NR 546: Week 6 Substance Use Disorders

Addiction

- Which NTM is involved in the rewards pathway?
- Which NTM is responsible for addiction?
- What is the mesolimbic pathway?

Opioid Review

- Which opioid can cause respiratory depression if utilized with BZOs and can also be used during acute coronary syndrome or refractory ischemic chest pain?
- Which opioid is an opioid agonist but more potent that morphine?
- Which medication is used in detoxification and maintenance of treatment of opioid and heroin addiction by helping prevent cravings and withdrawal symptoms?
- Which medication is the preferred opioid to those who are unable to tolerate morphine or those who have severe hepatic and renal diseases?
- Which medication is not longer recommended an an analgesic because it can cause seizures and delirium?
- Which medication blocks the reuptake of serotonin and norepinephrine and can therefore cause serotonin syndrome?
- Which medication is an antihypertensive agent that has off-label uses for treatment of medically supervised opioid withdrawal?
- Which medication is a pure antagonist used for treatment of acute opioid overdose?

Substance use disorder

- True or false: Drug use commonly begins during early adulthood, when times of stress and emotional fatigue are more common
- True or false: early drug use is a risk factor for the later development of substance abuse disorder
- Common comorbidities of SUD include:

Neurological Basis of SUD

Genetics

- May impact a person's experience of a drug as pleasurable or not
- May impact how long a drug remans in the body

Specific genetic factors predispose a person to alcohol dependence and tobacco use

Neuroanatomy

- Mesolimbic pathway and dopamine production

Neural networks

- Drugs and alcohol act directly on brain receptors leading to a release in dopamine with fires up the reward center

Neural signaling

- When dopamine is released in surges in response to drugs, changes in brain circulatory can occur leading to cravings, addiction, dependence, and withdrawal

SUD Definitions

- Which of the following terms is being described?
  Tolerance, dependence, addiction, withdrawal, intoxication:
  - State of adaptation produced with repeated administration of certain drugs so that physical symptoms occur when the drug is discontinued abruptly.
  - Condition following the ingestion of a substance resulting in changes in level of consciousness, cognition, perception, judgment, and behavior.
  - A change in behavior caused by biochemical changes in the brain after continued substance use characterized by preoccupation with and repeated use of a substance despite negative outcomes.
  - Physiological and psychological reactions that occur when the use of a substance is stopped abruptly.
  - With repeated ingestion of a drug, the drug shows decreased effect. Increasing doses are required to achieve the effects noted with the original administration.

SUD Treatment

Which of the following are questions the PMHNP needs to ask the client when deciding how to **treat** them for SUD?

- Which substances have you been using?
- Are you up to date on your vaccinations?
- When was the last time you ingested a substance?
- How much of the substance do you take at a time?
- When was your last physical exam?
- How often do you use this substance?
- Do you take any medications to help with sleep?
- Do you have a family history of depression?

Why are these questions important?

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Medication-Assisted Therapy (MAT)

How does this work?

What are the benefits?

What are the goals?

Impulsive/ Compulsive disorders

Remember: other mental health disorders can share similar neurobiological characteristics with SUDs

- For example: OCD and eating disorders- these cause alterations in the reward pathways

Medication management is often used in combination with psychotherapy to address eating disorders

- Which medications can be used in patients with obesity?
- Which medications can be used in patients with anorexia nervosa?
- Which medications can be used in patients with bulimia nervosa?
- Which medications can be used in patients with binge eating disorder?
- Which medication CANNOT be used in patients with anorexia nervosa or bulimia nervosa?

Opioid Use Disorder

- _____ is considered first line therapy for opioid use disorder
- _____ is the opioid antagonist of choice for an emergency opioid overdose
- True or false: when administering Narcan, use a large dose to ensure the complete reversal of overdose symptoms and to decrease the risk of respiratory depression
- What are symptoms of opioid withdrawal?
- Which of the following clients should the PMHNP consider providing naloxone for?
  - A. A client who is on high-dose opiates for chronic pain management
  - B. A client who had a previous opioid overdose
  - C. A client who uses extended-release opioids
  - A client who was recently released from incarceration
  - A client who socially drinks alcohol and is on opioids after a motor vehicle accident

Opioid Use Disorder: Practice Question

The PMHNP is rounding on patients on a post-surgical floor in the hospital. Upon entering a patient's room, the PMHNP notices the patient is not responding to voice, has pinpoint pupils, and a respiration rate of 6 breaths per minute. The PMHNP suspects opioid overdose.
Which action is correct at this time?

