

Sex and Gender Differences

DEPRESSION

AMWA XX

Depression is a common but serious mood disorder causing severe symptoms that affect how a person feels, thinks, and handles daily activities.


RISK FACTORS & PREVALENCE

- 1 in 3 adults in the US have depression
- Most common between ages 18-29
- Risk factors: adverse childhood events, family history, substance use, and poor diet
- Female-specific risk factors: hormonal changes (menstruation, pregnancy, and menopause), Premenstrual Dysphoric Disorder (PMDD), lower socio-economic status, greater genetic vulnerability, and greater likelihood of experiencing abuse



Depression is 2x more common in women than men, but likely underdiagnosed in men.

CLINICAL PRESENTATION

FEMALE	ALL	MALE
<ul style="list-style-type: none">• Greater symptom severity• Episodes may be triggered by hormonal changes<ul style="list-style-type: none">◦ PMDD◦ Peripartum/postpartum depression• More likely to experience<ul style="list-style-type: none">◦ somatic symptoms (stomach/intestinal pain),◦ increased appetite, weight gain, and hypersomnia (excess sleepiness)• More likely to have chronic/recurrent• Anxiety and eating disorders• Greater risk for cardiovascular disease than males• More commonly attempts suicide	<ul style="list-style-type: none">• Emotional:<ul style="list-style-type: none">◦ worthlessness, guilt, self-blame◦ hindered decision-making, concentration◦ low interest in activities◦ suicidal ideation• Physical:<ul style="list-style-type: none">◦ lack of energy, sleep disturbances◦ weight, appetite changes◦ pain 	<ul style="list-style-type: none">• Less likely to seek help• More likely to present with<ul style="list-style-type: none">◦ Decreased appetite and sleep◦ Violence, aggression◦ Emotional suppression◦ Substance use disorders◦ Suicidal ideation• Higher number of completed suicides and increased use of lethal means

PATHOPHYSIOLOGY

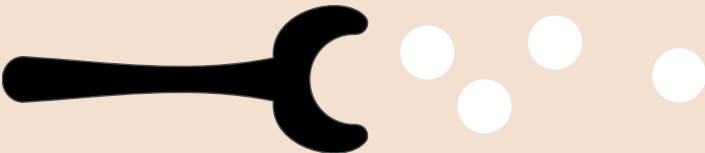
- Change in interaction between availability of various neurotransmitters & their receptors
 - Serotonin, norepinephrine, dopamine, glutamate, and **brain-derived neurotrophic factor (BDNF)** activity
- Abnormal growths or malformations in blood vessels may disrupt neural networks involved in emotion regulation

FEMALE

- Changes in expression of glutamate and serotonin receptors
- Decrease in serotonin transmission compared to males may contribute to symptom severity

MALE

- Linked to changes in gene expression for **BDNF** dependent genes



SCREENING & DIAGNOSIS

- Tools for screening: Patient Health Questionnaires (PHQ-2 and PHQ-9)
 - Certain screening tools may not include symptoms frequently seen in males
- Diagnostic criteria (DSM-5):
 - Daily symptoms for 2+ weeks
 - 5+ symptoms
 - Must include: either depressed mood or loss of interest in enjoyed activities (anhedonia)
 - May include: weight or appetite change, sleep changes, psychomotor changes, tiredness, fatigue, low energy, decreased efficiency, sense of worthlessness or guilt, impaired cognition, recurring thoughts of death, suicidal ideation, suicide attempts
 - Must cause: significant distress or interference with functioning
 - Can not be related to medications, substances, or other medical conditions
- Peripartum/postpartum depression screening: Edinburg Postnatal Depression Scale
- PMDD screening: Premenstrual Symptoms Tool
 - DSM-5 Criteria for PMDD overlap with DSM-5 Criteria for Depression
- **Males are less likely to be diagnosed**
 - Decreased self-report of symptoms
 - Influenced by societal expectations of masculinity

TREATMENT

Males are less likely to receive treatment
No specific treatments aimed at BDNF

- **Cognitive Behavioral Therapy**
- Medications
 - 1st line: **SSRIs**
 - Alternative options: **TCA**s, **SNRIs**, **NDRI**s, and others
- Females are **more likely** to respond to **SSRIs** than males
- **TCA**s are more effective after menopause

