Mood disorders are abnormalities of mood, which include depression, mania, or both. These disorders occur across a spectrum and affect between 10-20% of the population.

Mood disorders include depressive disorders and bipolar disorder and may be comorbid with other conditions. Mood disorders manifest across a spectrum from mania to major depressive disorder (MDD)

Major depressive disorder (MDD) and bipolar disorder (BD) are among the most disabling mental health disorders

Pervasive symptoms affect mood, thought processes, physical health, work, and relationships. Death by suicide may result when mood disorders are inadequately diagnosed and undertreated.

Antidepressants account for approximately 15 of the top 200 prescription medications prescribed and dispensed in the United States

The role of the psychiatric mental health nurse practitioner (PMHNP) is to determine the malfunctioning brain circuit responsible for the client's presenting symptoms and select the appropriate medication that targets the associated neurotransmitter(s).

Unipolar depression or major depressive disorder (MDD) is one of the most common mental disorders.

Bipolar disorder (BD) is a chronic condition characterized by extreme fluctuations in mood, energy, and ability to function.

Clients with BD may experience recurrent episodes and remissions.

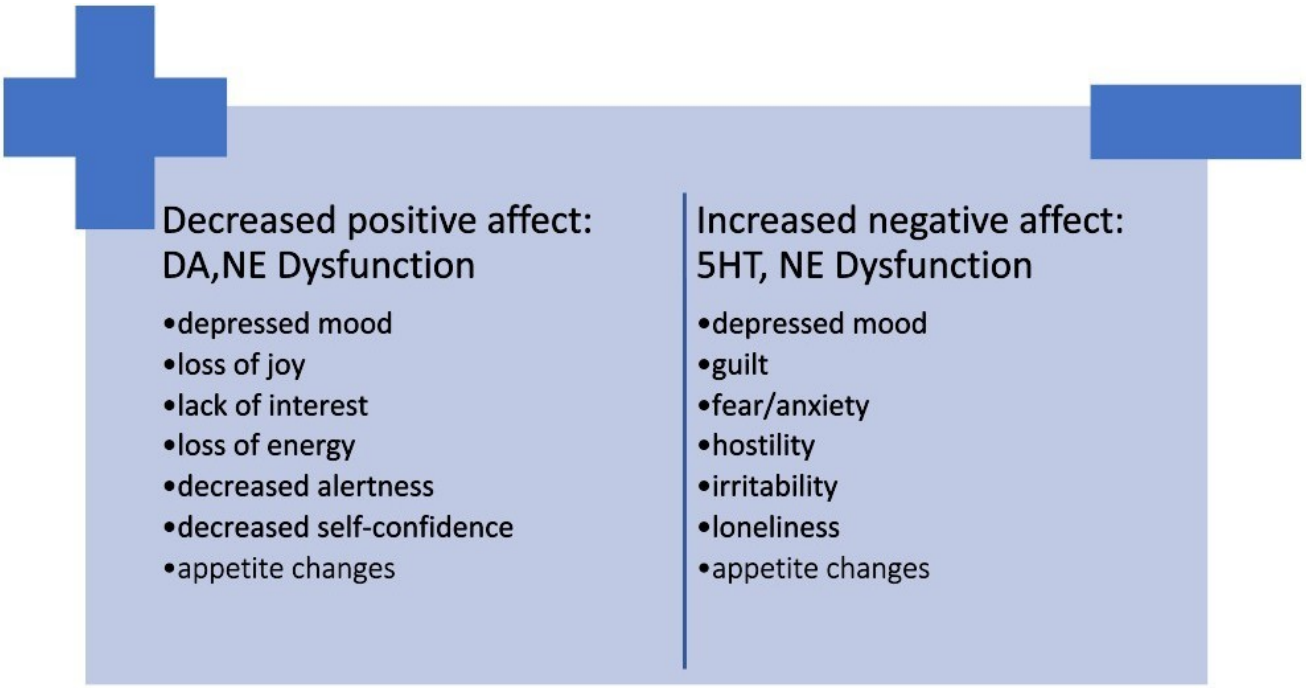
Moods may be manic, hypomanic, or depressed and may include mixed mood or psychotic features. Most bipolar depression clients experience depression symptoms, and many have only experienced only one manic episode in their lifetime.

