

REVIEW ARTICLE

Osteopathic Approach to Anxiety

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Keywords:

Anxiety

Behavioral Medicine

Osteopathic Medicine

Pediatrics

Psychiatry

Anxiety disorders are one of the most common psychiatric disorders presenting to the family physician. Anxiety disorders are both biologic and psychologic in origin. Anxiety is a signal alerting the individual of 'danger.' This danger can be unknown, internal, conflictual and vague. The anxiety signal allows the individual to respond to, and resolve the 'danger.' This is to be differentiated from fear which is the emotional response to a real or perceived imminent threat. These two states overlap but differ in that fear more often triggers the physiologic response of fight or flight. Anxiety disorders result when one or both of these systems are in a chronic 'hyper reactive' state for either biologic or psychologic reasons. This article reviews the criteria for anxiety disorders and the range of therapeutic interventions, pharmacologic and non-pharmacologic.

INTRODUCTION

Anxiety disorders are one of the most common psychiatric disorders presenting to the family physician. Anxiety disorders are both biologic and psychologic in origin. Anxiety is a signal alerting the individual of 'danger.' This danger can be unknown, internal, conflictual and vague. The anxiety signal allows the individual to respond to, and resolve the 'danger.' This is to be differentiated from fear which is the emotional response to a real or perceived imminent threat.¹ These two states overlap but differ in that fear more often triggers the physiologic response of fight or flight.

Anxiety disorders result when one or both of these systems are in a chronic 'hyper reactive' state for either biologic or psychologic reasons. A brief example is making a presentation to your department at work. This situation is likely to trigger a small degree of anxiety in all individuals which allows the individual to take steps to make sure the presentation goes well such as checking the materials to be presented for accuracy and clarity. Once the materials are reviewed the individual feels confident and successfully completes the presentation. If the anxiety/fear systems are hyper reactive the individual may experience a panic attack with a range of physiologic responses such as rapid heart rate, hyperventilation, and light headedness to name a few. This physiologic response is clearly inappropriate as this is not a life and death situation in which we need the fight and flight response for survival. In this situation the presentation may not occur possibly resulting in negative outcome for the individual.

Anxiety disorders often start in childhood and must be differentiated from normal childhood worries. Pediatricians and family physicians are familiar with the startle of infants and the fear of monsters in the toddler years. The preschool age child has fears about safety such as being kidnapped or worries about storms, thunder and lightning. These worries may persist into the school age years with the addition of worries related to school performance and social relationships and/or rejection. Fear of bodily harm and illness may arise during this time. Through the teenage years the main worry is about performance, both social and academic.

Life time prevalence of any anxiety disorder in children and adolescents is between 15% and 32%, and the period prevalence (one year or six months) for any anxiety disorder ranges from 3.1% to 18%.^{2,3} Children with anxiety disorders are at greater risk of developing substance abuse and conduct problems and have increased use of long-term psychiatric and medical services and greater overall functional impairment.^{3,4}

One in four adults have been found to have an anxiety disorder. A replication of the National comorbidity study by Kessler, *et al.* found an 18.1% 12-month prevalence rate for any Diagnostic and Statistical Manual of Mental Disorders IV (DSM IV) anxiety disorder.⁵

EVALUATION & DIAGNOSIS (CRITERIA)

Anxiety disorders overlap but can be differentiated based on the particular presentation of symptoms. Identifying and treating anxiety disorders early can prevent long term morbidity. Mandates for improved mental health screening in the family practice medical home are based on the affordable care act.⁶ This includes screening for children, youth, and adults.

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Use of validated rating scales in conjunction with the patient interview and examination can assist the busy clinician in evaluating for and following treatment of anxiety. Below are key features of the main anxiety disorders followed by abbreviated Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) criteria. Validated rating scales that may be used at no cost are referenced under each diagnosis. See the DSM-5 for complete diagnostic criteria.¹

TREATMENT

Treatment of the patient with an anxiety disorder is based on the evaluation and resultant biopsychosocial formulation for that patient (part of the five model approach to osteopathic patient centered care). This may range from parent guidance for the young child with separation anxiety to aggressive pharmacologic interventions with referral to a mental health specialist or child and adolescent psychiatrist for evaluation and therapy. Osteopathic manipulative medicine should be considered as part of the overall treatment plan for the patient.

