Alcohol Abuse and Dependence: How it Affects Your Patient

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Objectives

- Define bio-psycho-social model of addiction
- Select an appropriate screening tool
- Identify signs & symptoms of intoxication
- Identify criteria requiring admission for detox
- Demonstrate how alcohol effects neurotransmitters of mood
Objectives

- Identify 5 phases of brain dysfunction due to alcohol use and addiction
- List referral resources for outpatient management
- Discuss impact of addiction on family/friends
- Discuss abuse among various populations
- Identify methods to support recovery and limit risk of enabling
Prevalence

- 52.1% of Americans used ETOH in last 30 days (2012)
- 23% Binge drinkers; 6.5% heavy drinkers
- 22.2 million classified as substance dependent or abuse (8.5% of total population)
  - 2.8 million- both alcohol and illicit drugs
  - 4.5 million- illicit, no alcohol
  - 14.9 million- alcohol, no illicit drugs
Experimental & Social Use

- Initially b/w 12-15 y/o
  - Tobacco $\rightarrow$ ETOH $\rightarrow$ marijuana
- Occasionally, few times/month. Weekends, parties, with or without friends
- Primary source- friends
- Reasons for use
- Effects- experience euphoria, return to normal
  - Small amount of intoxication
- Behavioral indicators
Alcohol Use Disorder (DSM-V)

- Addiction is the continued use of the substance despite the negative consequences.
- Can take from 5-10 years after initial experimental use to progress to dependency/addiction.
Bio-Psycho-Social Model of Addiction

- Alcohol and drug abuse/addiction causes temporary and possibly, permanent changes in the brain that impacts a person’s psychological make-up that can eventually lead to problems in their social role.
Disease Concept

- Alcohol and other drug (AOD) use can lead to addiction
  - Abuse – use of a substance other than for which it is intended or more than which it is prescribed
  - Dependence - chronic use of substance that if use was stopped leads to withdrawal symptoms
  - Addiction - compulsion to use despite negative consequences
- Addiction is a Brain DISEASE
Pleasure Principle

- Dopaminergic receptors are throughout the brain
- When triggered, things feel good so we keep doing them to receive pleasure
  - Sex, food, laughter, exercise, drugs and alcohol
- Positive reward - we do it because it feels good
- Negative reward - we do it to make us feel better aka self-medication
- Habit - conditioned reinforcement of either
Direct Stimulators

- The locus coeruleus if stimulated directly or indirectly, leads to pleasure
- Direct stimulators are drugs that lead to addiction
- Three types
  - Opiates
  - Sedative-hypnotics
  - Stimulants
POTENTIAL SITES OF DRUG ACTION

Release of dopamine from dopaminergic neuron terminals in nucleus accumbens

Reward

Nucleus accumbens

Cocaine
Amphetamine
Opioids
Nicotine
Ethanol

Opioids
Ethanol
Benzodiazepines

GABA inhibitory interneuron

Ventral tegmental area (VTA)

Noradrenergic projection to ventral tegmentum

Locus ceruleus

Nicotine
Barbiturates

Projection of dopaminergic neuron to nucleus accumbens
Alcohol’s Effect on Brain

- **GABA**- inhibitory amino acid
  - ETOH binds therefore reducing inhibition
- **Glutamate**- excitatory amino acid
  - Increased secretion from presynaptic terminals of sensory pathways
- **Dopamine**- inhibitory amine
Risky Business

- **At Risk**
  - Never experienced negative consequences of use

- **Low Risk**
  - 1-2 drinks/day
  - Less than 3-4 drinks on one occasion
  - Not using during pregnancy, driving or medications

- **No safe levels of use if meets DSM-V criteria**
Risk Factors

- Mediate or moderate risk of addiction
- May represent non-causal markers of risk
- Additive and interact over time
- Various
  - Individual
  - Environmental
  - Protective
Individual Risk Factors

- **Genetic**
  - Family Hx does not predict outcome
  - No single gene

- **Prenatal Exposure**
  - Learning deficits

- **Temperament**
  - Behavioral Disinhibition
  - Novelty seeking
  - Sensation seeking
  - “Difficult”
Individual Risk Factors

