SUBSTANCE ADDICTION: TREATMENT BEYOND DIAGNOSIS

Affiliations

- Rush University Medical Center
- Presence Behavioral Health
- Hazelden Betty Ford Foundation

I have received no funding or benefit from any commercial entity.

Objectives

1. Accurately diagnose alcohol and substance use disorders according to DSM-5 criteria
2. Recommend an appropriate treatment program and level of care for those with alcohol and substance use disorders
3. Familiarize with medication options when indicated to assist treatment of alcohol and substance use disorders
HPI

- TK is a 40 y/o female with no significant past medical history presented to Rush ED after intentional alcohol and drug (clonazepam) overdose.
- Presentation in the ED:
  - Patient appeared distressed, tearful, and confused. Stated to the ED physician: “I don't want to live anymore, I tried to kill myself.” She doesn't give a reason why but states, “I'm a bad person.” Pt admitted to overdosing on clonazepam, taking 7 (?) pills today and drinking “a lot.” History was limited due to altered mental status.

HPI – ER Psych assessment

- Patient had gone out to lunch with her coworkers and ordered several cocktails
  - She had three large cocktails
- Per patient, the alcohol did not adequately make her “not feel” so she took 0.5 mg clonazepam, subsequently took four more
- TK does not remember what happened after that
  - Was told she passed out in her office and that a coworker called an ambulance

HPI continued

- Patient wanted to make it clear that this was “not a suicide attempt”
  - “trying not to feel”
  - “real dumb move”
- Denies manic or depressive symptoms
- Denies H1 and SI
- Denies A/V hallucinations
- Reports a strong support system (husband and family)
Additional Information in the HPI

- Admits to multiple stressors
  - New boss who “doesn’t like me”
  - Apart from her husband and family for over one year due to work
  - Financial problems: unable to sell their condo in AZ; husband looking for new job
- All culminated after a bad meeting with her boss

Psychiatric History

- Patient started seeing a psychiatrist about 4 weeks ago, diagnosed with panic attacks
  - Describes her panic attacks as her heart beating out of her chest, cannot breathe or swallow, HR extremely elevated
- Prescribed escitalopram and clonazepam
  - Discontinued the SSRI because it made her feel “weird and disconnected from reality”
  - Has “not really been taking the Klonopin either”
- Self medicates with alcohol whenever she feels a panic attack coming on

MSE

- Appearance: In hospital attire, sitting up in bed
- Behavior: Appropriate, no psychomotor agitation, calm
- Speech: Spontaneous, normal rate and rhythm
- Attitude towards examiner: Cooperative
- Mood: “Fine, but the withdrawal symptoms are getting worse”
- Suicidal Ideation: None
- Affect: Congruent with mood, normal range
- Thought Process: Linear, goal-directed
- Thought Content: Denies SI and HI, denies A/V hallucinations, no delusions
- Sensorium and Cognition: Alert and oriented x 3, MMSE not performed
- Impulse Control: Good
Drinking Habits

- Has “about a fifth of vodka a week” along with “several cocktails and glasses of wine per day”
- CAGE
  - Feels concerned about her drinking
  - Feels guilty about her drinking
  - Denies needing an eye-opener
  - Others don’t know how much she drinks (anger)
- Labs suggest that her drinking habits are heavier than patient admits

LABS

- Blood alcohol level (BAL):
  - 521 upon admission to ED (BAC = 0.521%)
  - 85 the next day
- Urine Toxicology
  - Positive for benzodiazepines
  - MCV: 112
  - Folic Acid: 1.6 (7.0-31.4)
  - Vitamin B12: 174 (210-920)
- LFTs
  - T. Bili: 1.4 (0.2-1.3)
  - Alk Phos: 133 (30-125)
  - AST: 316 (0-44)
  - ALT: 125 (0-40)
Social History

- Denies tobacco or illicit drug use
- Married, no children
- Lives by herself and is away from her husband (AZ) and family

Physical Exam

- Significant for:
  - Tachycardia (HR 104)
  - Bilateral tremor in upper extremities

- Negative for
  - Acute distress

### Approximate Blood Alcohol Percentage

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- Only safe drinking limit
- Impairment begins
- Driving skills significantly affected
- Possible criminal penalties
- Legally intoxicated
- Criminal penalties
Assessment and Plan