In general, Cognitive Behavioral Therapy (CBT) is the treatment of choice for all anxiety disorders, alone or in combination with medications and other interventions.

COGNITIVE BEHAVIORAL THERAPY:

Although cognitive behavioral therapy is typically provided by a therapist for anxiety, depression, and other mental health disorders, the family practice physician can learn the underlying principals and skills necessary to assist their patients achieve improved mental health.

Cognitive behavioral therapy (CBT) was developed by Aaron Beck, MD, a psychoanalyst, in the early 1960s. CBT grew out of Dr. Beck's research on the psychoanalytic theory of depression. His research, which Dr. Beck expected would validate the psychoanalytic therapy of depression, 'anger turned toward the self', did just the opposite. Rather, distorted thoughts and beliefs were the primary feature of depression.⁷ Cognitive behavioral therapy assumes that a patient's misconceptions and attitudes about the world and themselves precede and produce symptoms such as anxiety and depression. Therapy identifies habitual ways in which patients distort information (e.g., automatic thoughts) and teaches patients to identify, evaluate, and respond to their dysfunctional thoughts and beliefs, using a variety of techniques to change thinking, mood, and behavior. Cognitive therapy is a structured, goal-oriented, problem-focused, and time-limited intervention. This active approach involving principles of learning, help the patient develop new and adaptive ways of behaving. Treatment also attempts to alter behavior by systematically changing the environment that produces the behavior; such behavioral changes are believed to lead to changes in thoughts and emotions. Beck's treatment model is based on what he terms the cognitive formulation; the beliefs and behavioral strategies that characterize a specific disorder (Alford and Beck, 1997).

The cognitive formulation is an understanding of the patients' problems and an understanding of the patient's thinking related to the problem. This includes the current thinking that contributes to the problem ("I can't lose weight, I'm a failure, I'll always be fat.").

The problematic behaviors (drinking a soda rather than water or driving one block to pick up a child rather than walking). And the developmental events or patterns of thinking that predisposed or hold the behaviors causing the problem (developed earlier than many children and was teased, becoming overly self-conscious and critical of self).

The process of treatment is based on the cognitive formulation with the key goal of having the patient identify and change dysfunctional thinking (cognitions).

PSYCHOEDUCATION

For the purpose of this article, psychoeducation refers to the didactic informing of patients and their relatives about the illness, its treatment, and empowerment to handle the illness.⁸ Psychoeducation has been shown to be as effective as CBT for youth with anxiety disorders.⁹ Goals for psychoeducation include:⁸

- Ensuring patients and their family/relatives have a basic understanding of the illness and treatment
- Empowering the patient and family/relatives to handle the illness
- Helping the patient take on the role of the "expert"
- Strengthen the role of family/relatives
- Information to improve treatment compliance
- Relapse prevention
- Crisis management and prevention
- Support healthy choices

NUTRITION

The osteopathic physician is skilled at communicating the importance of healthy nutrition for physical, mental and emotional health. There is considerable debate on the effect or usefulness of supplements in the treatment of mental health disorders. The support for nutritional supplements is strongest for depressive disorders with more limited support for anxiety disorders. Because depression and anxiety are frequently comorbid it may be helpful to consider the complementary and alternative medicine (CAM) treatments for depression. The most support can be found for the B vitamins, Omega-3 Fatty Acids, and inositol.¹⁰ A review study by Shaheen Lakah, *et al.*¹¹ found evidence for the use of herbal supplements containing extracts of passionflower or kava and combinations of L-lysine and L-arginine as treatments for anxiety symptoms and disorders. It should be noted Kava has been removed from the market secondary to concerns for hepatic toxicity.

