Anxiety Disorders in Children and Adolescents

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- Anxiety disorders are the most frequent mental health problems seen in primary care and child psychiatry.

Objectives

- Why topic important?
- Epidemiology
- Susceptibility Models
- Types of Anxiety Disorders Children and Adolescents
- Changes in DSM V
- Assessment
  - Recognize risk factors for & presenting signs & symptoms of anxiety disorders
- Treatment
  - Review evidence based behavioral & (some) pharmacologic management of anxiety in children and adolescents
- Resources

Why Important

- Many children suffer from anxiety~
  - Occurs in 5% to 19% of all children and adolescents
  - Under 12 prevalence between 2.6% and 5.2% with separation anxiety the most common disorder
- Children with anxiety more likely to have difficulty with

  friendships

  family life

  school
- Treatments for children with anxiety can help to prevent them from developing mental health problems or drug and alcohol misuse in later life.
- Adults seen for anxiety had the origins in childhood adolescence

Epidemiology: Anxiety in Children and Adolescents

- Anxiety disorders are amongst the most common psychiatric disorders occurring of all children and adolescents
- Children younger than 12, prevalence between 2.6% and 5.2%, and separation anxiety is the most common [2,3]
- Equal prevalence among young boys and girls *until* adolescence; then 2:1 to 3:1 females to males

Risk Factors

- Poverty
- Community Violence
- Lower educational attainment
- Exposure trauma in childhood, including neglect and abuse- more severe trauma more likely it will result in mental health disorder

Comorbidity

Providers

examine the criteria of each anxiety disorder separately

IF patient meets criteria for more than one anxiety disorder, all applicable should be diagnosed.

Child-Adolescent Anxiety Multimodal Study (Cams children and adolescents with social phobia, GAD, or SAD)

- 78.6% of the sample had 2 or more of those disorders
- 35.9% met criteria for all 3 diagnoses simultaneously.
- CAMS study youth who met criteria for one or more anxiety disroders
  - 46% met criteria for other internalizing disorders
  - 11.9% for ADHD
  - 9.4% for ODD
  - 2.7% for tic disorders

Comorbidity

- Co-occurrence of Tourette's Disorder and OCD is common with a common set of genetic factors contribute to both disorder
- Limited evidence demonstrates a strong and significant association between substance use disorders and anxiety disorders
- 40% to 90% of adolescents with substance abuse disorders have comorbid psychiatric diagnoses, with anxiety disorders being a common co-occurrence

Increased risk for the development of substance abuse during adolescence and adulthood

- When anxiety disorders begin in childhood

Interferes with detection of the anxiety disorder

- When active substance use begins

Anxiety disorders –

- increase the risk for the development of eating disorders in adolescent girls
- anorexia nervosa
- binge eating in children

Issues specific to children and adolescents

- Diagnostic challenge in children is determining normal, developmentally appropriate worries, fears and shyness from anxiety disorders.

- Features of pathological anxiety include severity, persistence and associated dysfunction/impairment.

- Developmental patterns of various anxieties.

Features of Anxiety Disorder in Children and Adolescents

Separation anxiety disorder	• Developmentally inappropriate and excessive anxiety regarding separation from home or parent. • Characterized by inconsolable or persistent crying when parent leaves, and unable to be soothed by others. • Children may be aggressive or self-injurious during the separation. • Anxiety and avoidance may occur in relation to going to childcare. • Young children may follow their parent from room to room and be reluctant to be alone. • Nightmares may occur but not have a specific theme.	Duration: at least 1 mo
Specific phobia	• Excessive, unreasonable, and persistent fear to a specific object or situation (or anticipation of the object or situation) which results in an immediate response of panic, crying, tantrums, freezing, or clinging. • Causes child to avoid the situation and parents may facilitate this avoidance. Leads to impairment of child and family's functioning and/or child's development.	Duration: at least 4 mo
Social anxiety disorder	• Marked and persistent fear of one or more social and performance situations where the child is exposed to unfamiliar people or scrutiny. Examples include play dates, family gatherings, birthday parties, or circle time. • Child reacts with panic, crying, tantrums, freezing, clinging, and withdrawing from the situation. Leads to impairment of child and family's functioning and/or child's development.	Duration: at least 4 mo
Generalized anxiety disorder	• Child has excessive anxiety and worry most days, which is difficult to control. They may repeatedly ask for reassurance. • Occurs in 2 or more situations or relationships. • At least one physical symptom must be present: restless, fatigue, difficulty concentrating, irritable, muscle tension, and sleep difficulties.	Duration: at least 6 mo
Anxiety disorder NOS	• Anxiety or phobic avoidance that causes distress that is impairing, but does not meet criteria for any specific anxiety disorder. • Infants may display agitation and irritability,	Duration for anxiety disorder NOS is not specified in the

