Anxiety and Depression in Children and Adolescents

Dr. H.M. Gandy, MD FRCPC

Children's Hospital of Eastern Ontario

Youth Mental Health Conference

101 Ben Franklin Place, Chambers

November 8, 2011

Objectives

- To review the symptoms and presentation of anxiety and depression in kids
- To review the treatment modalities available for these conditions
- To review safety concerns related to the use of antidepressant medication in the treatment of these conditions

Major depression-clinical symptoms

- Sad or empty mood
- Feelings of hopelessness, pessimism
- Feelings of guilt, worthlessness, helplessness
- Loss of interest or pleasure in activities that were once enjoyed
- Decreased energy, fatigue, being “slowed down”
- Difficulty concentrating, remembering, making decisions
- Insomnia, early-morning awakening or oversleeping
- Appetite and/or weight loss or overeating and weight gain
- Thoughts of death or suicide; suicide attempts
- Restlessness, irritability
- Persistent physical symptoms that do not respond to treatment such as headaches, digestive disorders and chronic pain

Major Depression in Children and Adolescents

- **S** leep
- **I** nterest
- **G** uilt
- **E** nergy
- **C** oncentration
- **A** ppetite
- **P** sychomotor
- **S** uicide

Major depression in children and adolescents

- Children may have mood lability, irritability, low frustration tolerance, temper tantrums, somatic complaints, and/or social withdrawal instead of verbalizing feelings of depression
- Children have fewer melancholic symptoms, delusions and suicide attempts then depressed adults.

Major depression in children and adolescents

- 40%-90% of youths with depressive disorder have other psychiatric disorders with 50% having more than two co-morbid diagnoses including anxiety disorders, ADHD and substance use disorders
- Depressed children and adolescents are at high risk of substance abuse, legal problems, exposure to negative life events, physical illness, early pregnancy and poor work, academic and psychosocial functioning.

Major depression in children and adolescents

- Prevalence 0.4 – 2.5% in children. 0.4 – 8.3% in adolescents
- Other studies suggest 7% of boys and 12% of girls will have a depressive episode by age 16
- Median duration of depressive episode-eight months
- Recurrence rates by 1-2 years: 20% to 60% and after five years up to 70%
- In the context of a family history of bipolar disorder 20%-40% will develop bipolar disorder
- 60% report thoughts of suicide, 30% actually attempt suicide

Major depression in children and adolescents

- The single most predictive factor associated with the risk of developing major depression is a high family loading for the disorder.
- Onset and recurrences of depression are influenced by the presence of stressors such as losses, abuse, neglect and ongoing conflicts and frustration, negative attributional styles and the presence of co-morbid disorders.

Major depression in children and adolescents

Psychotherapy for depression

- Effects of psychotherapy are modest
- Treatments are equally efficacious for children and adolescents, individual versus group psychotherapy
- There is no correlation between duration of treatment and response suggesting brief treatments may be effective and economical.

Major depression in children and adolescents

Psychotherapy for depression

- Cognitive Behavioural Therapy is effective even in the face of comorbidity.
- Several studies indicate CBT plus medication has the best overall outcome.
- Interpersonal Therapy in some studies has been shown to be at least as efficacious as CBT for adolescent depression

CBT and IPT for Adolescents

- **CBT** - Thoughts influence behaviors and feelings, and vice versa. Treatment targets a patient's thoughts and behaviors to improve his or her mood. Essential elements of CBT include increasing pleasurable activities (behavioral activation), reducing negative thoughts (cognitive restructuring), and improving assertiveness and problem-solving skills to reduce feelings of hopelessness. CBT for adolescents may include sessions with parents/caregivers to review progress and increase compliance with CBT-related tasks.