EXERCISE

As with nutrition, the osteopathic physician is skilled at communicating the importance of exercise for physical, mental and emotional health. Both exercise and yoga have support for their use in anxiety disorders.^{12,13}

OSTEOPATHIC INTERVENTIONS

In the five-model approach to osteopathic patient centered care, anxiety disorders fall under the biopsychosocial model. Though there is much research on the effectiveness of cognitive behavioral therapy in anxiety, research in OMT intervention and anxiety is scant. Recent research on the rat model has demonstrated that cannabinoid receptor agonism suppresses anxiety like behavior in rats with essential tremor.¹⁴ We have a body of research theorizing that OMT increases endocannabinoids in the brain through stimulation of the periaqueductal grey matter as well as down-regulates sympathetic stimulation through the Vagus nerve, Cranial Nerve X.¹⁵

Stephen W Porges, Ph D, discusses a polyvagal theory in vertebrates, in which the action of the autonomic nervous system can vary based on phylogenetic stages of development. These autonomic subsystems are social communication, mobilization and immobilization, and each are used in to provide an adaptive response in safe, dangerous and life-threatening events.¹⁶

Regardless of the cause, often the ANS becomes activated and never fully return to a pre-traumatic state of functioning, thus anxiety results. We can see this physiologically in the heart rate variability, where low variability is associated with a high sympathetic tone. Yergagani *et al* found low heart rate variability correlated with emotional disorders in children.¹⁷ This enhanced stress reactivity in pediatric patients' increases all- cause mortality and can be a possible predictor for future cardiovascular events.¹⁸

Given the correlation of heart rate variability, the best results using OMT would be likely achieve using techniques that affect the heart rate variability. Cervical HVLA has been shown to improve heart rate variability in one study of volunteer patients with neck pain.¹⁹ Osteopathic cranial manipulative medicine has been felt to affect the heart rate variability through upregulation of the parasympathetic nervous system. Proximity to this region is likely a factor for the effectiveness of these techniques. Listed below is a possible treatment regime for the patient with anxiety. Obviously, the physician must use clinical judgment to know if the patient is appropriate to receive an osteopathic treatment, and permission should be obtained prior.

1. Cervical Soft Tissue/long axis kneading – this technique is performed by having the physician at the head of the table. With fingertips lateral to the spinous processes, the physician uses a superior and lateral pressure on the entire length of the cervical spine.
2. Cervical High Velocity/Low Amplitude – As described above, cervical HVLA, either sidebending or rotational focus, is thought to improve heart rate variability. Somatic dysfunction barrier is engaged in the cervical spine and short quick thrust applied to localized segment at the end of patient.
3. Sacral decompression – Due to the proximity of the parasympathetic nervous system to the sacral region, a simple sidelying sacral decompression in appropriate patients may helpful to decreasing the level of a patients' perceived anxiety. The patient place the thenar and hypothenar eminence over the base of the sacrum at L5 and uses a constant pressure inferior for a period of 1-3 minutes.
4. Suboccipital/OA decompression- Thought to be beneficial due to the proximity of the Vagus nerve. The patient lies supine on the table while physician placed index and middle fingers in the suboccipital musculature. Anterior pressure is held for a period of 1-3 minutes until relaxation is felt.²⁰
5. Doming of the respiratory diaphragm – Patient is in the supine position, physician inserts thumbs under the costal margin but lateral to the xyphoid process and has the patient breath in and out while exerting a superior pressure on the thumbs.
6. Compression of the Fourth Ventricle – An OCMM technique that address the periaqueductal grey area around the fourth ventricle. The physician sits at the head of the supine patient. Physician's hands are placed palmer side up and medial to the occipitomastoid suture. Using the thenar eminences on the occiput the physician encourages cranial extension while discouraging cranial flexion until a 'still point' is achieved.²¹

FIGURE 1:

