e.g., firefighters). The prevalence and duration of PTSD is higher in female adults than males. Cultural considerations are important in understanding PTSD, as studies have shown variable rates across ethnicities (e.g., higher rates in Latinos and lower rates in Asian Americans compared to non-Latino whites). The risk and prognosis of PTSD is contributed by pretraumatic factors (e.g., childhood temperamental problems, exposure to prior trauma), peritraumatic factors (e.g., perceived life threat or severity of trauma), and posttraumatic factors (e.g., coping skills, social support). Careful assessment of suicide risk and safety is imperative in PTSD just as in other psychiatric disorders.

The areas of the brain implicated in PTSD include the amygdala, hippocampus, and prefrontal cortex; traumatic stress is associated with functional and possible structural changes in these areas. There are no conclusive data regarding heritability of PTSD. What is clear is that there is an abnormal noradrenergic activity in individuals with this disorder (e.g., studies showing high levels of urine norepinephrine in Vietnam War veterans). PTSD causes an increased sympathetic nervous system and cortisol response. Figure 22.3 illustrates the suggested pathophysiology of PTSD.

Case Vignette 22.4.3 Continuation
Zinnia proceeded to describe further details of the accident. She also realized that her nightmares are usually related to the accident and her injury. You explain that her symptoms are consistent with PTSD and discussed the treatment options. She was open to starting medications and also requested a referral for psychotherapy. In addition, you discussed immediate interventions to address her sleep by educating her about good sleep hygiene. You also explained the prognosis of her condition. She was grateful after learning that there is hope for her condition and looks forward to performing well in academics once again.

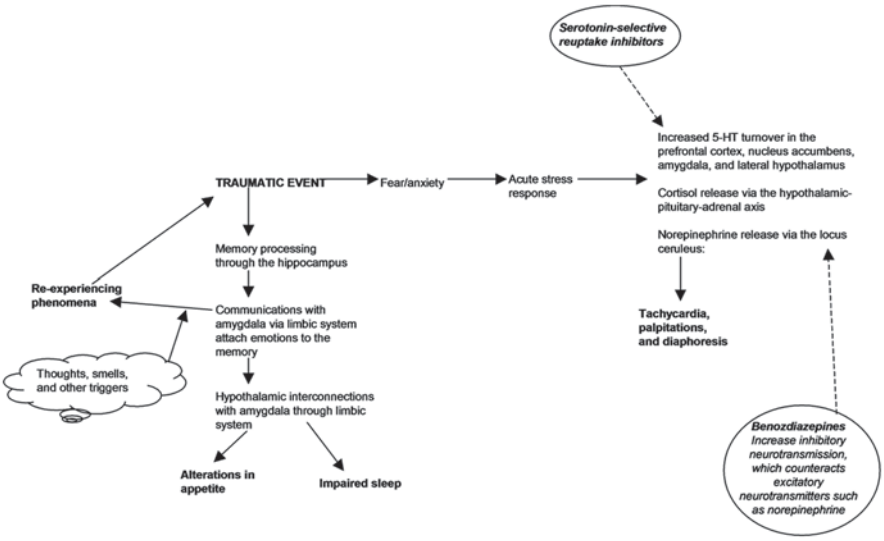

Fig. 22.3 Pathophysiology of posttraumatic stress disorder *(PTSD)*. (Source: Anwati M. 2008. *Problem-Based Behavioral Science and Psychiatry, 1st Ed*)

	Please proceed with the problem-based approach using the worksheet located in the appendix of Chap. 1!

Table 22.4.3

FACTS	HYPOTHESES	INFORMATION NEEDED	LEARNING ISSUES

Antidepressants such as SSRIs and Venlafaxine (a serotonin-norepinephrine reuptake inhibitor) are most commonly used as first-line pharmacotherapy of PTSD. Benzodiazepines may also be used to treat acute symptoms, such as in anxiety disorders; however, it should be used in caution as some studies suggest that it may interfere with learning strategies to cope with trauma. Other medications used include mirtazapine, tricyclic antidepressants, monoamine oxidase inhibitors, antipsychotics, and anticonvulsants, prazosin.