Age Specific Worries

- School-age children - worries about injury and natural events, parents being hurt/separation
- Older children and adolescents - worries and fears related to school performance, social competence and health issues.

- Young children may have undifferentiated worries and fears and multiple somatic complaints - muscle tension, headache or stomachache - and sometimes angry outbursts.
- The latter may be misdiagnosed as oppositional defiant disorder (ODD), as the child tries to avoid anxiety-provoking situations.
- Puberty- Social anxiety disorder typical

Age range	Common fears
Infancy	Loud noises, being startled, strangers, large objects
Toddlers	Dark, separating from parents (can begin at 9 mo), imaginary creatures, sleeping alone, doctors
***School-aged children**	Injury, natural disasters or events (eg, storms)
Older children and adolescents	School performance, social competence, worries about their own and others health.

Comorbidity Early Childhood Anxiety

- Comorbid with depression, oppositional defiant disorder, attention deficit hyperactivity disorder or conduct disorder

- Published data support either a chronic and persistent course or a relapsing and remitting course when anxiety disorders are diagnosed in childhood and adolescence

Models of Susceptibility to Anxiety

- Genetic
- Cognitive-Behavioral
- Physiological
- Ecological

Genetic Heritability

- Is 36 to 65% including but not limited to obsessive-compulsive disorder (OCD), panic disorder (PD), and generalized anxiety disorder (GAD).
- Meta-analyses –anxiety disorders aggregate in families but also have strong environmental influences
- Predisposition to overarousal and hyper-reactivity to stimuli and are more inclined to develop anxiety disorders

Cognitive Behavioral

- Learned dysfunctional thoughts, feelings, and behaviors through their experiences before and during adolescence.
- Negative responses reinforced thru avoidance and escape
- Cognitive biases are developed such as paying attention to threat related stimuli and overestimating degree of personal risk in various situations.

Physiological

- Functional impairments in brain regions that modulate emotion and fear
- Amygdala- fear conditioning and responses and is responsive to stress-induced hormones and neurotransmitters which strengthen memories associated with fearful stimuli
- Hippocampus- contextual processing

- Prefrontal cortical regions in modulation of fear and extinction of fear responses

- Neuroimaging studies of adolescents with elevated levels of anxiety consistent with anxiety disorders have revealed a hypersensitivity of fear circuits and a lack of dampening of fear response by activation of cortical circuits

cingulate cortex
cerebral cortex
basal ganglia
thalamus
amygdala
hippocampus
cerebellum
hypothalamus
locus coeruleus
dorsal raphe nuclei

cortex
thalamus
basal ganglia
amygdala
locus coeruleus
dorsal raphe nucleus
hypothalamus
autonomic response

GABA hypofunction (lack of inhibitory effect)
serotonin hypofunction (lack of inhibitory effect)
noradrenaline hyperfunction (excessive excitatory effect)
putative pathway (neurotransmitter(s) unclear)

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Ecological Model-Environmental factors

- **Exposure to members** of the child's family and to factors in the broader community
  - Postpartum maternal depression + anxiety = infant with long-term impaired physiological regulation of stress
  - Insecure parent–child attachment
  - Anxious and controlling parenting styles, and parental modeling of fearful behavior
  - Parental overprotection - development of child social phobia in a longitudinal prospective study
  - Parent–child arguments are associated with increased anxiety symptom levels in adolescents
  - Some studies conflicting information- role of having a parent with an anxiety or substance use disorder and did not find any association between family climate or rearing style and subsequent anxiety disorders in a cohort of children.

