

# Treating Childhood Depression

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# Outline

- Epidemiology
- Etiology
- Recognition
- Psychotherapeutic treatment
- Pharmacologic treatment
- Indications for referral

# Epidemiology

- Major depression disorder (MDD) has a 15-20% lifetime prevalence in adults and frequently begins in early adulthood, or adolescence (median age = early twenties)
- Youth prevalence:
  - Pre-adolescent = 2% for MDD
  - Adolescent = 6% for MDD
  - Higher rates of less severe depression (about 7% for pre-adolescent)

# What about prevalence of childhood depression in Indian Country?

- Largest epidemiologic mental health study (National Center for AI/AN MH Research) specifically in Indian country only measured down to age 15
- One nationwide, general childhood health study demonstrated the prevalence of depressive symptoms in AI/AN youth (11-15) at about 1.5 times the rate of general population
- This is consistent with the increased rate of suicide in the AI/AN youth population

# Monoamine hypothesis

- Serotonin and norepinephrine predominant in the amygdala and other limbic system structures. Responsible for mood regulation, appetite, sleep and arousal
- Dopamine predominant in the prefrontal cortex, mediates attention and executive functions
- Though forms the basis for some of the medication efficacy, the model is oversimplified

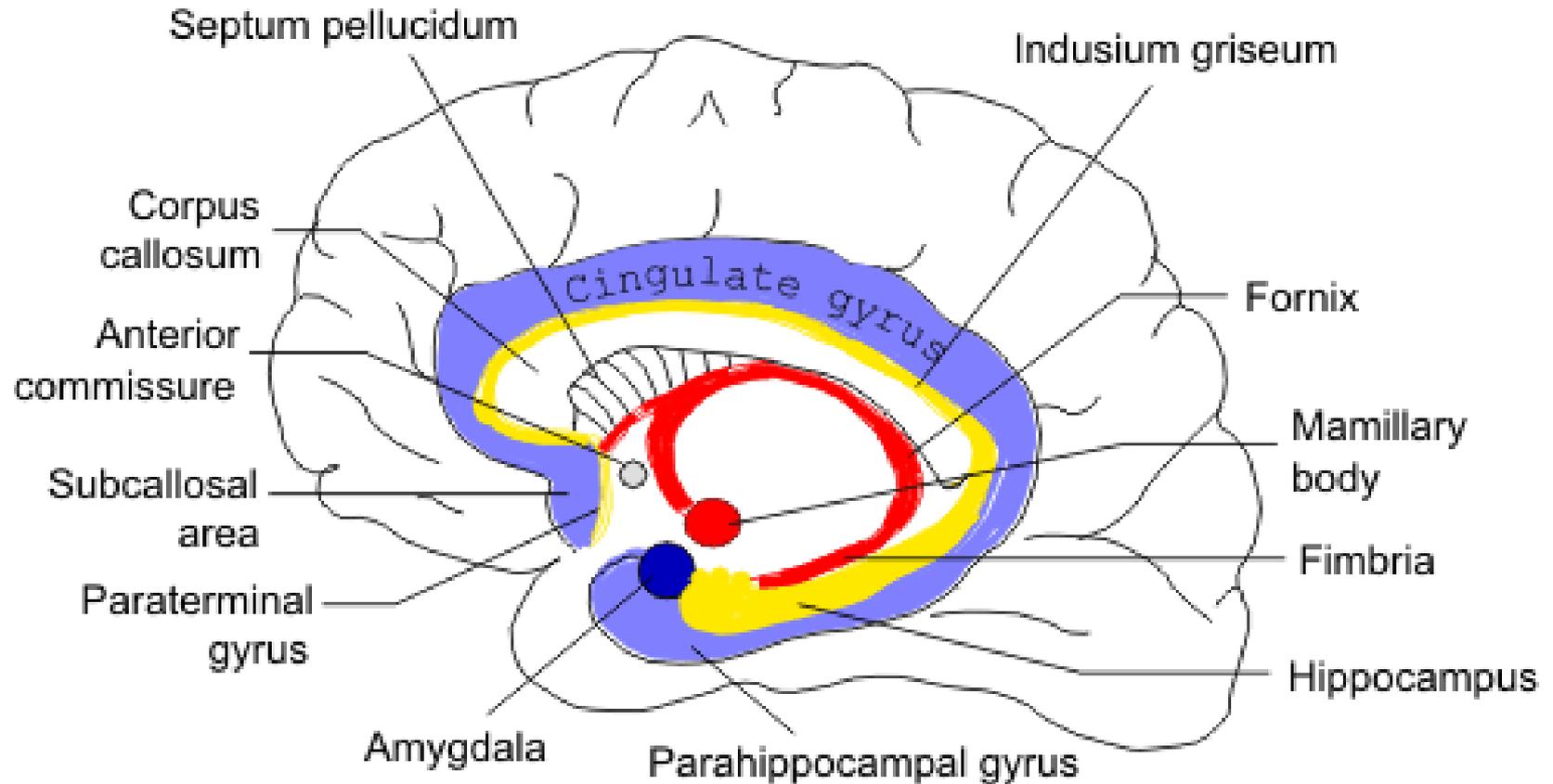
# Etiology - Genetics

- Having one depressed parent about doubles the risk for childhood depression
- Twin studies have shown about double the rate in identical vs. fraternal twins
- Adoption studies have shown consistently higher rates of mood disorders when biological parent has mood disorder

