Adolescent Depression and Anxiety: A Review of Treatment Options
Cara Bennett, DHSc, MPAS, PA-C

Live Activity Handout
4 slides per page
Adolescent Depression and Anxiety: A Review of Treatment Options

ACTIVITY DESCRIPTION
Depression and anxiety in adolescents is more prevalent than most adults realize. Pharmacologic and non-pharmacologic interventions can improve functioning and quality of life for many adolescents.

TARGET AUDIENCE
The target audience for this activity is pharmacists, pharmacy technicians, and nurses in hospital, community, and retail pharmacy settings.

LEARNING OBJECTIVES
After completing this activity, the pharmacist will be able to:
• Review DSM V criteria for diagnosis of adolescent anxiety and depression
• Define non pharmacologic treatment strategies
• List first line therapies for the treatment of anxiety and depression in adolescents
• Describe common side effects and interactions of depression and anxiety medications

After completing this activity, the pharmacy technician will be able to:
• Review DSM V criteria for diagnosis of adolescent anxiety and depression
• Define non pharmacologic treatment strategies
• List first line therapies for the treatment of anxiety and depression in adolescents
• Describe common side effects and interactions of depression and anxiety medications

ACCREDITATION
Pharmacy
PharmCon, Inc. is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

Nursing
PharmCon, Inc. is approved by the California Board of Registered Nursing (Provider Number CEP 13649) and the Florida Board of Nursing (Provider Number 50-3515). Activities approved by the CA BRN and the FL BN are accepted by most State Boards of Nursing.

CE hours provided by PharmCon, Inc. meet the ANCC criteria for formally approved continuing education hours. The ACPE is listed by the AANP as an acceptable, accredited continuing education organization for applicants seeking renewal through continuing education credit. For additional information, please visit: http://www.nursecredentialing.org/RenewalRequirements.aspx

Universal Activity No.: 0798-0000-18-003-L01-P
Credits: 1.0 contact hour (0.1 CEU)

Release Date: 1/10/2018
freeCE Expiration Date: 1/10/2021
ACPE Expiration Date: 1/10/2021

ACTIVITY TYPE
Knowledge-Based Live Webinar

FINANCIAL SUPPORT BY
Pharmaceutical Education Consultants, Inc.
ABOUT THE AUTHOR
Dr. Cara Bennett is a practicing Physician Assistant. She has over 18 years of clinical experience in primary care, including family practice, obstetrics and gynecology, college health, and pediatrics. She is an adjunct instructor in the Master of Medical Science and Master of Health Science programs at Saint Francis University. She received her B.S. in Physician Assistant Sciences from Saint Francis University, her Master of Physician Assistant Sciences from the University of Nebraska and her Doctor of Health Science from Nova Southeastern University.

FACULTY DISCLOSURE
It is the policy of PharmCon, Inc. to require the disclosure of the existence of any significant financial interest or any other relationship a faculty member or a sponsor has with the manufacturer of any commercial product(s) and/or service(s) discussed in an educational activity. Cara Bennett reports no actual or potential conflict of interest in relation to this activity.

Peer review of the material in this CE activity was conducted to assess and resolve potential conflict of interest. Reviewers unanimously found that the activity is fair balanced and lacks commercial bias.

Please Note: PharmCon, Inc. does not view the existence of relationships as an implication of bias or that the value of the material is decreased. The content of the activity was planned to be balanced and objective. Occasionally, faculty may express opinions that represent their own viewpoint. Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this activity is not intended as a substitute for the participant’s own research, or for the participant’s own professional judgement or advice for a specific problem or situation. Conclusions drawn by participants should be derived from objective analysis of scientific data presented from this activity and other unrelated sources.

Neither freeCE/PharmCon nor any content provider intends to or should be considered to be rendering medical, pharmaceutical, or other professional advice. While freeCE/PharmCon and its content providers have exercised care in providing information, no guarantee of its accuracy, timeliness or applicability can be or is made. You assume all risks and responsibilities with respect to any decisions or advice made or given as a result of the use of the content of this activity.
Pharmacist Learning Objectives

- Review DSM V criteria for diagnosis of adolescent anxiety and depression
- Define non pharmacologic treatment strategies
- List first line therapies for the treatment of anxiety and depression in adolescents
- Describe common side effects and interactions of depression and anxiety medications

Pharmacy Technician Learning Objectives

- Review presenting symptoms of anxiety and depression in adolescents
- Outline current treatment options for anxiety and depression
- Identify non pharmacologic treatment options

“I’m fine”
“Nothing”
“Leave me alone”
Depression

- 10-20% of adolescents experience a major depressive episode in the U.S. annually
- 30% feel sad or hopeless every year
- 5-10% subclinical symptoms
- Female to male ratio 2:1

Risk Factors

- Low birth weight
- Family history
- Family stressors/dysfunction
- Social stressors
- Gender dysphoria
- Other mental health diagnosis
- Traumatic brain injury
- Chronic illness

Symptoms of Depression

- Irritable mood
- Loss of interest
- Change in appetite/weight
- Fatigue
- Sleep disturbance
- Feelings of worthlessness/guilt
- Lack of concentration
- Suicidal thoughts