Types of Anxiety Disorders in Children and Adolescents

- Separation Anxiety Disorder
- Panic Disorder with and without agoraphobia
- Social phobia
- Obsessive-compulsive Disorder
- Acute Stress Disorder
- PTSD
- Generalized anxiety disorders
- Anxiety Disorder NOS

Changes from DSM IV-TR to DSM 5

Anxiety Disorder Section

DSM IV-TR

ANXIETY DISORDER CHAPTER

- Obsessive-compulsive disorder

- Posttraumatic Stress Disorder
- Acute Stress Disorder

DSM-5

CREATES NEW CHAPTERS

- Obsessive-compulsive and related Disorders

MOVED TO

Trauma- and Stressor-related Disorders

Changes from DSM IV-TR to DSM 5 Anxiety Disorder Section

DSM IV-TR

ANXIETY DISORDER CHAPTER

- Panic Attacks and Agoraphobia *are linked*

DSM-5

- Panic Attacks and Agoraphobia have OWN SEPARATE CRITERIA

Changes in Criteria
Agoraphobia, Specific Phobia, Social Anxiety Disorder (Social Phobia)

- REMOVED requirement that individuals over the age 18 years recognize that their anxiety is excessive or unreasonable.
- Can overestimate danger in “phobic” situations
- Older individuals often misattribute “phobic” fears to aging
- The anxiety must be out of proportion to the actual danger or threat in the situation, after taking cultural contextual factors into account.
- 6-month duration is required for all ages in attempt to minimize over diagnosis of transient fears.

Panic Attacks

- DSM IV-TR Complicated DSM-IV terminology for
  - describing different types of panic attacks (i.e., situationally bound/cued, situationally predisposed, and unexpected/uncued) is

- Replaced with terms unexpected and expected panic attacks.

- Panic attacks marker and prognostic factor for severity of diagnosis, course, and comorbidity across disorders, that include but not limited to anxiety disorders.

- Therefore, panic attack can be listed as a specifier that is applicable to all DSM-5 disorders.

Jonathan

- 17 year old Caucasian male, senior, on football team, has a girlfriend of many years; pervasive sense of doom, as if in a dream at time, feels like he is going crazy, hospitalized a year ago as "did not want to live like this"
- Diagnosis?

Panic Disorder in Agoraphobia

- Unlinked in DSM-5
- DSM-IV diagnoses of panic disorder with agoraphobia, panic disorder without agoraphobia, and agoraphobia without history of panic disorder are replaced by
- Two diagnoses- 1. Panic Disorder and 2. Agoraphobia, with separate criteria.
- Co-occurrence of panic disorder and agoraphobia is now coded with two diagnoses.
- Recognized substantial number of individuals with agoraphobia do not experience panic symptoms.

Agoraphobia

- Diagnostic criteria derived from the DSM-IV
- In DSM 5- fears from two or more agoraphobia situations required to distinguish agoraphobia from specific phobias
- Criteria extended to be consistent with criteria sets for other anxiety disorders
  - Clinician judgment of fears being out of proportion to actual danger in the situation,
  - Typical duration of 6 months or more.

Specific Phobia

- Core features of specific phobia remain the same
- No longer requirement individuals over age 18 years must recognize that their fear and anxiety are excessive or unreasonable
- 6-month duration is required for all ages in attempt to minimize over diagnosis of transient fears.
- Although they are now referred to as specifiers, the different types of specific phobia have essentially remained unchanged

IAN

- 15 yr Korean male, dislikes going to school, being in crowded places, will not go into a store if many cars in the parking lot, takes about an hour to fall asleep, occasionally awakens with nightmare, nonrestful sleep. Likes his belongings in order, doors shut, clothes only worn once.