A. the PHMNP asks the bedside nurse which opioid was given
B. The PHMNP instructs the bedside nurse to administer naloxone 2 mg IV Q3 minutes until the patient is responsive
C. The PMHNP instructs the bedside nurse to administer Flumazenil 0.5 mg Q1 minute until the patient's respiratory rate reaches 12 breaths per minute
D. The PMHNP instructs the bedside nurse to contact the emergency medicine doctor to assist with an emergent intubation

Opioid Use Disorder: Lifespan Considerations

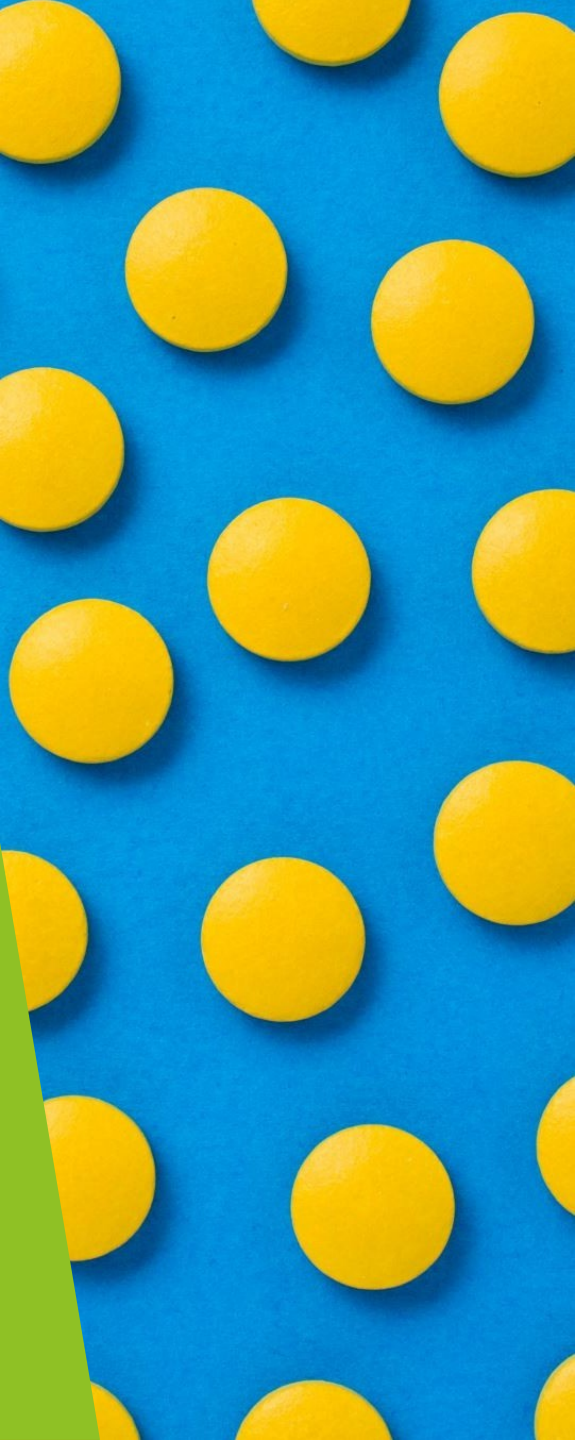
- Which medications CAN be used in a pregnant patient?
- Which medications CANNOT be used in a pregnant patient?
- Which medications CAN be used in a breast-feeding patient?
- Which medications CANNOT be used in a breast-feeding patient?
- Which medications CAN safely be used in elderly patients?
- Which medications CANNOT safely be used in elderly patients?