- **IPT-A** - Interpersonal problems may cause or exacerbate depression, and that depression, in turn, may exacerbate interpersonal problems. Treatment targets a patient's interpersonal problems to improve both interpersonal functioning and his or her mood. Essential elements of IPT include identifying an interpersonal problem area, improving interpersonal problem-solving skills, and modifying communication patterns. Parents/caregivers are involved in sessions during specific phases of the therapy

Texas Children’s Medication Algorithm Project

Carroll W. Hughes, PhD., Graham Emslie, M.D. et al 2007

Medication versus alternative treatment interventions:

- **CBT** and **IPT** have been shown to be effective treatments for mild to moderate depression. **CBT** can be similar in efficacy to medication and appears superior to the supportive psychotherapy and behavioral family therapy
- TADS-CBT did not produce results better than placebo. Adolescents demonstrating higher levels of cognitive distortions seem to benefit from the addition of **CBT** to medication

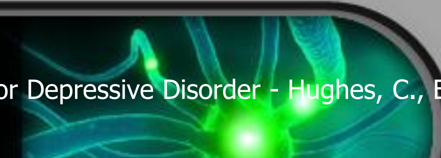
Texas Children's Medication Algorithm Project

Carroll W. Hughes, PhD., Graham Emslie, M.D. et al 2007

Developed medication treatment strategies divided into a series of stages:

- Stage 0: Diagnostic Assessment and Monitoring
- Stage 1: SSRIs-monotherapy
- Stage 2: Switching to Alternate SSRI-monotherapy
- Stage 2A: SSRI Monotherapy plus Augmentation
- Stage 3: Switching to Alternate Antidepressant Monotherapy
- Stage 4: General treatment guidance
- Also provided approaches to medication treatment for major depressive disorder with psychotic features, Major depressive disorder with anxiety disorders and Major depressive disorder with ADHD

Medication Algorithm for Treating Children and Adolescents Who Meet *DSM-IV* criteria for Major Depressive Disorder - Hughes, C., Emslie, et al (2007)



Stage 0 — Diagnostic Assessment and Family Consultation Regarding Treatment Alternatives

→ Non-Medication Treatment Alternatives [1]

Stage 1 — Monotherapy: SSRI (FLX,[2] CIT, SRT)

Any stage(s) can be skipped depending on the clinical picture.

Response → Continuation

Partial Response or Nonresponse ↓

Stage 2 — Monotherapy: Alternate SSRI [3]

Response → Continuation

Partial Response → **Stage 2A** — Augmentation (Lithium, BUP, MRT) [4]

Stage 2A: Response → Continuation

Stage 2A: Partial Response or Nonresponse → Stage 3

Partial Response or Nonresponse ↓

Stage 3 — Monotherapy: Alternate Class VEN, BUP, MRT, DXT [4]

Response → Continuation

Partial Response or Nonresponse ↓

Stage 4 — Reassess Treatment Guidance

Continuation → **Maintenance**

1 Evidence-based psychotherapy can be used at any stage in the algorithm.

2 FLX (fluoxetine) is the only antidepressant with an FDA-approved indication for depression in youth.

3 SSRI - Selective serotonin reuptake inhibitor (including: citalopram [CIT], escitalopram, fluoxetine [FLX], paroxetine [not recommended for preadolescents], sertraline [SRT])

4 VEN = venlafaxine; BUP = bupropion; MRT = mirtazapine; DXT = duloxetine

Suicide and Antidepressant Use

Suicidality-warning signs:

- Changes in Eating and sleeping habits
- Loss of interest or pleasure in usual activities
- Withdrawal from friends and family
- Acting out behaviors/substance abuse/neglect of personal appearance
- Increased physical complaints
- Feelings of worthlessness/hopelessness about the future

Suicidality-specific warning signs:

- Preoccupation with death and dying
- Plans or efforts toward plans to commit suicide
- Giving away favorite possessions or throwing away important belongings
- Becoming suddenly cheerful/energetic after period of depression
- Expressing bizarre thoughts
- Writing suicide notes

Suicide Risk Associated with Antidepressant Use

- For all indications the relative risk was 1.95 (1.28-2.98)
- For trials of antidepressants for depression the relative risk was 1.66 (1.02-2.68)
- **In the trials, the average risk of such events among patients receiving antidepressants was 4%**
- **Among patients receiving placebo the risk was 2%**
- 97 events among 4200 children and adolescents. The difference was only significant when data from all the trials were pooled.
- Except for Venlafaxine, individual medications were not different from each other with respect to suicidal behavior.
- There were no completed suicides in any of the trials.