Course of Illness

- Duration 4 to 9 months
- 90% remit in 2 years
- Recurrence between 20-70%
  - Prior depression
  - Residual symptoms
  - Comorbid conditions
  - Stressors
  - Lack of social support
  - Family history
Comorbid Conditions

- Anxiety disorders
- Attention deficit hyperactivity disorder
- Substance abuse
- Behavioral disorders
- Higher rates of: risky sexual behavior and physical illness/complaints
- Lower rates of: relationship satisfaction and higher education

Suicide

- 3rd leading cause of death in the U.S for adolescents
- Depression greatest risk factor
- CDC data for 2015
  - 18% report contemplating suicide
  - 9% attempted in past year
- Males 4 times more likely to die from suicide attempt
- Females more likely to attempt
- Firearms used in > 50%

Assessment

- Medical and psychological history
- Physical exam
- Laboratory studies (TSH, CBC, chemistry, drug screen)
- Interview the child
  - Self reporting questionnaires
    - PHQ-9
    - Mood and feelings questionnaire
    - Reynolds Adolescent Depression Scale

SIG-E-CAPS

- Depressed mood plus:
  - Sleep disorder
  - Interest deficit (anhedonia)
  - Guilt
  - Energy deficit
  - Concentration deficit
  - Appetite changes
  - Psychomotor agitation
  - Suicidality
DSM 5 Criteria
Major Depressive Disorder

• 5 or more symptoms for at least 2 weeks, at least one being anhedonia or dysphoria
  • Depressed or irritable mood (dysphoria)
  • Diminished interest in activities (anhedonia)
  • Change in appetite or weight
  • Insomnia/hypersomnia
  • Psychomotor agitation/retardation
  • Fatigue/loss of energy
  • Feelings of worthlessness or guilt
  • Impaired concentration
  • Suicidal ideation/behavior

Differential Diagnosis

• Bipolar Disorder
• Substance abuse
• ADHD
• Thyroid disease
• Anemia
• Sleep apnea
• Medication side effect

Anxiety

• Worry and fear very common
  • What is normal for age?
  • Persistent and excessive = anxiety disorder
• Most common childhood onset psychiatric disorder
  • 10-30% prevalence rate
• Increased risk of second psychiatric diagnosis
  • ADHD
  • Depression
  • ODD
  • Learning disabilities

Risk Factors

• Developmental
  • Anxious toddlers
• Cognitive
  • Threat vs safe
• Genetics
  • Familial
• Environmental
### Age Related Fears

- Preschool
  - Separation
- School age
  - Performance
- Adolescent
  - Peer perceptions and acceptance

### Anxiety Disorders

- Generalized Anxiety Disorder
- Social Anxiety Disorder
- Panic Disorder
- Agoraphobia
- Specific Phobias
- Separation Anxiety
- Selective mutism

### Symptoms

- Avoidance
- Somatic symptoms
- Sleep problems
- Need for reassurance
- Poor school performance
- Irritability/defiance
- Eating issues

### DSM 5 Criteria

**Generalized Anxiety Disorder**

- Excessive worry > 6 months
- Worry difficult to control
- One of the following
  - Restlessness, easily fatigued, difficulty concentrating, irritability, muscle tension, difficulty sleeping
- Significant impairment of functioning
DSM 5 Criteria
Social Anxiety Disorder

• Persistent fear of social situation
• Exposure to feared situation causes anxiety
• Person recognizes as unreasonable
• Feared situations are avoided
• Symptoms for > 6 months

DSM 5 Criteria
Panic Disorder

• Recurrent unexpected panic attacks
  • Abrupt surge of intense fear
  • Four or more of the following:
    • Palpitations, sweating, shaking, shortness of breath, feeling of choking, chest pain, nausea, dizziness, chills, paresthesias, derealization/depersonalization, fear of losing control, fear of dying
  • Followed by 1 month or greater of one or both:
    • Persistent worry about another panic attack or their consequences
    • Significant maladaptive behavior change

DSM 5 Criteria
Separation Anxiety

• Excessive anxiety concerning separation from home or loved one
  • 3 or more of the following:
    • Distress with separation/anticipated separation
    • Worry about losing caregiver or harm coming to them
    • Worry of bad event causing separation
    • Physical complaints with separation/anticipated separation
    • reluctance to leave home or sleep away from home
    • Nightmares of separation
  • Lasts > 4 weeks
  • Onset before age 18
  • Causes significant distress and/or impairment in functioning

Differential Diagnosis

• Cardiac disease
• Hyperthyroid
• Seizures
• Hypoglycemia
• Caffeine
• Side effects of medication
• Substance abuse
Assessment of Anxiety Disorders

- Medical and psychological history
- Physical exam
- Laboratory studies (TSH, CBC, chemistry, drug screen)
- Interview the child
  - Pediatric Anxiety Rating Scale
  - Screen for Child Anxiety-Related Emotional Disorder (SCAReD)

