Opioid Effects on the Brain
Stigma in OUD

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Learning Objectives

• Describe the effects of opioids on brain function
• Define the effects of opioids on pain relief over time
• Identify the stages of addiction and associated brain structures
• Recognize the impact of Stigma on getting people into treatment for SUD.
• Recognize the importance of using non-stigmatizing language for substance use and people with SUD.
## Opioid Agonists

### Endogenous Opioids
- Mu receptor: beta-endorphin, endomorphin
- Delta receptor: encephalins, beta-endorphin
- Kappa receptor: dynorphin

### Exogenous Opioids
- Mu receptor: morphine, fentanyl, methadone, hydrocodone, oxycodone, meperidine, tramadol
- Delta receptor: morphine, fentanyl
- Kappa receptor: morphine, fentanyl

Naloxone and naltrexone are mu, delta, and kappa receptor antagonists.
Mu (μ) Receptor Activation

Full agonist
- Morphine
  - Full activation of μ receptor site

Partial agonist
- Buprenorphine
  - Partial activation of μ receptor site

Antagonist
- Naltrexone
  - Prevents or reverses activation of receptor site

HOW Rx PAINKILLERS AFFECT THE BRAIN

When a painkiller such as oxycodone (OxyContin, Tylox, Percocet) enters the body, it works by stimulating certain opioid receptors that are located throughout the central nervous system, in the brain and along the spinal cord. When the chemical binds to these receptors, a variety of physiologic responses can occur, ranging from pain relief to slowed breathing and euphoria.

The **limbic system** controls emotions. Acting here, painkillers can produce feelings of pleasure, relaxation and contentment.

The **brainstem** controls automatic body functions such as breathing. Acting here, painkillers can slow breathing, stop coughing and lessen the intensity of pain.

The **spinal cord** transmits sensations from the body. Acting here, painkillers bond with the spinal cord to decrease the intensity of pain.

SOURCES: National Institute for Drug Abuse, Discovery Health, Drug Enforcement Agency

KYLE SLAGLE | Gazette graphic
Effect of Opioids on Pain Relief Over Time
This neurocircuitry is just as relevant for other drugs of abuse (i.e., opiates/opioids).
Medications for Opioid Use Disorder

- Methadone: Opioid addiction
- Buprenorphine: Opioid addiction
- Naltrexone: Alcohol and opioid addiction
- Nalmefene: Alcohol addiction

- Mu opioid receptor
- Kappa opioid receptor
- Delta opioid receptor

- Full agonist
- Partial agonist
- Antagonist
Important to Remember

• Substance use disorder is a chronic brain disorder from which people can and do recover.

• Addictive substances can lead to dramatic changes in brain function and reduce a person’s ability to control his or her substance use.
Stigma Definition

Dehumanization of the individual based on their social identity or participation in a negative or an undesirable social category.

Four Identified Types of Stigma

• Public
  • Endorsement by the public of negative attitudes against a specific stigmatized group, which manifests in discrimination towards individuals belonging to that group.

• Perceived
  • Stigmatized individuals think that most people believe common negative stereotypes about individuals belonging to the same stigmatized category.

• Enacted
  • Direct experience of discrimination and rejection from members of the larger society.

• Self
  • Negative thoughts, feelings, and diminished self-image resulting from identification with the stigmatized group and anticipation of rejection from the larger society.
Consequences of Stigma

• People with substance use disorders are viewed more negatively than people with physical or psychiatric disabilities.

• The terminology often used can suggest that substance use disorders are the result of a personal failing/choice.

• The term “abuse” is highly associated with negative judgments and punishment.

• Even trained clinicians are likely to assign blame when someone is called a “substance abuser” rather than a “person with a substance use disorder.”

• Negative attitudes among health professionals have been found to adversely affect quality of care and subsequent treatment outcomes.
American Society of Addiction Medicine and others have recommended the adoption of clinical, non-stigmatizing language for substance use.

“Person-first language” has been widely adopted by professional associations to replace negative terms that have been used to label people with other health conditions and disabilities.

“Person with a mental health condition” or “person with a disability” carry neutral rather than pejorative connotations, and distinguish the person from his/her diagnosis.
Person with a Substance Use Disorder

• Person-first language is the accepted standard for discussing people with disabilities and/or chronic medical conditions.
• Use of the terms “abuse” and “abuser” negatively affects perceptions and judgments about people with substance use disorders.
• Terms such as “addict” and “alcoholic” can have similar effects.
Person in Recovery

- Various terms are used colloquially to label the people with SUD, including the terms “clean” and “dirty.”
- Instead of “clean,”
  - “negative” (for a toxicology screen)
  - “not currently using substances” (for a person)
- Instead of “dirty,” the term
  - “positive” (for a toxicology screen)
  - “currently using substances” (for a person)
- The term “person in recovery” refers to an individual who is stopping or at least reducing substance use to a safer level, and reflects a process of change.
Medication-Assisted Treatment

- Terms “replacement” and “substitution” have been used to imply that medications merely “substitute” one drug or “one addiction” for another. This is a misconception.

- The dosage of medication used in treatment for opioid use disorder does not result in a “high,” rather it helps to reduce opioid cravings and withdrawal.

- “Medication-assisted treatment” (MAT) is used to refer to the use of any medication approved to treat substance use disorders and may be combined with psychosocial support services.
FACT 1

It’s a disease.
FACT 2

There is treatment.
FACT 3

Recovery is possible.
## Language matters

<table>
<thead>
<tr>
<th>SAY THIS</th>
<th>NOT THIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Person with Opioid Use Disorder</td>
<td>Addict, user, druggie, junkie, abuser</td>
</tr>
<tr>
<td>Disease</td>
<td>Drug habit</td>
</tr>
<tr>
<td>Person living in recovery</td>
<td>Ex-addict</td>
</tr>
<tr>
<td>Person arrested for a drug violation</td>
<td>Drug offender</td>
</tr>
<tr>
<td>Substance dependent</td>
<td>Hooked</td>
</tr>
</tbody>
</table>
## Language matters

<table>
<thead>
<tr>
<th>SAY THIS</th>
<th>NOT THIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication is a treatment tool</td>
<td>Medication is a crutch</td>
</tr>
<tr>
<td>Had a setback</td>
<td>Relapsed</td>
</tr>
<tr>
<td>Maintained recovery; substance-free</td>
<td>Stayed clean</td>
</tr>
</tbody>
</table>