Summary - monitoring

- A careful assessment is critical-consider using a standardized rating scale to assess severity and monitor improvement or deterioration.
- Educate and provide options available for treatment. Review carefully the risks and benefits of medication treatment.
- Ask about suicidal thoughts, behaviors or attempts in detail with each visit.
- Ask specific questions about compliance
- Ask about other s/e – agitation, activation, akathesia, sleep, appetite and

  concentration.
- Start dose is low and make increases only after a few weeks.
- FDA suggests weekly monitoring for the first four weeks or following a medication adjustment.
- Assess and monitor adequacy of med trial – at least 8-10 weeks at highest dose tolerated.
- Watch for drug interactions/enquire about illicit drug use.
- Following remission continue treatment for 12 months
- If two or more episodes of depression consider maintenance treatment

Anxiety Disorders

General Comments

- Most common prevalent form of childhood psychopathology with overall prevalence rates approaching 20%
- Equal gender prevalence in childhood –more common in females in adolescence
- Fears are common and developmentally normal
- Problematic if they do not subside with time or impair functioning
- Children may not recognize fear as unreasonable
- Often accompanied by somatic complaints
- In adolescents often presents with oppositional behaviour or disobedience
- Children at younger ages may have difficulties in communicating cognition, emotions, and avoidance, as well as the associated distress and impairments,
- Childhood anxiety predicts future risk for anxiety disorders and depression with many having a relapsing and remitting course.

Anxiety Disorders

Etiologies

- Genetic heritability ranges from 36 – 65%
- Temperamental quality of behavioural inhibition and physiologic hyperarousal are significant risk factors for the development of anxiety disorders
- Individuals have cognitive biases that maintain and perpetuate anxious responses
- Parenting styles and parent modeling contribute to the development of anxiety in children
- Demonstrated functional impairments in brain regions that modulate emotion and fear.(Amygdala and pre-frontal cortex)

Anxiety Disorders

Separation Anxiety Disorder

- Excessive anxiety about separation from primary attachment figures
- Fear harm may come to themselves or attachment figures
- Distress at the time of separation or anticipating separation with somatic complaints, nightmares, shadowing parents, sleeping with family members, school refusal/avoidance

Anxiety Disorders

Separation Anxiety Disorder

- Symptoms more intense than expected for developmental level
- Symptoms present for at least four weeks
- Onset before 18 years of age
- Causes significant distress or impairment
- Distinguishing feature: anxiety alleviated when with parents

Anxiety Disorders

Separation Anxiety Disorder

- Short lived or chronic and persistent
- High remission rate (95.7%)
- Parents of children with clinical SAD experience high levels of internalizing symptoms and general distress
- Family and parental characteristics (i.e. inconsistency with limit setting) predict lower likelihood of remission
- Children with persistent SAD more likely to develop a new depressive disorder within 18 months.
- SAD is a risk factor for anxiety and depressive disorders in adulthood

Anxiety Disorders

Separation Anxiety Disorder – treatment options

- **Counseling** is the treatment of choice for mild to moderate separation anxiety disorder.
- **Behavioral modification thx -** transitions, check-in notes, planned distractions
- **Parent education and support** with tips to the child's caregivers, regular meetings with the child, and guidance to teachers on how to help alleviate the child's anxiety.
- **Cognitive behavioural therapy** to help children learn how they think and increase their ability to focus on the positive things that are going on, even in the midst of their anxiety.
- **Medications -** SSRIs are first line meds - Fluvoxamine, Fluoxetine, Sertraline and Citalopram
- **Other medications** include TCA’s and benzos, beta blockers, buspirone

Anxiety Disorders

Generalized Anxiety Disorder

- Prevalence rate 3%
- Comorbidity common (93% with GAD had at least one other disorder - Masi, 2004)
- Depression most common comorbidity
- Bimodal age of onset (early onset in childhood and late onset in adulthood)
- Childhood onset associated with greater degree of psychopathology
- Children with GAD with depression have poorer prognosis with greater sx severity and longer duration of symptoms