# Etiology- Intrauterine environment

- Many lines of evidence showing high level of maternal stress, causing high levels of cortisol, inhibits normal growth of limbic system (among other parts of brain)
- These infants then have difficulty with mood regulation, self soothing and recognition of social cues

# The Limbic System



Limbic Gyrus



Intralimbic Gyrus



Fornix & Inner Arc

# Etiology – infant environment

- Limbic system still very sensitive to environmental and neuro-hormonal factors through infancy
- Neglect and maltreatment causing high cortisol and inhibition (again) of limbic system development

# Infant-mother bond

- Romanian orphanages
- Harlow's Monkeys



# Adverse childhood experiences

- ACE increases the risk of adolescent depression by 300%
- Risk and severity and dose-dependent

# Recognition (Major Depression)

- DSM-IV-TR: For two or more weeks, a persistently sad, or depressed mood; or a loss of interest in usually pleasurable activities, and 4 or more of the following:
  - Trouble sleeping (too much, or too little)
  - Trouble with appetite (too much or too little)
  - Fatigue
  - Agitation, or physical slowing
  - Poor memory and/or concentration
  - Excessive guilt
  - Suicidal ideation

# Variants

- Dysthymia, DDNOS
- Bipolar D/O
- Due to substances or medical disorder

# Developmental differences

- Depression in adolescents over 14 years old is similar to adult depression (part of reason that PHQ-2 and 9 validated is this population)
- Depression under 12 years frequently presents differently
- The younger the child, the more different the presentation

# Pre-pubertal depression

- Mood more frequently irritable
- Behavior problems/acting out are frequent
- Academic problems frequent
- Perception of not being loved by parents, or not being liked by peers

# Pre-pubertal symptoms

- Headaches and abdominal complaints
- Rapid weight loss, or weight gain can occur
- Less animated (exuberance of childhood gone)
- Quality of play different

# Essential parts of evaluation of every childhood depression evaluation

- Substance use
- Abuse
- Bullying
- Safety

# General principles of treatment

- Medication studies show high placebo response rates
- Validation and small environmental changes can sometimes be curative

# Psychotherapy

- Ideally, every depressed youth should receive some form of psychotherapy
- Cognitive-behavioral and interpersonal therapy are both research validated for adolescent depression

# Psychotherapy (cont'd)

- Play therapy is generally effective for youth under eight years old, can be used in older youth
- Family therapy particularly helpful when family conflict and blaming of child present
- Group therapy/ social skills training good for youth with trouble socializing

# Medication

- Medication generally shouldn't be used as sole treatment, except for some older adolescents
- Efficacy studies not as robust as for adults, partly due to large placebo response (smaller effect size)
- Combination therapy shown to be more effective than medication or psychotherapy alone in adolescents, especially with more severe depression

# Medication (cont'd)

- Only fluoxetine FDA-approved for pre-pubertal depression, escitalopram FDA-approved over 12 years, sertraline approved for OCD in pediatric
- TCA's FDA-approved for other disorders in pediatric pop
- Though studies have shown effectiveness in social anxiety disorder, paroxetine should not be used for in pediatric/adolescent depression

# Suicide risk and anti-depressants

- FDA “black box” warning placed on all anti-depressants in 2004, warning of increased risk of suicidal thoughts and behaviors
- Based on analysis of pooled efficacy and safety data from pharmaceutical companies
- Pooled data covered 4100 pediatric patients, and showed double the risk of suicidal thoughts and behaviors in the weeks following initiation of medication therapy (4% vs 2%)

# Black box revisited

- Epidemiologic studies have demonstrated increase in suicide rates since black box warning
- No actual completed suicides in original data
- Subsequent studies have shown decrease in suicide rates, starting about 12 weeks post-initiation
- Other large studies and meta-analyses confirmed increased risk, but demonstrated smaller, time-limited risk

# Bottom line on safety

- Small, increased risk in suicidal thoughts and behaviors with medication treatment consistent with decades-known phenomenon
- Overall, decreased risk of suicide with medication treatment after initiation period
- Black box warning should not prevent use of medication, but should underscore the need for careful monitoring

# Bottom line (cont'd)

- Recent, large study has demonstrated protective effect of psychotherapy regarding suicidal thoughts and behavior
- FDA now recommends monitoring be individualized, but previous recommendation of weekly for 4 weeks, then biweekly for 4 weeks, then monthly, which is still a good guide

# Evolution in thinking about type of prescriber for pediatric medication

- Development of SSRI's have made treatment of depression much simpler and safer
- Until the late 1990s, American Academy of Child and Adolescent Psychiatry took the position that pharmacotherapy for depression should be done by a psychiatrist
- Now, the position is that pediatricians and family practitioners are the first-line for pharmacotherapy for childhood depression

# When to consider referral to a psychiatrist

- If patient has recently been psychiatrically hospitalized
- High concern about safety
- Partial, or no response to intervention after 8 weeks
- Failure of initial medication trial
- Other complicated issues (abuse in family, severe substance abuse in patient or family, serious medical condition, or disability in youth, etc)
- Serious mental disturbance in very young child

# Summary

- Childhood depression very treatable
- Talk therapy indicated in almost all cases of childhood depression
- Treatment available in most of our tribal and urban Indian health programs, consisting of talk therapy and pharmacotherapy, can be very effective
- Coordination between behavioral health and prescribing provider enhances safety and efficacy