- Diagnosis?

Social Anxiety Disorder (Social Phobia)

- Core features of social anxiety disorder (social phobia) same.
- No longer requirement individuals over age 18 years must recognize that their fear and anxiety are excessive or unreasonable
- 6-month duration is required for all ages in attempt to minimize over diagnosis of transient fears.

Angela

- 8 yr old Caucasian female, irritable dislikes being away from her mother, tantrums that can escalate to biting and kicking when she anticipates they will be separated, does not want to go to school

- Diagnosis?
- Questions?
- Further eval?

Separation Anxiety Disorder

- Was in “Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence
- NOW wording of criteria modified to better represent expression of separation anxiety symptoms in adulthood.
- Attachment figures may include the children of adults with separation anxiety disorder, & avoidance behaviors may be in the workplace as well as school.
- Diagnostic criteria no longer specify that age at onset must be before 18 years, because a substantial number of adults report onset of separation anxiety after age 18.
- Duration “typically lasting for 6 months or more” added for adults to minimize overdiagnosis

Separation Disorder

- A. Developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached 3 symptoms of list of 8 required:
- Distress with anticipated or actual separation.
- Worry about losing or harm befalling attachment figure.
- Worry that an event will cause separation.
- Persistent reluctance or refusal to go to school due to fear of separation.

- Duration 4wks>
- Must have onset before age 18. Specified early onset if before age 6.

Generalized Anxiety Disorder $\geq$ 6 Months

- A. Excessive anxiety and worry occurring more days than not about a number or events or activities (such as work or school performance)
  B. The person finds it difficult to control the worry.
- C. The anxiety or worry are associated with ≥ 3 symptoms from this list: (1) restlessness or feeling keyed up or on edge; (2) being easily fatigued; (3) difficulty concentrating or mind going blank; (4). irritability; (5). muscle tension; (6). sleep disturbance.

Generalized Anxiety Differential

Onset usually before age 20

Hx of childhood fears & social inhibition

Incidence increased in 1st degree relatives w/the dx

Over 80% w/GAD also suffer major depression, dysthymia or social phobia

Comorbid substance abuse, particularly ETOH and sedative/hypnotic abuse

Rare c/o of SOB, palpitations and tachycardia

Readily admit to worrying excessive over minor matters w/life-disrupting effects

Selective Mutism

- Was classified in "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence
- Anxiety disorder as large number of children with selective mutism are anxious.

TED

- 5 year old boy who is irritable, always "looking for a fight", jumpy, feels the need to protect his mother, repeatedly plays a swat team attacking a house and he's defending the house, hard time settling for sleep, nightmares

- Diagnosis?
- Questions?
- Further eval?

Acute Stress Disorder

A. After traumatic experience that person believes was life-threatening, and response involved intense fear, helplessness, or horror.

B. Person has three or more dissociative symptoms

- Sense of numbing or detachment
- Reduced awareness of surroundings9
- Derealization
- Depersonalization
- Dissociative Amnesia (can't remember important aspect of event).

- C. Person persistently reexperiences event via recurrent images, thoughts, dreams, or flashbacks; or distressed with reminders of event.

D. Person avoids situations that may trigger memories of past event.

E. The person has anxiety or increased arousal, such as difficulty sleeping, exaggerated startle.

5 non-verbal signs of PTSD in Children

1. Sleep disturbances that are more than several days; actual dreams of the trauma may or may not appear
2. Clinging behavior, anxiety from separating, reluctance on going back to school
3. Phobias about distressing stimuli people, places, events which remind the child of the precipitating event
4. Conduct disturbances at home or school which are responses to anxiety & frustrations. Doubts about self worth & desire to withdraw