Anxiety Disorders

Generalized anxiety disorder DSM-IV Criteria

- A. **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).
- B. The person finds it **difficult to control the worry**.
- C. The anxiety and worry are **associated** with three (or more) of the following six **symptoms** (with at least some symptoms present for more days than not for the past 6 months). **Note:** Only one item is required in children.
- (1) **restlessness** or feeling keyed up or on edge (most commonly reported by youth)
- (2) being easily **fatigued**
- (3) **difficulty concentrating** or mind going blank
- (4) **irritability**
- (5) **muscle tension** (least reported by youth)
- (6) **sleep disturbance** (difficulty falling or staying asleep, or restless unsatisfying sleep

Anxiety Disorders

Generalized Anxiety Disorder – treatment options

- **Psychosocial** – patient education, parent training/support
- **Relaxation techniques** – deep breathing, progressive muscle relaxation
- **CBT** – appraise situations more accurately, address cognitive distortions
- **Medications** – SSRI's, Benzodiasepines, TCA's Bupropion, Beta blockers

Anxiety Disorders

Acute Stress Disorder/PTSD

- ASD develops within days of a traumatic event and is manifest by anxiety, dissociative symptoms, persistent re-experiencing of the trauma, and avoidance of stimuli that raise recollections of the trauma.
- observed in pediatric patients or their parents after acute injuries.
- severity, duration, and proximity to the trauma are factors that influence the development of ASD
- 15% to 33% of individuals in severe accidents or observing significant harm to others develop an ASD.
- extent of the injuries, pre-existing psychiatric illness increases the risk of ASD

Anxiety Disorders

Acute Stress Disorder DSM-IV Criteria

A. **Exposed to a traumatic event** in which both of the following were present: 1. Actual threat and 2. The persons response involved intense fear, helplessness or horror.

B. **Dissociative symptoms**: 1. A subjective sense of numbing, detachment or absence of emotional responsiveness. 2. A reduction in awareness of surroundings. 3. Derealization. 4. Depersonalization. 5. Dissociative amnesia

C. **Reexperience** through recurrent images, thoughts, dreams, illusions, **flashback** episodes

D. **Marked avoidance** of stimuli that arouse recollections of the trauma

E. **Increased arousal** including poor sleep, irritability, poor concentration, hypervigilance, exaggerated startle response.

F. **Significant distress** or impairment in social, occupational or other important areas of functioning

G. The disturbance lasts for a minimum of two days in a maximum of four weeks and occurs within four weeks of the traumatic event

Anxiety Disorders

Post Traumatic Stress Disorder

- If the stressful symptoms surrounding the trauma last beyond 1 month, the diagnosis changes to posttraumatic stress disorder (PTSD)
- Symptoms can be suppressed for years often reemerging at developmental points related to the trauma.
- 8% of American have reported PTSD symptoms at some point in their lives.

Anxiety Disorders

Trauma in children and adolescents in the US:

- Kilpatrick (2003)-children ages 12-18:
- 1.8 million report sexual abuse
- 3.9 million report serious assault
- 2.1 million report punishment by physical abuse
- 8.8 million report witnessing physical attack, assault with a weapon, sexual assault

Anxiety Disorders

ASD/PTSD treatment options

- Psychosocial treatments
- Establish safe environment
- CBT to: resist traumatic recollections, counter recurrent distressing thoughts, de-escalate anxiety, diminish generalization of fears
- Relaxation techniques
- Hypnotherapy
- Eye Movement Desensitization and Reprocessing

Anxiety Disorders

ASD/PTSD treatment options

- Pharmacotherapy
- In ASD – short term use of benzodiazepines helpful for acute anxiety
- Beta blockers, alpha adrenergic agents reduce hyperarousal, reduce anxiety
- May also use atypical antipsychotics, gabapentin
- SSRI’s help anxiety, depression, rage and obsessional thinking