Lifespan Considerations Practice Question

- An expecting mother who is to be prescribed medication for heroine use disorder tells the PMHNP that she plans on breastfeeding her baby after it is born. Which teaching does the PMHNP need to provide to this patient?
  - A.“I am going to start you on buprenorphine, but if you experience any drowsiness, please make an appointment to be seen”
  - B.“I am going to start you on methadone, but you will need to breastfeed prior to taking the dose every day”
  - C.“I am going to start you on naltrexone, but you will have to come in for monthly EKGs”
  - D.“I am going to start you on suboxone for two weeks then switch you to naltrexone when the baby is born”

Alcohol Use Disorder

- What must the PMHNP keep in mind before prescribing MAT for alcohol use disorder?
- Which medication is considered the initial treatment for AUS and can be prescribed while the client is still drinking?
- Which medication is a good option for clients who take opioids for chronic pain, but alcohol must be abstained prior to starting it?
- Which medication causes unpleasant symptoms if the client drinks while taking it?
- Which medication is an anticonvulsant that enhances GABA and reduced cravings for alcohol?
- Which medication can be used for both acute and chronic alcohol use but may cause BZO withdrawal symptoms if stopped abruptly?



Guess That Medication!

- A patient states they have liver disease. Which medication needs to be avoided?
- A patient presents with heart palpitations, headache, nausea, vomiting, and flushing. What medication do they most likely take?
- A patient states they take opioids for chronic pain but have not had a drink in 2 weeks. Which medication should be prescribed for this patient?
- A patient states they are terrible at remembering to take medications. Which medication should be prescribed for this patient?
- A patient states they have been able to stop drinking on their own, but just want something that helps reduce the cravings and urges to drink again. Which medication can be prescribed for this patient?
- Which medication should not be prescribed to elderly patients

Alcohol Withdrawa

- Symptoms of alcohol withdrawal can be mild, moderate or severe.
- Pharmacologic interventions can reduce the risk of morbidity and mortality during withdrawal
- Administer CIWA-AR Q4-8 hours until scorer is lower than 8-10 for 24 hours
- Use the symptom-triggered regiment
  - Administer BZA when CIWA score is 8 and above
  - EX: lorazepam, diazepam, or chlordiazepoxide
  - Reassess Q1 hour

Parameter	CIWA-Ar scoring tool	mMINDS scoring tool
Diastolic blood pressure	Not assessed	0 – <90 1 – 90-110 2 – >110
Tactical disturbances	0 – None 1 – Very mild itching, pins and needles, burning or numbness 2 – Mild itching, pins and needles, burning or numbness 3 – Moderate itching, pins and needles, burning or numbness 4 – Moderate hallucinations 5 – Severe hallucinations 6 – Extremely severe hallucinations 7 – Continuous hallucinations	
Auditory disturbances	0 – Not present 1 – Very mild harshness or ability to startle 2 – Mild harshness or ability to startle 3 – Moderate harshness or ability to startle 4 – Moderate hallucinations 5 – Severe hallucinations 6 – Extremely severe hallucinations 7 – Continuous hallucinations	Hallucinations: 0 – Absent 1 – Mild—mostly lucid, sporadic/rare hallucinations 2 – Moderate/intermittent—hallucinating at times 3 – Severe, continuous while awake
Visual disturbances	0 – Not present 1 – Very mild sensitivity 2 – Mild sensitivity 3 – Moderate sensitivity 4 – Moderate hallucinations 5 – Severe hallucinations 6 – Extremely severe hallucinations 7 – Continuous hallucinations	Delusions: 0 – Absent 6 – Present

Tobacco Use Disorder

- Goals of treatment: Complete discontinuation of tobacco!
- Nicotine replacement therapy
  - Bupropion (Zyban)- tobacco free by 7-12 weeks of therapy
    - Can it be used with other nicotine replacement products?
    - **Started weeks before quit date**
  - Varenicline (Chantix)- tobacco free by 12 weeks
    - Can it be used with other nicotine replacement products?
    - **Started week before quit date**
  - OTC drugs
    - Gum: Nicorette- dosage depends on smoking when awakening
    - Patch: Nicotrol, NicoDerm, Habitrol- dose determined by
    - …? Lozenge: Commit- make sure patient does not…?
  - Rx drugs
    - Nasal spray: Nicotrol NS
    - Inhaler: Nicotrol- can cause cough, mouth irritation, and dyspepsia

Tobacco Use Disorder Treatment: Practice Question

- A patient with depression and tobacco use disorder is to be prescribed Zyban. Which question must the PMHNP ask before stating the patient on this medication?
  - Which medication do you currently take for your depression?
  - Do you usually smoke within 30 minutes of waking up in the morning?
  - Do you currently use any OTC nicotine replacement products?
  - Do you have a history of asthma?

Questions, Comments, Concerns?

- Email aselch@chamberlain.edu with any questions or to set up a 1:1 tutoring session!