HIV and alcohol use: why is risk reduction in alcohol use important in HIV care?

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Objectives for today’s session

• Define alcohol use disorder by DSM 5 criteria and name 3 important elements
• Review concepts of addiction – 4 “C”s.
• Recognize what is SBIRT, (Screening, Brief, Intervention and Referral to Treatment) and how to use it in clinical practice
• Discuss how “risky” drinking is more than a threat for people living with HIV
Unhealthy alcohol use

- Characterized by at risk and heavy episodic drinking along with alcohol use disorder prevalent among people living with HIV
- Significant detrimental impact of unhealthy alcohol use on viral load suppression, primarily mediated through antiretroviral therapy adherence
- Unhealthy alcohol use has a direct effect on the immune system
  - Associated with CD4 cell count decline
  - Increased mortality with lower levels of alcohol consumption
4 “C” of addiction

• Loss of control
• Compulsion to use
• Craving
• Consequences
Is there a single pathway to addiction?

• Drugs of abuse have very different structures and neurotransmitter targets in the brain, but they all exhibit:
  • acute reward
  • chronic reward
  • sensitization
  • negative withdrawal symptoms
  • associative cue learning
  • incentive motivation (relapse)
• A progression from impulsive to compulsive drug use (which defines the progression from abuse into addiction).
• Repeated drug use leads to long lasting changes in the brain that **undermine voluntary control**

• **Dopamine**
  • reinforcing effects of **most drugs of abuse**

• **Drug of abuse**
  • increase intracellular dopamine concentrations limbic regions
    • including the **nucleus accumbens**
Poor Inhibitory Control & Poor Executive Functioning Mediated by Prefrontal Cortical Regions of Brain

- **Prefrontal Cortex (PFC)**—Regions of the PFC are selectively damaged by chronic intermittent use
- Result in poor decision-making that can perpetuate addiction cycle
- Contribute to impaired judgment and cognitive defects
- Twofold Impact on Addiction
  - 1st: Perturbed regulation of limbic reward system
  - 2nd: Involvement w/ higher-order executive functioning
- PFC abnormalities could underlie both:
  - Compulsive nature of drug administration in individuals with addiction; AND
  - Ability to control urges to take drug when exposed to it

Volkow & Baler 2015, ASAM Ch. 1
• Chronic drug exposure alters the morphogy of neurons in dopamine regulated circuits
• The brain no longer responds to natural rewards
Changes in neurochemistry

• Neurochemical effects are long lasting
  • continue after the detoxification period when the person is no longer using
  • Endorphins

• Chronic illness model
Substance use disorder

**Impaired control / Preoccupation**
- A great deal of time getting, using, recovering
- Activities given up or reduced
- More or longer than intended
- Cannot cut down or control
- Cravings
- Use despite knowledge of health problem

**Withdrawal**
- Symptoms, using to relieve symptoms

**Tolerance**
- Increased amounts to achieve effect
- Diminished effect from same amount
Severity and Specifiers

- **Mild to Severe**
- **Severity** based on **the number** of symptom criteria:
  - **Mild** - two to three symptoms
  - **Moderate** – four to five
  - **Severe** - six or more

- **Specifiers** – in early remission, in sustained remission, on maintenance therapy, & controlled environment
**Important characteristic **

- Underlying change in brain circuits
  - May persist beyond detoxification
    - Increases risk for relapse
    - Drug cravings

Chronic illness model
Alcohol use disorders
Why assess for substance use?

- Some disease processes or injuries
  - worsened
  - directly caused by substance use
- Diabetes
- Hypertension
- Obesity
- Increased fall risk
The Spectrum of Alcohol Use

12 fl oz of regular beer = 8–9 fl oz of malt liquor (shown in a 12 oz glass) = 5 fl oz of table wine = 1.5 fl oz shot of 80-proof spirits (“hard liquor”—whiskey, gin, rum, vodka, tequila, etc.)

about 5% alcohol

about 7% alcohol

about 12% alcohol

about 40% alcohol

The percent of “pure” alcohol, expressed here as alcohol by volume (alc/vol), varies by beverage.
Screening for Unhealthy Alcohol Use:

• Single question:

  “How many times in the past year have you had X or more drinks in a day?”

(X is 5 for men and 4 for women)

*A response of >1 is positive*
Place an X in one box that best describes your answer to each question. **QUESTIONS**

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>1. How often do you have a drink containing alcohol?</td>
<td>Never</td>
<td>Monthly or less</td>
<td>2-4 times a month</td>
<td>2-3 times a week</td>
<td>4 or more times a week</td>
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<td></td>
<td>1 or 2</td>
<td>3 or 4</td>
<td>5 or 6</td>
<td>7 to 9</td>
<td>10 or more</td>
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<tr>
<td>2. How many drinks containing alcohol do you have on a typical day you are drinking?</td>
<td>Never</td>
<td>Less than monthly</td>
<td>Monthly</td>
<td>Weekly</td>
<td>Daily or almost daily</td>
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<td></td>
<td>1 or 2</td>
<td>3 or 4</td>
<td>5 or 6</td>
<td>7 to 9</td>
<td>10 or more</td>
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<tr>
<td>3. How often do you have four or more drinks on one occasion?</td>
<td>Never</td>
<td>Less than monthly</td>
<td>Monthly</td>
<td>Weekly</td>
<td>Daily or almost daily</td>
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<td></td>
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<td>3 or 4</td>
<td>5 or 6</td>
<td>7 to 9</td>
<td>10 or more</td>
</tr>
<tr>
<td>4. How often during the last year have you found that you were not able to stop drinking once you had started?</td>
<td>Never</td>
<td>Less than monthly</td>
<td>Monthly</td>
<td>Weekly</td>
<td>Daily or almost daily</td>
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</table>
The Spectrum of Unhealthy Use