Suboccipital/OA decompression

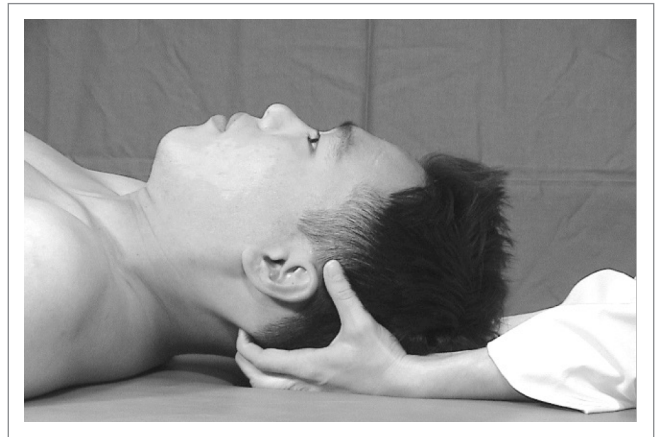
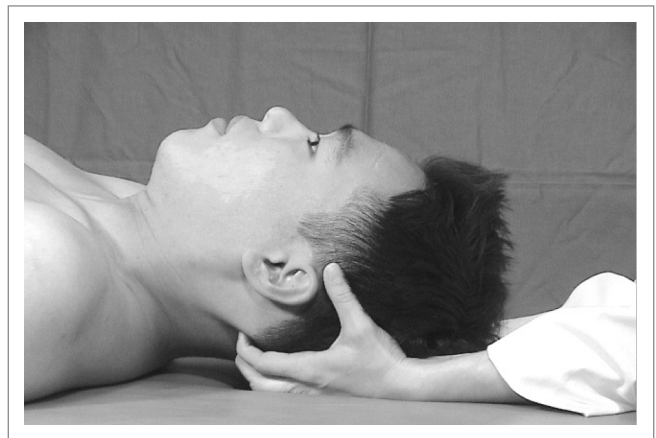


FIGURE 2:

Doming of the thoracic diaphragm



This protocol is just one possible scenario for anxiety which can be performed in approximately 10 minutes at the bedside of the patient, or in the office setting. Additionally, coherence training can be helpful as an adjunctive or take home exercise. Many offices have handheld biofeedback tools, such as the “EmWave” that help the patient with improving heart rate variability. Even without the devices, focused mindful breathing can be very helpful in decreasing anxiety levels and can be used in any setting.

PHARMACOLOGIC MANAGEMENT

Note: Hydroxyzine is only medication that has FDA approval for treatment of children (≥ 6 years) with anxiety. A range of medications are used off label in the treatment of anxiety disorders in children and will be included as supported by the literature.

Separation Anxiety Disorder (ICD 10 code F93.0)

In children the treatment of choice for separation anxiety disorder is CBT with parent guidance and/or Parent-Child Interaction Therapy (PCIT). If medications are considered the SSRI medications are effective and considered the first line pharmacologic treatment. There is evidence for sertraline (25-200mg daily), fluoxetine (20mg daily), and fluvoxamine (50-250 mg daily).⁴

Although there is little research in adults with separation anxiety disorder, CBT and the SSRI medications are considered the treatment of choice.

Social Anxiety Disorder (ICD 10 code F40.10)

All SSRI medications are effective and considered the first line pharmacologic treatment of social anxiety disorder. Dosing strategies for the SSRI medications are the same as for depressive disorders. Venlafaxine 75mg daily (may use higher doses) also demonstrated effectiveness. Buspirone (max dose 60mg/day as bid dosing) has been shown to be effective when used to augment the SSRI medications.²²

Benzodiazepine (alprazolam 1-6mg daily and clonazepam 0.25-3mg daily) are effective in the treatment of social anxiety at standard doses. Use of Benzodiazepines is considered short term for a period of weeks. The most common clinical mistake utilizing benzodiazepines for treatment is to continue treatment indefinitely.

The MAOI medications including phenelzine (15-90mg daily as tid) have been reported to be effective in cases of severe social anxiety disorder.

Treatment of social anxiety disorder of the performance type can be effectively treated with the beta adrenergic receptor antagonistic medications atenolol (50-100mg about one or two hours prior to the event) and propranolol (20-40mg one or two hours prior to the event) or the benzodiazepines lorazepam and alprazolam.

Panic Disorder (ICD 10 code F41.0)

All SSRI medications are effective and considered the first line pharmacologic treatment of panic disorder. The particular agent chosen is based on the particular effects of the medication such as sedation, activation, and weight gain. Paroxetine is more sedating and calming but also has increased weight gain compared to other SSRI agents. Citalopram, escitalopram, sertraline, and fluvoxamine

are next best tolerated. Fluoxetine can be activating and should be started a low dose such as 10mg daily and titrated upward slowly.²²

Clomipramine and imipramine have demonstrated effectiveness in the treatment of panic disorder. Desipramine (100-200mg daily) has limited evidence. The tricyclic agents are less widely used than the SSRIs because of the increased adverse effects that are seen at the doses needed for clinical response.²²

MAOI medications including phenelzine (15-90mg daily as tid) and tranylcypromine (30-60mg daily) have data to support their use in panic disorder. The dietary restrictions limit their use.²²

The atypical antidepressant venlafaxine is effective in the panic disorder but is considered second line treatment to the SSRI medications. Buspirone (max dose 60mg/day as bid dosing) has been suggested as an augmentation to other medications for panic disorder.²²

If a patient fails to respond to one class of medications changing to another class of medications is suggested.

