Sex and Gender Differences

Bipolar Disorder

Bipolar Disorder is a mental health condition that is characterized by alternating between extremely elevated moods and depressed moods.

Risk Factors

Familial inheritance ~ 44%

Childhood trauma is related to more frequent and severe symptoms, but **females are more likely** to be exposed to childhood abuse and neglect.

Females are at higher risk:

- history of childhood anxiety disorders
- during the perinatal period

Prevalence

2.8% of US adult population affected

- Mean age of onset is 20 yo, while onset in **females is typically at a later age (~30+)**
- **Females** are **more likely** to have bipolar type II depression

Clinical Presentation

FEMALE

- Depression more likely:
  - initial presentation
  - longer
  - seasonal variations
- **Higher rates** of
  - rapid cycling
  - depressive polarity
  - suicide attempts
  - neuropsychological impairment during psychosis
- **More likely** to have comorbid
  - cardiovascular disease
  - metabolic disorder
  - extreme obesity
  - thyroid disorder
  - other psychiatric conditions
- Symptoms may worsen:
  - During premenstrual phase of cycle
  - After menopause
- Postpartum Period
  - high risk of onset and relapse
  - higher risk of psychosis in first 4 weeks

ALL

- Manic episodes peak in the spring/summer
- Substance use increases symptom severity and rapid cycling
- Increased high-risk sexual behavior
- Higher rates of comorbid: T2DM & HTN
- Increased all-cause mortality (shortened lifespan)

MALE

- Mania more likely:
  - initial presentation
  - **severe** episodes
- **Longer** symptom duration
- **Higher** hospitalization rates
- **More likely** to have comorbid
  - alcohol use disorder
  - substance use disorders
  - dyslipidemia
  - obesity

Manic episodes
≥ 1 week of elevated/irritable mood; risk-taking behaviors, flight of ideas, decreased sleep

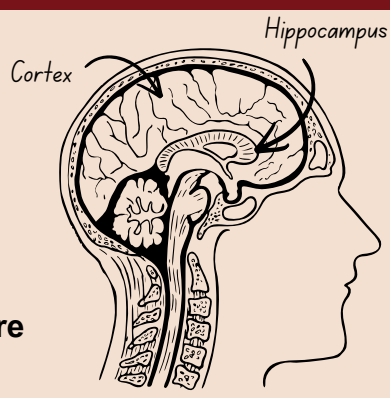
Depressive episodes
≥ 2 weeks; apathy, dysthymia, fatigue, cognitive impairment, suicidal ideation

Mixed episodes
≥ 1 week of both mania and depression symptoms

Pathophysiology

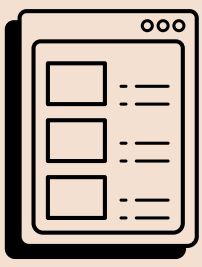
Associated with evidence of metabolic dysfunction

- During manic episodes
  - **Females:** higher total thyroxine & triiodothyronine and lower prolactin
  - **Males:** higher free thyroxine
- Childhood trauma is associated with:
  - **Females**: Hippocampus damage
  - **Males**: Frontal cortex thinning (associated with early onset)
- **Males**: **upregulation** of microglial and glia-related genes (correspond with **severe psychosis)**



Diagnostics/Screening

Bipolar 1 must have at least 1 manic episode
Bipolar 2 involves hypomanic periods



- Screening: **M**ood **D**isorder **Q**uestionnaire (**MDQ**): a self-assessment mania tool
- Diagnosis: DSM-V criteria
- ACOG recommendation: screen all pregnant & postpartum patients
- **Females** are more likely misdiagnosed:
  - as unipolar depression
  - for longer periods
  - due to missed hypomanic episodes
- **Privately insured US males** may be less likely to be diagnosed

Treatment

Females

- Reduced compliance due to medicine-associated obesity
- Menstrual disruptions: Risperidone, Haloperidol, 1st-generation antipsychotics
- Depression: likely to be treatment resistant or prescribed ineffective monotherapy
- Estrogen contraceptives:
  - reduces efficacy of Lamotrigine & Valproate
  - efficacy reduced by Carbamazepine
- Pregnancy & Postpartum
  - ACOG: continuation of non-teratogenic pharmacologic treatment
  - Teratogenic & in breast milk: 1st-generation antipsychotics & Valproate
  - Lithium immediately after birth: ~efficacy in preventing postpartum psychosis
  - Adequate sleep can prevent postpartum psychosis

Females are typically untreated for ~5 years longer than males

Lithium Higher Risk of
Females: renal impairment, hypothyroidism
Males: fine tremors, erectile dysfunction

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SEX and GENDER HEALTH COLLABORATIVE of the American Medical Women's Association

To learn more or get involved, visit **amwa-doc.org/sghc** or email us at **sghc@amwa-doc.org**

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Definitions & Disclaimers

References