- TK is a 40 year old female with a recent diagnosis of panic disorder who brought to the ED following benzodiazepine and alcohol overdose.
  - CIWA (Clinical Institute Withdrawal Assessment for Alcohol) protocol
  - Thiamine, folic acid, Vit B12 supplementation
  - Recommended that patient enter treatment for alcohol abuse after this hospitalization

DSM Criteria

DSM-IV:
- Divided into two separate diagnoses
  - Dependence – “dependence syndrome”
  - Abuse – social and interpersonal consequences of heavy use
- Dependence above abuse in a hierarchy
  - Abuse should not be diagnosed when dependence was present

DSM Criteria

DSM-IV:
- Strength – Dependence
  - Shown to have high reliability and validity
DSM Criteria

DSM-IV:
- Weaknesses - Abuse
  - Much lower reliability and validity for abuse
  - Abuse often assumed to be milder than dependence
  - Abuse assumed to be a prodromal condition to dependence
  - “Diagnostic orphans”

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DSM Criteria

DSM-IV:
- Hierarchy, not criteria, led to poor reliability

Solution for DSM-5
Keep criteria – Eliminate hierarchy!

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DSM Criteria

Figure 1. DSM-IV and DSM-5 Criteria for Substance Use Disorders

<table>
<thead>
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<th>DSM-IV</th>
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<td>Dependence</td>
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<td>Legal problems</td>
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- Mild
- Severe

<table>
<thead>
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<th>DSM-5</th>
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<tr>
<td>1 criteria</td>
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<td>3 criteria</td>
</tr>
<tr>
<td>Substance use</td>
<td>Addiction</td>
<td>Physical psychological problems related to use</td>
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</table>

- Use or more abuse criteria within a 12-month period and to dependence diagnosis, applicable to all substances except nicotine, for which current abuse within 30 days
- Three or more dependence criteria within a 12-month period
- Two or more substance use disorder criteria within a 12-month period
DSM Criteria

DSM-5: Alcohol/Substance Use Disorders

- Specifiers:
  - Current Severity
    - Mild – presence of 2-3 symptoms
    - Moderate – presence of 4-5 symptoms
    - Severe – presence of 6 or more symptoms

- If full criteria for substance use disorder were previously met:
  - In early remission – no criteria* met for 3-12 months
  - In sustained remission – no criteria* for > 12 months

*with the exception of “craving, or a strong desire to use”
Criteria for TK

1. Hazardous use: Yes
2. Social/interpersonal problems: No
3. Neglected major roles: No
4. Withdrawal: Yes
5. Tolerance: Yes
6. Used larger amounts/longer: Yes

7. Attempts to quit/cut down: No
8. Much time spent using: Yes
9. Physical/psychological problems: Yes
10. Activities given up to use: ? (No)
11. Craving: Yes

Has 7 positive criteria
DSM-5 diagnosis: Alcohol use disorder, severe
Substance Abuse LOC

Before a treatment plan or LOC can be recommended, must obtain:
- Complete assessment of current use
- Substance abuse and treatment history
- Medical and psychiatric history
- Social situation
- Identification of treatment goals

Outpatient Care

- 12-Step Programs
- Routine Outpatient Care
- Intensive Outpatient Program (IOP)
- Partial Hospitalization Program (PHP)

Outpatient Care

- 12-Step Programs
  - Community-based and free of charge
  - Opportunity for contact with individuals with many years of recovery
  - Offers support and strategies for a successful recovery
  - Allows for long-term participation and sponsorship
Outpatient Care

- Routine Outpatient Care
  - Individual counseling with a psychiatrist, addictionologist, or therapist
  - May or may not include use of medications
  - Frequency of sessions range from weekly to monthly and longer
  - Does not include medical treatment of complicated withdrawal symptoms

- Intensive Outpatient Program (IOP)
  - Structured treatment that teaches about the concepts of addiction and recovery
  - Typically 3-5 days per week for an average of 3-4 hours of treatment per day
  - Usually encourages participation with 12-step programs
  - Many structured so individuals may continue to live and work in their community
**Outpatient Care**

- Partial Hospitalization Program (PHP)
  - Structured treatment for those with significant impairment or previous unsuccessful attempts to remain sober at lower LOC programs
  - Typically consists of 5-7 days per week for 6-8 hours each day
  - May include an arrangement for sober housing while attending the program

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**Inpatient Care**

- Inpatient Detox
- Inpatient Acute Care
- Inpatient Residential

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- 24-hour intensive medical care
- Individual is dependent on alcohol, sedatives, and/or opiate-based drugs
- Typically intended for people whose situations are medically-complicated
- Can be accomplished on detox, medical, or psychiatric unit
Inpatient Care