Psychotherapy plays an important role in the treatment of PTSD in both adults and children. In adults, CBT is considered the first-line mode of therapy. Just like in the previous case of OCD, this form of therapy focuses on reframing cognitive distortions related to negative self-perception and safety by processing emotions related to the trauma and decreasing avoidant behaviors. The behavioral part of the

therapy may also include exposure and response prevention in addition to activities planning. Specific forms of CBT used in PTSD include prolonged exposure therapy and cognitive processing therapy. Other forms of therapy used are eye movement desensitization and reprocessing (EMDR). Strong social support is very important for individuals with PTSD, especially soon after the trauma.

22.1 Review Questions

1. The most common type of psychotherapy used for treatment of anxiety disorders, OCD, and PTSD is:

   a. Psychodynamic psychotherapy
   b. Psychoanalysis
   c. Cognitive-behavioral therapy
   d. Motivational interview
   e. Hypnosis

2. Which of the following statements is true about acute stress disorder?

   a. The trauma occurred within 1 month of the onset of symptoms
   b. The symptoms resolve within 1 month from the traumatic event
   c. Both a and b

3. Which of the following disorders is not included in the obsessive-compulsive and related disorders category?

   a. Body dysmorphic disorder
   b. Separation anxiety disorder
   c. Hoarding disorder
   d. Trichotillomania
   e. Excoriation disorder

4. Which of the following benzodiazepine-onset of action pair is correct:

   a. Lorazepam-slow onset
   b. Diazepam-slow onset
   c. Clonazepam-slow onset
   d. Alprazolam-intermediate onset
   e. Alprazolam-fast onset

5. The differential diagnosis of a panic attack may include:

   a. Myocardial infarction
   b. Substance-induced reaction
   c. Generalized anxiety disorder
   d. Adjustment disorder
   e. All of the above

Appendix A: Tables with Possible Answers to the Vignettes

Case Vignette 22.1: Anjelique A.

Table 22.1.1

Facts	Hypotheses	Information needed	Learning issues
55-year-old female	Cause may be medical or psychiatric	What pertinent medical history may be contributing to current symptoms?	What is the differential diagnosis for chest pain?
Physical symptoms: chest pain nontender to palpation, tachycardia, tachypnea, dyspnea		What was the precipitating event?	What are the signs and symptoms of a panic attack?
Feeling nervous			

Table 22.1.2

Facts	Hypotheses	Information needed	Learning issues
Symptom duration at least 1 year	Anjelique may have had a panic attack; intensity of worries may be related to an anxiety disorder	How does she cope with her panic/anxiety?	What psychiatric disorders are associated with panic attack?
Prominent anxiety and worry despite lack of stressful situations	She may be genetically predisposed to mental illness given positive family history, specifically; she may be suffering from an anxiety disorder like her sister	Is she compliant with her medications?	
Medical conditions are well managed			What are the features of an anxiety disorder?
Hospitalized for cardiac observation, which was essentially negative?			What medical comorbidities are associated with anxiety disorders?

Table 22.1.3

Facts	Hypotheses	Information needed	Learning issues
Lorazepam caused quick relief	Benzodiazepine relieves anxiety but may be addictive	Is there any history that may suggest risk for addiction	What are the pertinent properties of benzodiazepines? (i.e., mechanism, onset of action)
			Which benzodiazepines have low/high addictive properties?

Case Vignette 22.2: Damian D.