Anxiety Disorders

Social phobia

- **Fear of embarrassment** or negative evaluation by others, and results in avoidance of situations when the child fears acting in a humiliating or embarrassing manner.
- Tend to be very **sensitive to rejection**, and perceive less acceptance from friends, highlighting the negative bias of cognitions associated with social interactions.
- Anxiety leads to **poor performance in the feared situation**, resulting in embarrassment and further avoidance
- Typically **quiet and withdrawn** with limited eye contact, somatic symptoms in the presence of unfamiliar people.
- **Social settings** such as classrooms and restaurants most **problematic**
- Young chidlren avoid and hide behind parents
- Youth fail to develop close peer relationships

Anxiety Disorders

Social Phobia

- Life time prevalence 3 – 13%
- Onset may be abrupt after stressful or humiliating experience
- May be continuous into adulthood and may reemerge with life stressors
- Increased frequency if first degree relative of those with the disorder

Anxiety Disorders

Social Phobia DSM-IV Criteria

- A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others.
- B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack.
- C. The person recognizes that the fear is excessive or unreasonable. **Note:** In children, this feature may be absent.
- D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.
- E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.
- F. In individuals under age 18 years, the duration is at least 6 months.

Anxiety Disorders

Social Phobia treatment options:

- **CBT** approaches with:
  - Systematic exposure to feared stimuli
  - Cognitive restructuring techniques
- **Pharmacotherapy** – SSRI's, benzos, beta blockers, alpha adrenergic agents. Adults may also respond to MAOIs

Anxiety Disorders

Specific Phobias

- Excessive and unreasonable fear in response to a specific object or situation
- Fear is present for at least 6 months, and the phobic object or situation is avoided or endured with significant distress that interferes with normal functioning
- Traumatic experiences may be a predisposing factor in the development of a specific phobia.
- Has several subtypes – animal, natural environment, blood/injection injury, situational

Anxiety Disorders

Specific Phobia DSM-IV Criteria

- A. Marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g., flying, heights, animals, receiving an injection, seeing blood).
- B. Exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed Panic Attack. **Note:**In children, the anxiety may be expressed by crying, tantrums, freezing, or clinging.
- C. The person recognizes that the fear is excessive or unreasonable. **Note:** In children, this feature may be absent.
- D. The phobic situation(s) is avoided or else is endured with intense anxiety or distress.
- E. The avoidance, anxious anticipation, or distress in the feared situation(s) interferes significantly with the person's normal routine or functioning

Anxiety Disorders

Specific Phobias – treatment options

- Exposure based treatments:
  - Flooding
  - In vivo exposure
  - Systematic desensitization
- Pharmacotherapy – short term use of benzos to tolerate exposure
- Best outcomes with behaviour therapy

Anxiety Disorders

Panic Disorder with or without agoraphobia

- Recurring, unexpected panic attacks followed by at least 1 month of worry about additional attacks, implications of the attacks, or a significant change in behavior because of the attacks
- Agoraphobia develops as fear that a panic attack may occur where escape or obtaining help would be difficult
- Intense fear with concerns about losing control, going crazy or dying lasting minutes to hours
- Multiple somatic symptoms – palpitations, tachycardia, SOB, dizziness, feeling faint, sweating, parathesia, limb weakness, nausea etc.

Anxiety Disorders

Panic Disorder – DSM-IV Criteria

A. Both (1) and (2)

1. Recurrent unexpected panic attacks

2. At least 1 of the attacks has been followed by ≥1 mo of ≥1 of the following: **a.** Persistent concern about having additional attacks **b.** Worry about the implications of the attack or its consequences (e.g., losing control, having a heart attack,"going crazy") **c.** A significant change in behavior related to the attacks

B. The presence or absence of agoraphobia

C. The panic attacks are not due to the direct physiologic effects of a drug of abuse or a medication or a general medical condition (e.g., hyperthyroidism)

D. The panic attacks are not better accounted for by another mental disorder

Anxiety Disorders

Panic Disorder

- Uncommon before adolescence, with the peak age of onset at 15–19 yr of age.
- The post adolescence prevalence of **panic disorder** is 1–2%.
- A predisposition to react to autonomic arousal with anxiety may be a specific risk factor leading to **panic disorder**.
- Twin studies suggest that 30–40% of the variance is attributed to genetics.
- The increasing rates of panic attack are also directly related to earlier sexual maturity.
- SSRIs have shown effectiveness in the treatment of **adolescents**
- The recovery rate is approximately 70%