- **Physiological responses**
  - Interplay of biological features and environmental and developmental experiences

- **Early Use**
  - Boys who progress w/ early use marijuana become more problematic probably related to presence of mental disorder

- **Conduct Disorder**
  - Highly r/t substance use disorder, not just use
Alcohol Dependence or Abuse in the Past Year among Adults Aged 21 or Older, by Age at First Use of Alcohol: 2012
Individual Risk Factors

- Psychiatric Disorder- HIGH
  - Mood, anxiety disorders (internal)
  - Conduct & impulsivity disorders (external)
- Executive Cognitive Function
- Academic Failure
- Self-esteem- probable
- Social Skills deficit- peer rejection
Environmental Risk Factors

- Family
- Home
- Poor parental monitoring
- Peers
  - Greater influence from individual risk factors than peers
Protective Risk Factor

- Intelligence
- Problem solving ability
- Social facility
- Positive Self-esteem
- Supportive Family Relationships
- Positive Role Models
- Affect Regulation
Case Study- Tim

- Tim is a 17 y/o male who has come to your office for a camp physical. He’s part of a community program for disadvantaged children. He’s been raised by his grandmother b/c his mother is in jail for drug charges. He’s a sophomore in high school. He smokes ¼ pack cigarettes a day and drinks a 6-pack on the weekends alone. Denies other drug use. He’s on no meds. Exam is unremarkable.
Alcohol Use

- Current
- Binge drinking
- Heavy Drinking
- Past Use
- Detox
Current, Binge, Heavy Alcohol Use among Persons Aged 12 or Older, by Age: 2012
Intoxication

- Intoxication - symptoms that occur at time of use
- Repeated episodes of substance intoxication → substance abuse or dependence
- One or more episodes of intoxication does not define abuse or dependence
“Red Flag” Complaints

- Frequent absences from school or work
- Hx frequent trauma or accidental injuries
- Depression or anxiety
- Labile hypertension

- GI symptoms
  - Epigastric distress
  - Diarrhea
  - Weight changes

- Sexual dysfunction
- Sleep Disorders
Brain Dysfunction

- **Thinking**
  - Unable to abstract or conceptualize; poor memory; activated by increased stress

- **Emotional management**
  - Easily excitable; over react

- **Memory**

- **Stress Related Illnesses and disease**

- **Accident Prone**
  - Poor psycho-motor performance

**Diagram:**
- Memory loss
- Frustration
- Stress
- Sleep Problems
Substance Abuse and Medical Illnesses

- Malnutrition
- Liver damage
- Falls and injuries
- Cardiac arrest (cocaine)
- Tuberculosis
- STI/HIV/Hep B and C
- Infective endocarditis
- Pneumonia
- Skin & soft tissue infections
Screening

- Identify those at risk or having substance abuse problems
- Identify those who need further assessment to diagnose and develop treatment plan
- Negative screen also provides opportunity for health promotion
- Ask and accept responses without judgment
- Document screening and response
Standard Drink Size

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 tools

- **AUDIT- Alcohol Use Disorders Id Test**
  - [AUDIT.pdf](#)
- **CAGE**
- **CRAFFT**
  - [CRAFFT Adolescent screening.pdf](#)
- **TWEAK Test-**
- **S-MAST-G**
In 2001, 6 million children had parent w/ AOD
- ~ 10% < 5 years old

1 in 9 parents were positive for AUDIT or TWEAK

Administered test via computer questionnaire, pen/pencil, face/face w/ provider (esp men)
Physical Findings

- Mild tremor
- Alcohol odor on breath
- Hepatomegaly with tenderness
- Nasal irritation
- Conjunctival irritation (red eyes)
- Labile blood pressure, tachycardia
- Heavy use of aftershave/mouthwash
- Signs of COPD, Hep B or C, or HIV infection
Alcohol Withdrawal

- tremors, seizures, hallucinations, delirium tremors
- **More common:** anorexia, N/V, increased HR, increased systolic blood pressure, mood and sleep disorders, hyperalert, easily startled, disorientation, difficulty concentrating
Withdrawal