Table 22.2.1

Facts	Hypotheses	Information needed	Learning issues
62-year-old male, widowed, no past psychiatric history	Damian may be suffering from an anxiety disorder.Since he has been well up until several months ago, there may have been a precipitating event that caused his current symptoms	What significant life changes has Damian experienced lately?	What is agoraphobia?
Has arthritis but generally healthy		When did his wife pass away?	What are possible causes of Damian's anxiety?
Used to live with daughter, now lives alone		Does he continue to enjoy his hobbies?	
Anxiety is worsening, interfering with responsibilities involving leaving the house		What is preventing him from leaving the house?	
Worries about family			

Table 22.2.2

Facts	Hypotheses	Information needed	Learning issues
Onset of symptoms was shortly after his daughter left the house	Damian has a strong social support and expresses good motivation to transcend his symptoms; he may be able to overcome his symptoms with psychotherapy alone	What helped him in the past when he experienced a "loss?"	What treatment is available to address separation anxiety in adults?
No depression			

Case Vignette 22.3: Jon

Table 22.3.1

Facts	Hypotheses	Information needed	Learning issues
31-year-old male with anxiety	Jon may be suffering from OCD and likely has other related thoughts or behaviors that may be causing distress	What other obsessions does Jon have?	What are the features of OCD?
Preoccupation with counting		Are there other compulsive behaviors associated with his thoughts?	How do "obsessions" and "compulsions" differ from each other?
Serious consequences due to current symptoms: lost job, driving tickets, car accidents		Did he have recurrent infections as a child?	What medical conditions may be associated with OCD?
		Is there family history of mental illness?	

OCD obsessive-compulsive disorder

Table 22.3.2

Facts	Hypotheses	Information needed	Learning issues
Jon had multiple ritualistic/repetitive behaviors that began in his teenage years	Psychotherapy was effective in Jon's OCD-related behaviors in the past and may be helpful again	Any allergies to medications?	What medications are indicated in treatment of OCD?
Ritualistic/repetitive behaviors occupied over 1 h per day	He may have been genetically predisposed to psychiatric condition as evidenced by a positive family history of similar symptoms	Is Jon willing to take medications or resume therapy?	Is there a genetic predisposition to OCD?
Psychotherapy was effective in decreasing symptoms		What other obsessions or compulsions has Jon experienced since he noticed worsening of his symptoms?	
Behaviors recurred since stress level increased			
Jon's mother exhibited "hoarding behavior"			
No substances or acute medical issues			

OCD obsessive-compulsive disorder

Table 22.3.3

Facts	Hypotheses	Information needed	Learning issues
Obsessions include fear that he may have caused harm to others	Heightened stress level from recent life changes (unemployment) may have contributed to exacerbation of OCD symptoms	How is Jon coping with his condition now?	What is the prognosis of OCD?
Compulsions include checking the news in search for evidence		Is he willing to commit time and effort in engaging in psychotherapy to help alleviate his symptoms?	Are there specific modes of therapy that are helpful in OCD?
Significant distress in obsessions and significant amount of time spent in compulsions			

OCD obsessive-compulsive disorder

Case Vignette 22.4: Zinnia Z.

Table 22.4.1

Facts	Hypotheses	Information needed	Learning issues
22-year-old female	Symptoms may be related to a primary sleep disorder or stress related	Was there any stress or particular situation related to onset of symptoms?	What are possible causes of sleep problems?
Sleep problems: onset, frequent awakening, nightmares		How is her sleep hygiene?	What conditions may be associated with nightmares?
Problems with concentration		Does she use any caffeine or stimulants?	What conditions may be associated with concentration problems?
			What are other side effects of sleep aids aside from sleepwalking?

Table 22.4.2

Facts	Hypotheses	Information needed	Learning issues
No personal or family psychiatric history	Recent car accident may be causing trauma-related stress	Has she sought any treatment right after the accident?	What are the features of PTSD?
Car accident in the recent past caused physical injury		Does she have intrusive memories of her trauma?	How does PTSD differ from acute stress disorder?
Anxiety associated with driving			

PSTD posttraumatic stress disorder

Table 22.4.3

Facts	Hypotheses	Information needed	Learning issues
Trauma experienced was the car accident, which currently continues to manifest in acute symptoms	Medications and psychotherapy may help relieve PTSD symptoms	Does she have any allergies to medications?	What mode of psychotherapy is commonly used in PTSD?

PSTD posttraumatic stress disorder

Appendix B: Answers to Review Questions

1. c, 2. c, 3. b, 4. c and e, 5. e

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