Addiction: A Family Disease

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Objectives

● Session Goals/Learning Objectives:
  ○ Understand the concept of addiction as a disease
  ○ Understand the basic neurobiology of addiction and some basics of treatment
  ○ Understand how families can best support their loved ones with addictions
  ○ Learn what the state of MN is doing to support MN families
The Disease of Addiction

- A pathological condition of a body part, an organ, or a system;
- resulting from various causes, such as infection, genetic defect, or environmental stress;
- characterized by an identifiable group of signs or symptom
The Disease of Addiction

● A pathological condition of a body part, an organ, or a system;
  ○ BRAIN
● resulting from various causes, such as infection, genetic defect, or environmental stress;
  ○ RISK FACTORS, DRUG EXPOSURE
● characterized by an identifiable group of signs or symptom.
  ○ USE OF A SUBSTANCE DESPITE HARM
A Vicious Cycle

- Risk Factors
- Drug Use
- Brain Changes
- Behavioral Changes
Addiction as a Disease

- Compare to heart disease:
  - Both disrupt the normal, healthy functioning of the underlying organ, have serious harmful consequences, and are preventable and treatable, but if left untreated, can last a lifetime
Outline

- Risk Factors
- Drug Use
- Brain Changes
- Behavioral Changes
- Breaking the Cycle: Treatment
Risk factors

- **Environmental**
  - Home and Family - Especially early childhood
    - Parental use of alcohol or drugs
    - Sexual, physical or emotional abuse
    - Chaotic upbringing
  - Peer and School - Especially in adolescence
    - Friends and acquaintances
    - Drug-using peers
    - Academic failure or poor social skills
    - Adolescence is a time of development of self and risk taking behaviors

- **Genetic/Biological**
  - 40-60% (Includes the effects of environmental factors on the function and expression of a person's genes)
  - Psychiatric disorders
  - Age at onset of use
Risk Factors

Why are adolescents at particular risk?

- The brain is not done developing until early adulthood
- Prefrontal cortex—the part of the brain that enables us to assess situations, make decisions, and keep emotions and desires in check: still under construction
- Introducing drugs in adolescence infers a higher vulnerability to addiction
“...drugs of abuse might induce addiction not just because they are experienced as pleasurable but also because they are being processed as salient (important) events that motivate procurement of more drug, while they help solidify memories linked to the experience.”

- Nora Volkow
Brain Changes

- Drugs → rapid (2-10x natural) increase in DA in the reward areas →
- Through DA connections it also:
  - Enhances saliency (makes drug and cues to use important) (NAc)
  - Solidifies memories, conditioning (Am, Hip)
  - Decreases inhibitory control (Prefrontal cortex)
  - Increased activation of the OFC → Motivation/drive (cravings!) to use the drug
Brain Changes

Functionally…

Dopamine D2 Receptors are Decreased by Addiction

Cocaine
Meth
Alcohol
Heroin
Control
Addicted
Behavioral Changes

- All of these brain changes have specific associated behavior changes
  - Enhanced saliency → **DRUGS ARE IMPORTANT**
  - Solidifies memories, conditioning → **CUES are STRONG**
  - Decreases inhibitory control → **HARD TO CONTROL BEHAVIOR, COGNITIVE FUNCTION, LEARNING**
  - Increased activation of the OFC → **SEVERE CRAVINGS**
  - Decreased DA receptor availability → **LOW MOOD, NOTHING FEELS GOOD/EXCITING**
Treatment

● How do we use this knowledge to treat addiction?
  ○ A better understanding of the neural circuits that are affected by drugs
  ○ More-comprehensive picture of addiction
  ○ Developing better interventions
Treatment

● Hypertension
  ○ Patient is receiving anti-hypertensive → symptoms decrease (lower BP)
    → treatment success!
  ○ → Symptoms return → Deem treatment a failure?
  ○ ASK WHY!

● Addiction
  ○ Patient is receiving high level treatment → symptoms decrease (stop using, productive life) → treatment success!
  ○ → Symptoms return → Deem treatment a failure?
  ○ ASK WHY!
Treatment

● **Effective treatment should:**
  ○ Decrease the reward value of the drug
  ○ Weaken conditioned memories to the drug and cues
  ○ Increase the value of non-drug reinforcers
  ○ Strengthen frontal inhibitory and executive control, prevent relapse
Treatment

- How do we achieve that?
  - Medications that alter neurotransmitter systems
  - Behavioral therapies that target learning, memory, cues, salience
  - Social support that reinforces value of non-drug reinforcers
Treatment

How can medications help treat drug addiction?

- Treating Withdrawal
  - When patients first stop using drugs - Depression, anxiety, restlessness, sleeplessness

- Staying in Treatment.
  - Help the brain adapt gradually to the absence of the abused drug
  - Act slowly to stave off drug cravings
  - Help patients focus on behavioral therapies

- Preventing Relapse.
  - Medications can interfere with triggers - stress, cues, etc
Treatment

- Does Treatment Work?
  - 10% of American adults are in recovery
  - Every dollar invested in addiction treatment yields a return of $4-$7 in reduced drug-related crime, criminal justice costs, and theft
  - 21.6 million > 12 need treatment, but only 2.3 million receive it
  - Involvement of a family member or significant other in an individual’s treatment program can strengthen and extend treatment benefits
Family Support

● Family can increase and decrease risk
  ○ Strong connection between disrupted family relationships and development of addiction
  ○ Strong connection between family involvement in treatment and strengthening recovery
Family Support