Alprazolam (3-6mg daily) is a benzodiazepine that is FDA approved for panic disorder. Based on the current trend to avoid the possible longer term complications of the benzodiazepines they have not been included as a primary treatment for panic disorder.²²

Generalized Anxiety Disorder (ICD 10 code F41.1)

For adults, the benzodiazepines have long been considered the drug of choice for generalized anxiety disorder (GAD) prescribed for a short course or on an ‘as needed’ basis. Based on the current trend to avoid the possible longer term complications of the benzodiazepines alternative medications such as the SSRI medications, Venlafaxine, and Buspirone are effectively utilized for GAD. As previously noted, the most common mistake in utilizing the benzodiazepines is ongoing, indefinite treatment. The benzodiazepines with an intermediate half-life are typically utilized in GAD (alprazolam, clonazepam, lorazepam).²²

Buspirone (max 60mg daily) have been suggested to be effective in 60-80% of individuals with GAD. Individuals previously treated with benzodiazepines do not demonstrate this response. Some studies suggest use of benzodiazepines with buspirone as they appear to target different aspects of the anxiety.²²

Venlafaxine (37.5-225mg daily) has demonstrated effectiveness for GAD.

SSRI medications have demonstrated effectiveness for GAD although few have an FDA indication for this purpose (paroxetine and escitalopram). There is some concern that the SSRI medications may initially increase the level of anxiety. The SSRI medications are often prescribed in conjunction with a 2-3 week course of benzodiazepines.²²

The beta adrenergic agents such as atenolol and propranolol may be used to address the physiologic response and somatic symptoms of anxiety. These agents do not treat the underlying anxiety disorder.²²

Post Traumatic Stress Disorder (ICD 10 code F43.10)

Trauma focused cognitive behavioral therapy (TF-CBT) is considered the primary treatment for post-traumatic stress disorder (PTSD). Eye movement desensitization reprocessing (EMDR) is also commonly utilized. Both TF-CBT and EMDR require a clinician with specialized training.

All SSRI medications are effective and considered the first line pharmacologic treatment of PTSD. The particular agent chosen is based on the particular effects of the medication such as sedation, activation, and weight gain. Paroxetine is more sedating and calming but also has increased weight gain compared to other SSRI agents. Citalopram, escitalopram, sertraline, and fluvoxamine are next best tolerated. Fluoxetine can be activating and should be started a low dose such as 10mg daily and titrated upward slowly.²²

Minipress (1-15mg at bedtime) is effective for the nightmares/sleep disorder associated with PTSD.²³

The tricyclic agents imipramine (100-200mg daily) and amitriptyline (75-300mg daily) also have clinical data supporting their effectiveness in PTSD. The minimum trial of the tricyclic agents should be eight weeks.²²

Other medications that may be useful in the treatment of PTSD include phenelzine, trazodone, and the anticonvulsants (e.g., carbamazepine, valproate).²²

CONCLUSION

Anxiety is a multifactorial disease process which requires an individualized treatment plan for each patient. Treatment may include cognitive behavioral therapy, psychoeducation nutritional support, medications and osteopathic manipulative medicine. When used in conjunction with osteopathic manipulative medicine, the biopsychosocial approach of the five models of osteopathic care will assist in decreasing symptoms and support the treatment of the patient with anxiety.