Mood fluctuations may be separated by periods of high stability or may cycle rapidly. BD is diagnosed when a client has one or more episodes of mania or hypomania with a history of one or more major depressive episodes.

BD is associated with significant morbidity and mortality. Clients diagnosed with bipolar disorder are at high risk for suicide.

Symptoms

Mood-related symptoms may be characterized as having either too little positive affect, known as dopamine (DA) norepinephrine (NE) dysfunction or too much negative affect, also known as 5-hydroxytryptamine (5HT) norepinephrine (NE) dysfunction. Affective symptoms are often related to neurotransmitter activity. Pharmacologic treatments help modulate neurotransmitter activity.



Prefrontal Cortex (PFC)

- Concentration
- Mental fatigue
- Mood

PFC & Amygdala

- Guilt, suicidality, worthlessness

Striatum

- Physical fatigue

Nucleus Accumbens

- Pleasure interests

Hypothalamus

- Sleep, appetite

Thalamus & Hypothalamus

- Decreased sleep/arousal

Striatum

- Motor/agitation

Prefrontal cortex (PFC)

- Risk-taking
- Talkative/pressured speech

Nucleus Accumbens & PFC

- Racing thoughts, grandiosity:

PFC & Amygdala

- Mood

MDD - Monoamine Hypothesis of Depression

- **Definition**: The Monoamine Hypothesis suggests that depression is associated with a deficiency in neurotransmitters like serotonin (5HT), norepinephrine (NE), and dopamine (DA).
- **Prescribing considerations for SSRIs**:
    - **Screens Prior to Prescribing SSRIs**: Screen for bipolar disorder (to prevent triggering mania), suicidal ideation (especially in younger populations), liver function (SSRIs are metabolized in the liver), and baseline mental health evaluations.
    - **Age Group Most at Risk with SSRIs**: Adolescents and young adults (< 25) are at higher risk of increased suicidal ideation when taking SSRIs.

SSRIs Specifics- Most adverse effects will subside after 4-5 days once the body adjusts to increased serotonin levels.

- **SSRI with Least CYP Interactions**: **Escitalopram** has minimal CYP450 interactions, making it a good choice in polypharmacy situations.
- **Best Tolerated SSRI**: **Sertraline** is often considered the best-tolerated SSRI due to its favorable side effect profile.
- **Longest Acting SSRI**: **Fluoxetine** has the longest half-life (4-6 days), which reduces the risk of discontinuation syndrome but may lead to longer washout periods.
- **SSRI Most Likely to Cause Discontinuation Syndrome**: **Paroxetine** has a short half-life, making it more likely to cause discontinuation syndrome if abruptly stopped.

Adjunct Medications

- **Common Adjuncts**: Antipsychotics (e.g., aripiprazole, quetiapine), lithium, and anticonvulsants (e.g., lamotrigine) are often used as adjunctive treatments for MDD.

Lithium Interactions

- **Substances/Medications That Affect Lithium Levels**:

- **Increase Levels**: NSAIDs, ACE inhibitors, diuretics.
- **Decrease Levels**: Caffeine, theophylline, sodium intake.

Serotonin Syndrome

- **Definition**: A potentially life-threatening condition caused by excess serotonin in the CNS, often due to the use of multiple serotonergic agents. Symptoms include hyperthermia, hypertension, agitation, tremor, and clonus.

SSRI Activation and Panic Risk

- **SSRI with Potential for Activation**: **Fluoxetine** may cause initial activation, leading to restlessness or insomnia.
- **SSRI Likely to Increase Panic Attacks**: **Sertraline** can, in some cases, trigger panic attacks early in treatment, particularly at higher doses.

Medications to Avoid in Anxiety

- **Medication to Avoid**: **Bupropion** is stimulating and can exacerbate anxiety symptoms in sensitive individuals.

Pharmacologically Similar Medication

- **Similar to SSRI + Buspirone**: **Vilazodone** is pharmacologically similar to a combination of an SSRI and buspirone due to its serotonergic effects and partial agonism at 5HT1A receptors.

MAOIs

- **Half-Life**: Varies (e.g., phenelzine ~11 hours, but effects last longer due to irreversible binding to MAO enzymes).
- **Interactions**: Significant food-drug and drug-drug interactions (e.g., with tyramine-containing foods and SSRIs/SNRIs leading to serotonin syndrome).
- **Benefits**: Effective for treatment-resistant depression.
- **Adverse Effects**: Hypertensive crisis (with tyramine ingestion), serotonin syndrome, orthostatic hypotension, weight gain.