● Common themes for those with substance use disorders
  ○ Inability to develop functional relationships with family of origin
  ○ Bringing dysfunctional patterns to intimate relationships
    ■ Difficulty with conflict resolution
    ■ Difficulty communicating feelings
  ○ Abuse
  ○ Neglect
  ○ Abandonment
  ○ Parental drug use
  ○ Bullying
  ○ Stigma/difficulty discussing addiction- isolation
  ○ Shame
  ○ Denial about their own addictions
Adverse Childhood Experiences

Traumatic events that can have negative, lasting effects on health and wellbeing

- Abuse: Emotional abuse, Physical abuse, Sexual abuse
- Neglect: Emotional neglect, Physical neglect

4 or more ACEs

- 3x the levels of lung disease and adult smoking
- 14x the number of suicide attempts
- 11x the level of intravenous drug abuse
- 4.5x more likely to develop depression
- 4x as likely to have begun intercourse by age 15
- 2x the level of liver disease

Adverse childhood experiences are the single greatest unaddressed public health threat facing our nation today
Dr. Robert Block, the former President of the American Academy of Pediatrics

67% of the population have at least 1 ACE

People with 6+ ACEs can die 20 yrs earlier than those who have none

1/8 of the population have more than 4 ACEs
Family Support

● The “T” Word
  ○ Trauma is SUBJECTIVE
  ○ You cannot generalize the effects of any trauma
    ■ Not all that experience trauma A experience is at traumatic
    ■ Some that experience trauma B may experience it as traumatic, though there was no violence, gore, injury etc
  2018 Study:
    ■ Lack of overlap between subjective and objective experiences
    ■ 37% of objectively traumatic events were experienced as traumatic
    ■ 73% subjective'y traumatic events were experienced as traumatic

Family Support

- Things people with SUD wish their families knew:
  - I’m not bad, I’m sick, but I do bad things
  - I might lie sometimes, but not everything I say is a lie
  - Denial is not stagnant
    - Decreasing desirability
    - Practicing Empathy
    - Providing Feedback
    - Clarifying goals
    - Removing barriers
    - Active helping

![Transtheoretical Model Stages of change](image)
Family Support

- Things people with SUD wish their families knew:
  - I don’t hate you as much as you think I do
    - But I do and say bad things
  - I don’t know what I need, but I will tell you that I do
  - Consistency matters
    - Intermittent reinforcement/consistent reinforcement
  - Telling me you care never hurts
  - When you do things for me that I can do for myself, I feel useless
  - I need to figure this out for myself (with support)
  - You are important to me, but I might not show it

Family Support

When you want to talk to loved ones about addiction:

Do:

● Remember this is about health and well-being not bad behavior or punishment
● Come from a place of love and concern, not anger
● Be direct
● Withhold judgement
● Remain calm

Don’t:

● Get defensive
● Take everything at face value, listen for tone of voice, body language, facial expressions
● Get distracted by phones or email
●
An Ounce of Prevention is Worth a Pound of Cure
- Benjamin Franklin -
Family Support

- We cannot always prevent ACEs or Trauma
  - We can respond appropriately and immediately
- Intervene early—especially for behavior issues, poor social skills, academic issues
- Take care of ourselves—get help for your own substance use or mental health issues
- Treat each other with loving kindness
- Show our children responsible substance use and behavior
- Live our ethics (and maybe even write them down)
- Be consistent in actions, words, and consequences
  - Parental monitoring is key for adolescents
  - Get to know teen’s friends and their parents
- Talk to each other often and openly
Preventing Drug Use among Children and Adolescents

A Research-Based Guide for Parents, Educators, and Community Leaders

Second Edition


FamilyRx

Recovery for Families

Revolutionary online programs and recovery coaching providing healing medicine for families impacted by substance use and mental health conditions.

Where knowledge, kindness and connection are your super powers.

https://www.family-rx.org/
Minnesota

- Opioid Stewardship Act:
  - Increased licensing fee for pharmaceutical manufacturer and distributors of opioids in MN
  - Estimated $20 million per year - Creates Opioid Stewardship Fund
  - Establishes Opioid Epidemic Response Advisory Committee
    - Prevention and education
    - Expansion of continuum of care for opioid use disorder
    - Training on the treatment of opioid use disorder, including all FDA approved medications
    - Overdose prevention services
    - Development of measures to assess and protect the ability of those with chronic pain to access pain medications
Minnesota

- OERAC - 22 members, appointed by Commissioner of Human Services
  - 2 House and Senate Members, Majority and Minority Party
  - Board of Pharmacy
  - MN Medical Association (MD)
  - Substance use disorder treatment program
  - NAMI
  - MN Society of Addiction Medicine (MD)

- 2 Members representing MN Indian Tribes
- Commissioner of DHS or designee
- Commissioner of DOC or designee
- Commissioner of MDH or designee
- APRN/Board of Nursing
- Local Health Department
- A person in recovery from OUD/Non Profit
- A person with chronic pain
- Alternative pain management provider
- Judge or Law Enforcement officer
- MN Hospital Assn
Minnesota

- Coverage of acupuncture
- Limits on prescriptions
  - No fills if rx >30d old
  - 7 day supply for acute pain
  - 2 H CME for prescribers
- Bureau of Criminal Apprehension
  - 2 agents focused on drug trafficking and drug interdiction
- MDH
  - Prevention pilot expansion
  - Non narcotic pain management mapping, 5 pilot projects