Separation Anxiety Disorder (ICD 10 code F93.0)

The key feature of Separation Anxiety Disorder is excessive fear concerning separation from home or parents (attachment figures).¹

ABBREVIATED CRITERIA:

Individuals with separation anxiety disorder have symptoms that meet at least three of the following criteria:

- They experience recurrent excessive distress when separation from home or major attachment figures is anticipated or occurs.
- They worry about the well-being or death of attachment figures, particularly when separated from them, and they need to know the whereabouts of their attachment figures and want to stay in touch with them.
- They also worry about untoward events to themselves, such as getting lost, being kidnapped, or having an accident, that would keep them from ever being reunited with their major attachment figure.
- Individuals with separation anxiety disorder are reluctant or refuse to go out by themselves because of separation fears.
- They have persistent and excessive fear or reluctance about being alone or without major attachment figures at home or in other settings.
- They have persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home.
- Children with this disorder often have difficulty at bedtime and may insist that someone stay with them until they fall asleep.
- Physical symptoms (e.g., headaches, abdominal complaints, nausea, vomiting) are common in children when separation from major attachment figures occurs or is anticipated.
- The symptoms must last a period of at least four weeks in children and adolescents and typically six months or more in adults.

Prevalence (12 month prevalence):

Child: 4%
 Adolescent: 1.6
 Adult: 0.9-1.9%
 Male: Female: 1:1

Child/Adolescent Rating Scale:

Screen for Child Anxiety Related Emotional Disorders (SCARED); parent rating and self-rating (children 8-11 y/o)

Adult Rating Scale:

Adult Separation Anxiety Questionnaire - ASA-27

Separation Anxiety Disorder (ICD 10 code F93.0)

The key feature of social anxiety disorder is a marked or intense fear/anxiety of social situations in which they may be scrutinized by others.¹

ABBREVIATED CRITERIA:

- Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Note: In children, the anxiety must occur in peer settings and not just during interactions with adults.
- The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or offend others).
- The social situations almost always provoke fear or anxiety. Note: In children, the fear or anxiety may be expressed by crying, tantrums, freezing, clinging, shrinking, or failing to speak in social situations.
- The social situations are avoided or endured with intense fear or anxiety.
- The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.
- The fear, anxiety, or avoidance is persistent, typically lasting for six months or more.
- The fear, anxiety, or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- The fear, anxiety, or avoidance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.
- The fear, anxiety, or avoidance is not better explained by the symptoms of another mental disorder, such as panic disorder, body dysmorphic disorder, or autism spectrum disorder.
- If another medical condition (e.g., Parkinson's disease, obesity, disfigurement from burns or injury) is present, the fear, anxiety, or avoidance is clearly unrelated or is excessive.

Prevalence (12 month prevalence):

| | |
|-------------|------|
| Child: | 7% |
| Adolescent: | 7% |
| Adult: | 7% |
| Geriatric: | 2-5% |

Male:Female 1:1

Child/Adolescent Rating Scale:

Screen for Child Anxiety Related Emotional Disorders (SCARED); parent rating and self-rating (children 8-11 y/o)

Adult Rating Scale:

Adult Separation Anxiety Questionnaire - ASA-27

Social Anxiety Disorder (ICD 10 code F40.10)

The key feature of social anxiety disorder is a marked or intense fear/anxiety of social situations in which they may be scrutinized by others.¹

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- The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or offend others).
- The social situations almost always provoke fear or anxiety. Note: In children, the fear or anxiety may be expressed by crying, tantrums, freezing, clinging, shrinking, or failing to speak in social situations.
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- The fear, anxiety, or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- The fear, anxiety, or avoidance is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication) or another medical condition.
- The fear, anxiety, or avoidance is not better explained by the symptoms of another mental disorder, such as panic disorder, body dysmorphic disorder, or autism spectrum disorder.
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Prevalence (12 month prevalence):

| | |
|-------------|------|
| Child: | 7% |
| Adolescent: | 7% |
| Adult: | 7% |
| Geriatric: | 2-5% |

Male:Female 1:1

Child/Adolescent Rating Scale:

Screen for Child Anxiety Related Emotional Disorders (SCARED); parent rating and self-rating (children 8-11 y/o)

Adult Rating Scale:

Severity Measure for Social Anxiety Disorder (Social Phobia)—Adult

Panic Disorder (ICD 10 code F41.0)

The key feature is a recurrent and abrupt surge of intense fear or discomfort (panic attack) lasting minutes during which at least four of 13 physical and cognitive symptoms occur.¹

ABBREVIATED CRITERIA:

Physical and cognitive symptoms:

- Palpitations, pounding heart, or accelerated heart rate.
- Sweating.
- Trembling or shaking.
- Sensations of shortness of breath or smothering.
- Feelings of choking.
- Chest pain or discomfort.
- Nausea or abdominal distress.
- Feeling dizzy, unsteady, light-headed, or faint.
- Chills or heat sensations.
- Paresthesias (numbness or tingling sensations).
- Derealization (feelings of unreality) or depersonalization (being detached from oneself).
- Fear of losing control or “going crazy.”
- Fear of dying.