Sleep Related Problems

- SRPs common feature of anxiety disorders
- Obtain detailed information related to both sleep & anxiety in adolescents presenting with difficulties in either domain
- Sleep problems are early markers for nascent psychopathology, including anxiety disorders
- SRPs associated with impaired family functioning
- Sleep dysregulation, irritability, social withdrawal, poor concentration, negative attitude about self and future, decreased appetite a subgroup of 28% to 69% have anxiety or depression have both at the same time

Louise

16 year old African American female with history of washing hands until they are raw, wiping herself after urinating or a bowel movement until she is raw as she never feels “clean”, grooming the cat (picks out whitish hairs) until he scratches her. She has to arrange her room for hours sometimes at night until it is “just right” and then she’s able to go to bed, which often makes her late in the morning for school.

Diagnosis?

Questions?

Further eval?

Treatment?

Obsessive Compulsive Disorder (no duration specified)

- A. Either obsessions or compulsions
- Obsessions: recurrent, persistent thoughts, impulses, or images that are intrusive and cause anxiety and distress, and are not simply excessive worries about real-life problems.
- The person attempts to ignore or suppress the thoughts, or neutralize them with another thought or action. The person recognizes that the thoughts or images are from their own mind.
- Compulsions: Repetitive behaviors or mental acts that a person feels driven to perform in response to obsessions or according to rigid rules. The behaviors are aimed at preventing some dreaded event.
- B. At some point during the course of the disorder, the person realizes that the obsessions or compulsions are excessive or unreasonable.

  C. The obsessions or compulsions cause marked distress, are time-consuming (take more than one hour per day), or significantly interfere with the person's normal routine, occupational or academic functioning, or usual social activities or relationships.

Obsessive Compulsive Disorder (OCD)

- 1/3 to 1/2 of adult cases start between 10-12 years old
- 4th most common neurobiological illness
- 1:40 adults & 1:200 children having lifetime occurrence

- Common obsessions: concern w/order, counting, fear of acting on aggressive impulses (30%); dirt, germs & contamination (35%)
- Compulsions: repetitive hand washing (75%), checking & rechecking, repetitive actions such as stepping only on the cracks in the sidewalk, concern with arranging.
- Effects pathways in brain using serotonin transmitter
- Relationship between OCD & tic disorders

Pediatric OCD Study (POTS)

- Most extensive study of pediatric OCD
- 4 treatment arms over a 12-week period:
- 1) CBT-alone
- 2) Sertraline-alone
- 3) CBT & Sertraline
- 4) Placebo

- All 3 treatment arms were found to be superior to placebo
- #1 Combined treatment was superior to either CBT or sertraline alone.
- Remission rates were 53.6%
  - for the combined group
- 39% in the CBT-only group
- 21% in the sertraline-only
  - group
- 4% for placebo

Pharmacological Treatment of OCD in Youth

- Regarding specific anxiety subtypes, pediatric OCD is the anxiety disorder that has the strongest support for pharmacological intervention achieving effectiveness

- Has been supported by RCTs of fluoxetine, fluvoxamine, sertraline, and paroxetine.
- Evidence for citalopram is limited to open-label studies and comparison to fluoxetine without placebo.
- Sertraline, fluoxetine, and fluvoxamine have been approved by the Food and Drug Administration (FDA) for the treatment of OCD in youth.

Anxiety Disorders Summary of Changes

- OCD has moved to own chapter “obsessive compulsive and related disorders”
- PTSD has moved to new chapter “trauma and stressor-related disorders”
- Anxiety disorders now have 6 month specifier (have to last at least 6 months)

Anxiety Disorders Summary of Changes (continued)

- Panic attacks can be a specifier for all DSM-V disorders
- Panic disorder and agoraphobia are now unlinked
- Separation anxiety disorder can now arise in adulthood
- Social phobia is now called Social Anxiety Disorder
  - New “performance only” specifier

Anxiety Disorders Summary of Changes (cont'd)

- Deletion of the requirement that individuals over age 18 years recognize that their anxiety is excessive or unreasonable.
    - People with these disorders often overestimate danger
    - Older people with these disorders often attribute their sx to aging
    - Fears now have to be out of proportion to the situation