- **Risky Alcohol use**: ¹
  - Men: >14 standard drinks/week
  - > 4 drinks/occasion
  - Women, Men >65: >7 drinks/week
  - >3 drinks/occasion

- **Problem use, Harmful use, Abuse**
  - Social, legal, interpersonal, behavioral, role or medical consequences

- **Dependence**

¹Helping Patients Who Drink Too Much. A Clinician’s Guide. NIAAA.
Assessing Severity of Unhealthy Use

• 10 item AUDIT*
  – 10 questions, each scored 0-4
  – ≥ 3 (women) ≥ 5 (men) = unhealthy use
  – ≥ 13 (women) or ≥ 15 (men) consistent with dependence

Why is this framework important?

• Individuals who aren’t ready to change health-damaging behavior are more likely to leave treatment early (or not even engage in treatment), than those who are ready to change.

• Strategies for helping people change need to be timed to their readiness for change.

Prochaska and DiClemente

“Stages of change”
Smoking

1. Precontemplation
   No recognition of need for or interest in change
   I am not aware my smoking is a problem – I have no intention to quit

2. Contemplation
   Thinking about changing
   I know my smoking is a problem – I want to stop but no plans yet

3. Preparation
   Planning for change
   I am making plans & changing things I do in preparation.

4. Action
   Adopting new habits
   I have stopped smoking!

5. Maintenance
   Ongoing practice of new, healthier behavior
   I am continuing to not smoke. I sometimes miss it – but I am still not smoking

Prochaska, DiClemente & Norcross (1992)
High Risk Behavior

• And How to help People Change

• S – Screening
• B - Brief
• I – Intervention
• R – Referral
• T – Treatment
Screening

- **Screening** is a way to identify patients with risky substance use patterns
  - It does not establish definitive information
  - About diagnosis and possible treatment needs
Brief Intervention

Brief intervention is a **single session** or multiple sessions of **motivational discussion** focused on increasing the patient’s insight and awareness regarding substance use

**motivation toward behavioral change**
Common Assumptions About Health Behavior Change

• This person ought to change

• This person is ready to change

• This person’s health is a prime motivating factor for him or her

• If he or she does not decide to change his or her behavior, the consultation has failed

Referral to Specialized Treatment

The effectiveness of the referral process to specialty addictions treatment is a strong measure of SBIRT success.

A proactive and collaborative effort

SBIRT providers and those providing treatment

Ensures access to the appropriate level of care
Readiness: A “Quick” Version

“On a scale from 1 to 10...”

• “...How important is it for you right now to...?”
  – “Why did you say 3 and not 0?”
  – “What would it take to get you from 3 to 6?”
• “If you did decide to change, how confident are you that you would succeed?”
• “You’ve decided to change, and think you could succeed--When will you do it?”
Alcohol problems and people living with HIV

- Rates of alcohol problems among people infected with HIV range from 8% to 41%
- Alcohol consumption has been shown to decrease overall survival in this population
- The more people drank the less likely they were to be compliant with medications

Other consequences

- Increased physiologic injury
- Alcohol-mediated alterations in immune function can result in chronic inflammation and T-cell activation that may accelerate HIV disease progression
- Fewer drinks to get “buzz” suggesting greater exposure to alcohol at lower levels of consumption

MSM population

• More likely to engage in condomless sex with acute alcohol use

Pharmacologic intervention

Effect neurotransmitters:

Reestablishing hemostasis

• Interfere with reinforcing effects
  • Interfering with drug binging
  • Reducing drug induced dopamine release
  • Reducing postsynaptic dopamine responses
  • Decrease delivery to the brain
Recommendations

• Incorporated alcohol screening and intervention into HIV prevention initiatives may lead to reduction in HIV transmission risk

• Provide HIV-positive MSM with alcohol reduction interventions to diminish consumption levels and binge drinking, which could lead to decreased condomless sex & improved medication adherence
Risk reduction

- Reducing the amount consumed by 1-2 drinks at each drinking event can positively impact medication adherence
- Moderate drinking goals should be considered for patients who are not interested in abstinence
Additional resources

- Alcoholics Anonymous
  http://www.aa.org/

- National Institute on Alcohol Abuse and Alcoholism (NIAAA) Clinician’s Guide

- Rethinking Drinking: Alcohol and Your Health
  http://rethinkingdrinking.niaaa.nih.gov/

- Substance Abuse & Mental Health Services Administration (SAMHSA)
  http://www.samhsa.gov
Questions???