At least one of the attacks has been followed by one month (or more) of one or both of the following:

- Persistent concern or worry about additional panic attacks or their consequences (e.g., losing control, having a heart attack, “going crazy”).
- A significant maladaptive change in behavior related to the attacks (e.g., behaviors designed to avoid having panic attacks, such as avoidance of exercise or unfamiliar situations).

Prevalence (12 month prevalence):

Child: < 0.4%
 Adolescent: 2 - 3%
 Adult: 2 - 3%

Male:Female 1:2

Child/Adolescent Rating Scale:

Screen for Child Anxiety Related Emotional Disorders (SCARED); parent rating and self-rating (children 8-11 y/o)

Adult Rating Scale:

Severity Measure for Panic Disorder - Adult

Generalized Anxiety Disorder (ICD 10 code F41.1)

The key feature of generalized anxiety disorder is excessive anxiety and about a number of events or activities that are difficult to control and interfere with psychosocial functioning.¹

ABBREVIATED CRITERIA:

- Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).
- The individual finds it difficult to control the worry.
- The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms having been present for more days than not for the past 6 months): Note: Only one item is required in children.
 - Restlessness or feeling keyed up or on edge.
 - Being easily fatigued.
 - Difficulty concentrating or mind going blank.
 - Irritability.
 - Muscle tension.
 - Sleep disturbance (difficulty falling or staying asleep, or restless, unsatisfying sleep).
- The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Prevalence (12 month prevalence):

Child: 0.2 - 3.6%
 Adolescent: 0.2 - 3.6%
 Adult: 2.9%

Male:Female 1:2

Child/Adolescent Rating Scale:

Screen for Child Anxiety Related Emotional Disorders (SCARED); parent rating and self-rating (children 8-11 y/o)

Adult Rating Scale:

Hamilton Anxiety Rating Scale (HAM-A)
 Generalized Anxiety Disorder Assessment (GAD 7)

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Post Traumatic Stress Disorder (ICD 10 code F43.10)

The key feature of post traumatic stress disorder (PTSD) is the development of characteristic symptoms following exposure to one or more traumatic events. The clinical presentation of PTSD varies. For children six years and younger, see the adapted criteria in the DSM-5 Text.¹

ABBREVIATED CRITERIA:**A) Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:**

- Directly experiencing the traumatic event(s).
- Witnessing, in person, the event(s) as it occurred to others.
- Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.
- Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse).
- Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related.

B) Presence of one (or more) of the following intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred:

- Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s).
- Note: In children older than 6 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.
- Recurrent distressing dreams in which the content and/or affect of the dream are related to the traumatic event(s). Note: In children, there may be frightening dreams without recognizable content.
- Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings. Note: In children, trauma-specific reenactment may occur in play.
- Intense or prolonged psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).
- Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

C) Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred, as evidenced by one or both of the following:

- Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).
- Avoidance of or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

D) Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

- Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs).
- Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., "I am bad," "No one can be trusted," "The world is completely dangerous," "My whole nervous system is permanently ruined").
- Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.
- Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).
- Markedly diminished interest or participation in significant activities.
- Feelings of detachment or estrangement from others.
- Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).

E) Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

- Irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects.
- Reckless or self-destructive behavior.
- Hypervigilance.
- Exaggerated startle response.
- Problems with concentration.
- Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).

Duration of the disturbance (Criteria B, C, D, and E) is more than one month.

Prevalence (12 month prevalence):

Child: None quoted
 Adolescent: 5% Lifetime
 Adult: 3.5%

Male:Female 1:2 (Adult) 1:4 (Adolescent)

Child/Adolescent Rating Scale:

Child PTSD Symptom Scale (CPSS); (ages 8-18 years)
 Trauma Symptom Check List (TSCC); copyright PAR requires purchase (8-16 years)

Adult Rating Scale:

Primary Care PTSD Screen (PC-PTSD)

Author disclosure: No relevant financial affiliations.

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