- **Inpatient Acute Care**
  - May be recommended following inpatient detox after withdrawal symptoms have decreased
  - Medical or psychiatric symptoms that require 24-hour care
  - Daily doctor visits are needed for continued stabilization
  - Treatment is typically short-term

- **Inpatient Residential**
  - Considered after multiple attempts at other levels of care have failed
  - Intended for people who do not need medical supervision
  - May last 28 days or more (typically 30-90 days)
  - Not appropriate for people who are unmotivated for change and recovery

Treatment Locator

**SAMHSA**: Substance Abuse & Mental Health Services Administration
(U.S. Dept of Health and Human Services)

http://findtreatment.samhsa.gov/
Pharmacological Interventions that are Frequently Used in the Treatment of Addictions

What can they do?
- Medications can be used to assist in treatment for addictions in several ways:
  - Prevent withdrawal symptoms
  - Reduce urges and cravings to use
  - Block effects of drugs/alcohol

Disulfiram
- Commonly known as Antabuse
- Blocks/slow the breakdown of alcohol in the body at an intermediate step
- Causes person to experience “hangover” effects shortly after alcohol consumption
Disulfiram

- Effects with alcohol use:
  - Flushing of the skin
  - Accelerated heart rate
  - Shortness of breath
  - Nausea/vomiting
  - Throbbing headache
  - Visual disturbance
  - Mental confusion
  - Postural fainting

Disulfiram

- No tolerance to disulfiram: the longer it is taken, the stronger its effects
- May last for up to two weeks after the initial intake
- Does not reduce alcohol cravings
  - Leads to extremely poor compliance
  - Only 20% of patients taking disulfiram were found to be in good compliance after 1 year

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Methadone

- Synthetic opioid
- Several medical uses including:
  - Analgesic for managing chronic pain
  - Maintenance therapy for opioid dependence

Methadone

- Produces similar effects as opiates such as heroin and morphine, therefore will prevent withdrawal
- Long duration of effect – much less euphoric effect than other opiates
- Very inexpensive compared to other treatments for opiate dependence

Methadone

- Drawbacks/side effects:
  - Sedation, constipation, respiratory depression – opiate side effects
  - Significant risk of abuse/diversion
  - Daily dosing must be done in a clinic
  - Can be quite difficult to cut down or discontinue
Buprenorphine

- Commonly known as Suboxone (buprenorphine with naloxone)
- Used for treatment of addiction (opiates) as well as for acute and chronic pain

Buprenorphine

- **Partial agonist** activity at μ-opioid receptors
  - Less likely to produce a response in contrast to a full agonist (e.g., Morphine)
  - Very **high binding affinity** for the μ receptor
  - Full agonists or antagonists unlikely to reverse its effects

Buprenorphine

- Partial Agonist
- Full Agonist
- Antagonist

Log Dose

Optal Effect
**Buprenorphine**

- Must be taken *sublingually* (high “first pass effect”)
  - Sublingual films – 2 mg, 4 mg, 8 mg, or 12 mg
  - Sublingual tabs – previously discontinued
- Also comes as Subutex
  - Buprenorphine only – no naloxone
  - Higher potential for abuse
  - Indicated only for specific populations

**Buprenorphine**

- Drawbacks/side effects:
  - Can *precipitate withdrawal* if given too early – must wait until withdrawal symptoms start
  - Potential for abuse and diverting
  - Can be difficult to reduce dose or discontinue
  - Expensive if no coverage by insurance provider

**Naltrexone**

- Opioid receptor *antagonist* used primarily in the management of alcohol dependence and opioid dependence
- Many studies are looking at effectiveness for various addictive and compulsive behaviors
Naltrexone

- **How does it work?**
  - Competitive antagonist at opioid receptors
  - Reversibly blocks or attenuates the effects of opioids
  - Effect to reduce craving for alcohol not fully understood
  - Plasma half-life of naltrexone is about 4 hr, for 6-β-naltrexol 13 hr – daily dosing

Naltrexone

- **Alcohol dependence:**
  - Reduces frequency and severity of relapse to drinking
  - Reduces craving while being taken

- **Opiate dependence:**
  - Blocks the euphoric effects of opiate use
  - Has less effect on opiate cravings
Naltrexone