What medication should be avoided in clients with eating disorders? Why?

Bupropion is an antidepressant that inhibits norepinephrine and dopamine reuptake. It lowers the seizure threshold, **increasing the risk of seizures.**

Bupropion (marketed as Wellbutrin or Zyban) should be avoided in clients with eating disorders, particularly those with **anorexia nervosa** or **bulimia nervosa**.

Bipolar Medications

- **Common Medications**: Lithium, valproate, lamotrigine, carbamazepine.
- **Side Effects**:

- **Lithium**: Polyuria, tremor, weight gain, renal toxicity.
- **Valproate**: Weight gain, tremor, hair loss.
- **Lamotrigine**: Risk of Stevens-Johnson syndrome.

- **Half-lives**: Lithium (~18-36 hours), valproate (~9-16 hours), lamotrigine (~25-33 hours).

Medications & QTc Prolongation

- **SSRIs Increasing QTc Prolongation**: **Citalopram** and **escitalopram** are associated with QTc prolongation.

Role of L-Methylfolate in Depression

- **L-Methylfolate**: A bioactive form of folate that helps in the synthesis of neurotransmitters like serotonin, dopamine, and norepinephrine.
- **Mechanism of Action**: It enhances monoamine neurotransmitter production by supporting the one-carbon cycle.
- **Use as an Adjunct**: Recommended for clients with depression who may have folate metabolism deficiencies (such as MTHFR polymorphisms), as it improves SSRI efficacy.

WEEK 6

1. Neural Circuits & Neurotransmitters in Reward & Addiction (Stahl):

- **Dopamine:** Central in **reward pathways**, particularly in the **mesolimbic system.**
- **Glutamate**: Reinforces craving and compulsive behaviors.
- **Serotonin:** Modulates mood and impulse control.
- **Opioid System:** Associated with euphoria and pain relief.

2. Addiction Medications:

- **FDA-approved Indications: Each medication on your list has specific uses in treating substance use disorders (e.g., Naltrexone for alcohol and opioid use disorder).**
- **Precipitating Withdrawal**: Medications like **Naltrexone** may precipitate withdrawal in patients currently dependent on opioids; ensure opioid detoxification is completed before starting Naltrexone.
- **Initiation Time Frame:** Some medications (e.g., Naltrexone) can only be started after mild withdrawal, while others like Buprenorphine can be used in early withdrawal.
- **Client Education:** Emphasize the importance of adherence, potential side effects, and avoiding alcohol or illicit substances while on medication.

3. Medication Specifics:

- **Indications:** Align with FDA-approved uses for alcohol or opioid dependence.

- **Mechanism of Action**: For instance, Naltrexone blocks opioid receptors, reducing euphoria.
- **Adverse Effects:** May include nausea, headaches, dizziness, and hepatotoxicity (for Naltrexone).

4. Substances of Abuse:

- **Mechanism of Action:** Substances like opioids activate the mu-opioid receptors, while stimulants like cocaine increase dopamine levels.
- **Physical Exam Signs: E.g.,** pinpoint pupils suggest opioid use, while dilated pupils suggest stimulant use.
- **Clinical Identification:** Be able to distinguish substance use by symptoms such as euphoria, agitation, or respiratory depression.

5. Pupillary Responses:

- **Opioids:** Pinpoint pupils.
- **Stimulants (e.g., cocaine):** Dilated pupils.

6. Medications Initiation:

- **Some medications, like Buprenorphine, can be started in early withdrawal, while Naltrexone requires full detoxification.**

7. Lifespan Considerations:

- **Pregnancy:** Methadone and Buprenorphine are safer options.
- Elderly: **Caution with medications that can affect cognitive function or increase fall risk.**
- **Avoid in Pregnancy/Elderly:** Avoid medications with high sedative effects or potential for fetal harm.

8. Impulsivity vs. Compulsivity:

- **Impulsivity:** Acting without forethought, often seen in binge drinking or drug use.
- Compulsivity: Repetitive, habitual behaviors despite negative consequences, often linked to addiction.