The Informant Matters

- Parents commonly under- and over-report child's mood and anxiety feelings (internalizing symptoms)
- Parents are typically good reporters of disruptive behaviors such as hyperactivity & aggression (externalizing symptoms)

Physical Symptoms of Anxiety can be vague and numerous

- Fatigue, general muscle tension, memory loss and difficulty in concentrating, malaise, insomnia, dry mouth, or a poorly defined sense of "not being well."
- Palpitations, tachycardia, syncope or pre-syncope, shortness of breath, and chest tightness or pain
- Diarrhea, nausea, and abdominal pain.
- Frequent urination and urinary urgency may be reported. Neurological symptoms may include trembling, dizziness, paresthesias, or numbness.

Clinical Pearls

- Standardized rating tools are better than winging it
- Some tools double for screening and treatment monitoring
- Rating tools can be used as psychoeducational tools

Pediatric Symptom Checklist

- FREE (e.g. Bright Futures website)
- Parent and youth version, ages: 4-16
- Simple to score and interpret
- Helps identify those in need of further mental health evaluation and intervention
  - 2/3 with positive score will have moderate to serrious mental health problem
  - 6-16 yrs: positive >= 28
  - 4-5 yrs: positive > = 24
- Helps to screen out those not in need
  - 95% accurate
- Does not provide a diagnosis

Scared

- Screen for Child Anxiety Related Disorders
- FREE (e.g. schoolpsychiatry.org_
- Age 8+; parent and youth versions
- 5 minutes to fill out
- Scoring easy but needs a few minutes, interpretation fairly straightforward
  - Still need a comprehensive evaluation
- Five factors that suggest specific, mostly DSM anxiety disorders: GAD, Separation Anxiety, Social Anxiety, School Avoidance
- NB: PTSD and OCD are not screened

Assessment of Dangerousness

- Suicide
- Homicide
- Other risk-taking, e.g.
  - Running away
  - Drug use
  - Sexual risk-taking

Suicide Partial Assessment

- ASK!!!!!!!!!!!!!!!!!!!!
- Thoughts
- Intentions
- Plans
- Means
  - GET RID OF FIREARMS and other weapons such as large knives, poisons, lengths of rope!
- Social supports
- Stressors
- Psychiatric symptoms
- Reasons to live
- Problem-solving capacity

Treatment

- Entail various combinations of interventions, including psychoeducation, cognitive therapy, behavioral shaping, school consultation, and pharmacotherapy
- American Academy of Child and Adolescent Psychiatry initially recommends the use of psychoeducation for patients and family, focusing on the anxiety cycle and the process whereby avoidance contributes to greater fear reactivity.
- Furthermore, psychotherapy is recommended, with the greatest evidence for CBT,
- For moderate to severe cases of anxiety, the intensity of treatments should be increased,]and consideration of a combination of medications and therapy is recommended.
- Medication may be considered sooner when participation in psychotherapy is not effective or feasible because of the degree of impairment.

Resources

- www.brightfutures.org
- www.massgeneral.org/schoolpsychiatry/
- www.aacap.org
  - Facts for Families
    - NB: includes brief handout about what to expect from a child psychiatry evaluation
- http://www.schoolpsychology.net/p_01.html

Websites:

- 1. Anxiety Disorders Association of America, www.adaa.org
- 2. Children's Center for OCD and Anxiety, www.worrrywisekids.org
- 3. Child Anxiety Network, www.childanxiety.net/Anxiety_Disorders.htm
- 4. American Academy of Child and Adolescent Psychiatry, facts for families on anxiety, www.aacap.org/cs/root/facts_for_families?the_anxious_child
- 5. US Department of Health, http://mentalhealth.samhsa.gov/publications/allpubs/CA-0007/default.asp
- 6. http://www.nimh.nih.gov/health/publications/anxiety-disorders-in-children-and-adolescents/index.shtml
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