Anxiety Disorders

Panic Disorder – treatment options

- **Exposure based treatments**
  - Flooding
  - In vivo exposure
  - Systematic desensitization
- **CBT**
- **Pharmacotherapy** – SSRI's, Benzos, Beta Blockers, Alpha adreneregic agents, TCAs

Anxiety Disorders

Obsessive Compulsive Disorder

- Obsessions are demonstrated by recurrent and persistent **ideas, thoughts, impulses**, or **images** that are felt as intrusive and recognized as senseless.
- The person attempts to ignore, suppress, or neutralize the obsessions with some other thought or action.
- The obsessions are recognized as the product of the person's own mind rather than imposed from without (except perhaps in **children**).
- Typical themes are aggression, fear of contamination, doubting, or ordering of objects.

Anxiety Disorders

OCD

- Compulsions consist of **repetitive behaviors** that appear purposeful and intentional, performed in response to an obsession or according to certain rules in a stereotyped fashion.
- The behavior is designed to neutralize or prevent discomfort or some dreaded event; however, the activity is not connected in a realistic way or is clearly excessive.
- The person recognizes that the behavior is excessive or unreasonable (**children** may not). Common compulsions are hand-washing, checking, counting, hoarding, or touching performed in a rigid manner

Anxiety Disorders

OCD

- 2.5% prevalence rate.
- Onset is in childhood in 33–50% of the cases, with an average onset at age 15.
- Onset is gradual and may follow some trivial precipitant.
- Girls are afflicted more frequently, but boys have an earlier onset.
- In families with one affected member, 20% of relatives meet OCD criteria, and another 20% meet criteria for obsessive compulsive personality disorder.

Anxiety Disorders

Obsessive Compulsive Disorder

- Most patients (up to 85%) are “cleaners” at some time in their illness.
- Some are “checkers,” endlessly testing whether they have shut doors or turned off a switch. Other **children** “classify” baseball cards in endless ways or count ceiling tiles over and over.
- Some patients must have a special symmetry, such as lining up pencils, colored crayons, or shoes; others balance everything that they do or say, such as reading until the number of pages is divisible by two.
- Far less commonly, the **child** cannot enter a doorway without a ritual behavior or taps out a rhythm on a fence while repeatedly walking a certain route.
- A common presentation in many **children** is to ask questions over and over.
- **Adolescents** who need to have the last word may have an obsessive fear that things will not be evened out if they do not

Anxiety Disorders

Specific Phobias – treatment options

- Exposure based treatments:
  - Flooding
  - In vivo exposure
  - Systematic desensitization
- Pharmacotherapy – short term use of benzos to tolerate exposure
- Best outcomes with behaviour therapy

Anxiety Disorders

OCD Treatment options

- **Exposure and response prevention**

  expose the patient to the obsessive

  stimulus and prevent the compulsive

  response
- 70-80% rates of effectiveness
- **Pharmacotherapy** – SSRI's(Fluvoxamine, Sertraline, Prozac) +/- benzos (clonazepam), Clomipramine, augmentation (with lithium, buspirone) and combinations of SSRi's +/- atypical antipsychotics
- **Other tx** - ECT, TMS, deep brain stimulation, psychosurgery also options in refractory cases

Anxiety Disorders

PANDAS – OCD Variant

- **PANDAS** - **P**ediatric **A**utoimmune **N**europsychiatric **D**isorder associated with **S**treptococcal (group A beta-hemolytic streptococcal) infections.
- Presence of OCD or a tic disorder,
- Prepubertal sudden onset following streptococcal infection
- Episodic course of symptom severity, association with group A beta hemolytic infections, and association with neurological abnormalities.
- High antigen titres present – some evidence that reduction of the antibody load (through plasmpheresis improves symptoms
- Most cases are treated with SSRI’s