- Drawbacks/Side effects:
  - Non-specific GI distress (diarrhea/nausea)
  - Can cause liver damage (rare)
  - Can induce opiate withdrawal unless started 7-10 days after last opiate use
  - Must be taken daily – if cravings become overwhelming, can be easily skipped or discontinued increasing chance for relapse

Vivitrol

- Injectable form of naltrexone
- Delivers 380mg of naltrexone intramuscularly monthly – given in the gluteus
- Approved for alcohol and opiate use disorders

Vivitrol

- Advantages over oral naltrexone:
  - Much higher rates of adherence
  - Greatly reduced GI related side effects
  - More consistent plasma levels
- Most common side effect – injection site pain
Unlike most depot injectables, Vivitrol is recommended to be started without an oral trial of naltrexone.
**Vivitrol**

24 Week Trial for Opioid Addiction, N = 250

1. Weeks abstinent: Naltrexone 90%  
   Placebo 35%

2. Opioid free days: Naltrexone 99.2%  
   Placebo 60.4%

Lancet 2011; 377:1506-13

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**Vivitrol**

24 Week Trial for Opioid Addiction, N = 250

3. Mean change in craving: Naltrexone -10.7%  
   Placebo +0.7%

4. Median retention: Naltrexone 168 days  
   Placebo 96 days

Lancet 2011; 377:1506-13

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**Acamprosate**

- Brand name is Campral
- FDA approved for treating alcohol dependence
- Stabilizes chemical balance in the brain disrupted by alcoholism
Acamprosate

- Reduces the excitatory surge that withdrawal from alcohol causes
  
  Glutamate >>> GABA

- Leads to improved outcomes through a reduction in cravings and urges
- Studies show best abstinence results are when used in conjunction with naltrexone

Acamprosate

- Drawbacks/Adverse Effects:
  - Three times a day (TID) dosing
    - (2 x 333mg) x 3 times per day
  - Side effects can include diarrhea, headaches and insomnia
  - Cautioned for use in people with kidney dysfunction

Gabapentin (Neurontin)

Not FDA approved for alcohol use disorders

BUT

New research indicates gabapentin may be safe and as effective in treating alcohol dependence as other FDA approved meds.
Gabapentin (Neurontin)

- JAMA Internal Medicine – 2014
  - 150-patient randomized, placebo-controlled, double blind clinical trial conducted at The Scripps Research Institute
  - 3 groups: gabapentin 900 mg/day, 1800 mg/day, placebo; all received counseling
  - Sought to examine rates of sustained remission, no heavy drinking, and reduction of alcohol-related insomnia, dysphoria, and craving

12 Week Trial for Alcohol Dependence, N = 150

1. Abstinence Rate ($P = 0.04$):
   - Gabapentin 1800 mg/d 17.0%
   - Gabapentin 900 mg/d 11.1%
   - Placebo 4.1%

2. No Heavy Drinking Rate ($P = 0.02$):
   - Gabapentin 1800 mg/d 44.7%
   - Gabapentin 900 mg/d 29.6%
   - Placebo 22.5%
Gabapentin (Neurontin)

12 Week Trial for Alcohol Dependence, N = 150

- Similar linear dose effects were obtained with measures of mood ($F_2 = 7.37, P = .001$), sleep ($F_2 = 136, P < .001$), and craving ($F_2 = 3.56, P = .03$).
- Terminations owing to adverse events (9/150), time in the study (mean 9.1 weeks), and rate of study completion (88/150) did not differ among groups.


Gabapentin (Neurontin)

12 Week Trial for Alcohol Dependence, N = 150

Conclusions:
Gabapentin (particularly the 1800-mg dosage) was effective in treating alcohol dependence and relapse-related symptoms of insomnia, dysphoria, and craving, with a favorable safety profile.


Back to Patient TK

Diagnosis: Alcohol use disorder, severe

Treatment recommendations:
1. Discontinue benzodiazepine use
2. Enter into treatment of alcohol use d/o in IOP level of care
3. Follow up in psychiatry/dual diagnosis clinic for further assessment of anxiety symptoms and possible medication management
Take Home Messages

- The DSM-5 criteria for substance use and addiction are very similar to DSM-IV, but the diagnosis no longer differentiates between abuse and dependence.
- Recommending an appropriate treatment program and level of care is just as important as properly diagnosing a substance use d/o.
- Medications are available and approved to assist in treating substance use disorders.

Treatment Locator

SAMHSA: Substance Abuse & Mental Health Services Administration (U.S. Dept of Health and Human Services)

http://findtreatment.samhsa.gov/

References