Non Pharmacologic Treatment

- Psychoeducation
- Increasing social support
- Physical activity
- Cognitive Behavioral Therapy
  - Thoughts
  - Feelings
  - Behaviors

Pharmacotherapy

- When to treat?
  - Non pharmacologic measures not making sufficient progress
  - Impairment in functioning
  - Severity of symptoms
- What medication?
  - Selective Serotonin Reuptake Inhibitors (SSRIs)
  - Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)
  - Tricyclic Antidepressants
  - Benzodiazepines

SSRIs
Choosing a Medication

- Efficacy and Safety
- Allergies
- Desire to avoid side effects
- Response to medication by parent or sibling
- Patient and/or family preference
- Potential drug interactions

Fluoxetine

- First line for anxiety and depression
- Extensively studied in adolescents
- Long half life
  - Caution if concerned about Bipolar Disorder
- Dosing
  - Therapeutic range 20-60 mg, start at 10mg for 6 days, then increase to 20mg
  - Prolongs QT interval

Sertraline

- Studied extensively in adolescents
- Indicated in OCD
- Can cause sedation
- Dosing
  - Therapeutic range 50-200mg
  - Start at 25mg for 6 days, then increase to 50mg daily

Citalopram

- 2 stereoisomers that are mirror images
- Efficacy in depression
  - Results inconsistent
- Therapeutic range
  - 10-40mg
  - Starting dose 10mg
- QT prolongation
  - Do not exceed 40mg
  - EKG
Escitalopram

- Stereoisomer of citalopram
- Inhibits serotonin reuptake more strongly than other
- Modest efficacy in adolescents
- Therapeutic range
  - 5-20mg
  - Starting dose 5mg
- QT prolongation

Paroxetine

- Not effective in depression
- More effective in anxiety
- Therapeutic range
  - 10-60mg daily
  - Starting dose 10mg for 1-2 weeks
  - Increase by 10mg q week

Adverse Reactions

- Dose dependent
- Usually resolve in 1-2 weeks
- Common side effects:
  - Abdominal pain
  - Agitation
  - Diarrhea
  - Headache
  - Nausea
  - Sleep changes
  - Decreased libido

Mania

- Depression switching to hypomania/mania
- Questionable if medication causes switch
  - Mania often follows depressive episode
- Increased risk for certain groups
  - Monotherapy, genetic predisposition
- If occur must stop antidepressants
  - Start antimania treatments
Suicidality

- Black box warning issued in 2004
  - “Children and adolescents taking antidepressant medication, including SSRIs and TCAs, are at increased risk for suicidal thinking or behavior”
- Studies show more likely to benefit than to commit suicide
- FDA recommends close monitoring during early weeks of treatment
  - Weekly for first 4 weeks
  - Biweekly during month 2
  - Monthly in month 3

Serotonin Syndrome

- Overstimulation of serotonin receptors
- Usually from multiple medications
- Can occur with single med
- Multiple symptoms
  - Anxiety
  - Hyperthermia
  - GI distress
  - Agitation
  - Delirium
  - Diaphoresis
  - Hypertension
  - Tremor
  - Muscle rigidity
  - Myoclonus
  - Hyperreflexia

SNRIs

Venlafaxine

- Consider when failed 2 SSRIs
- Some improvement in symptoms
- Side effects
  - ↑ BP and pulse
  - Weight gain
  - Itching and rashes
  - ↑ cholesterol
- Therapeutic range
  - Start 37.5mg x 7 days, increase 75mg day
  - Up to 150mg daily
Tricyclic Antidepressants

- Amitriptyline, nortriptyline, clomipramine
- Efficacious in adults
- Studies fail to show efficacy in adolescents
- Unfavorable side effects
- High lethality in overdose
- Consider if fail multiple SSRIs and SNRIs

Benzodiazepines

- Effective in some cases
- Little evidence in the research
- Adverse events
  - Drowsiness, irritability, oppositional behavior, abuse potential
- Longer half life suggested
  - Clonazepam 0.25mg/day
  - Can increase to 0.5mg/day if tolerated
Other Medications

A few others for anxiety....

- Guanfacine
  - Typically used in ADHD and Tourette syndrome
- Buspirone
  - Indicated for ages 6-17 years
  - 15-60mg/day bid
- Hydroxyzine
  - Antihistamine
  - 2mg/kg/day q6h < 12 years
  - 50-100 mg every 6 hours prn > 12 years

A few others for depression...

- Lithium
  - Possible adjunctive therapy
  - ? Efficacy
- Omega-3 fatty acids
  - No high quality studies
- St. John’s wort
  - Studies in adults inconclusive
  - No studies in kids

Treatment Duration

- Titrate as needed until efficacy/maximum dose
  - Somatic symptoms around 2 weeks
  - Dose effect around 4-6 weeks
- Maintenance
  - Symptoms in remission
  - At least 9-12 months of stability
- Taper
  - Stress free time
  - Very slowly
Summary

• Depression and anxiety common in adolescence
• Effective treatment is available
• Risk to benefit ratio must be considered
• When choosing pharmacologic therapy, monitor closely
• Taper to effective dose
• Maintenance
• Taper slowly off

Questions