Withdrawal - symptoms that occur once stopped use or reducing dose
Laboratory Evaluation

- Elevated GGT *
  - Imperfect indicator
- Elevated MCV *
- Elevated CDT
Intervention

- Nondependent but problematic drinkers account for majority of alcohol-related morbidity and mortality in general population.
- Unlike alcoholics, this population does well with counseling and brief intervention efforts.
- If use is creating problems in one or more areas of their lives, assessment and intervention should be done.
Brief Intervention

- Discuss screening results and risks of use
- Educate on what is safe use
- Assess readiness to change
- Set goals and strategies to change with patient
- Arrange for follow-up treatment
- Referral
Brief Intervention

- Assessment and direct feedback
- Negotiation and goal setting
- Behavioral modification techniques
- Self-help directed bibliotherapy
- Follow-up and reinforcement
Motivational Interviewing

- **Phases**
  - Build motivation to change ➔ Strengthen commitment to change

- **Principles**
  - Express empathy
  - Develop discrepancy
  - Roll w/ resistance
  - Support self-efficacy
Early Intervention

- **Intrinsic motivation**
  - Positive acceptance of personal responsibility

- **Extrinsic motivation**
  - Social pressure

- **Goals of motivation**
  - Treatment (short term)
  - Remaining abstinent (medium/long term)
  - Lifestyle changes (long term)
Transtheoretical Model of Change

- **Precontemplation**- resist change, lack knowledge
- **Contemplation**- not ready, feel stuck
- **Preparation**- will take action within a month
- **Action**- modifying behavior
- **Maintenance**- work to prevent relapse
- **Termination**- no longer tempted to lapse

Prochaska, J et al (1994). Changing for Good...
Categories of Resistance

- Arguing
  - Challenging
  - Discounting
  - Hostility
- Interrupting
- Denying
- Ignoring
Substances for Which Most Recent Treatment Was Received in the Past Year among Persons Aged 12 or Older: 2012

- Alcohol: 2,395
- Pain Relievers: 973
- Marijuana: 957
- Cocaine: 658
- Tranquilizers: 458
- Heroin: 450
- Hallucinogens: 366
- Stimulants: 357
Referring a Patient for Treatment

- **Goals**
  - Attain & maintain abstinence
  - Maximize Health
  - Preventing reducing frequency/severity of relapse

- For those who cannot or will not stop their use of alcohol or drugs without the help of a specific program
Treatment Models

- Some combination Medical/Psychological/Sociocultural
- Minnesota Model
- Drug-free Outpatient
- Therapeutic Community Residential Treatment
Principles of Detoxification

- Detox alone not adequate treatment for dependency
- Use protocols when using pharmacology
- Inform patient if procedure used not established as safe and effective
- Control access to meds during detox
- Individualize initiation of withdrawal
- Substitute long-acting for short-acting drugs of addiction
- Do best to reduce s/s of withdrawal
- Patient and family participation ASAP
Detoxification

- Young people with AOD dependence less than 1 year “unrealistically optimistic” regarding long term abstinence
- Outpatient for mild to moderate alcohol withdrawal
- Patient’s crisis is opportunity for intervention
  - Drug-related seizure, arrest, family illness, death
Toxicology Screen

- **Breath Test**
  - 15 min after last drink and at least 1 min after cigarette smoking

- **Saliva- CLIA-waived for office**

- **Serum test**
Screening for Detox

- ASAM- > 14 drinks/week or 4 drinks on one occasion (7/3 for women)

- CIWA-Ar (Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised)
  - n/v, tremor, paroxysmal sweats, anxiety, tactile disturbances, audiotory disturbances, visual disturbances, headache, fullness in head
Medical History & Exam Findings

- Inability to focus (visually and mentally)
- Disrupted menstrual cycle
- Slurred, incoherent speech
- Unsteady gait
- Tremors
- Red facies
- Dilated pupils

- Agitation
- Swollen hands/feet
- Insomnia/sleep disturbance
- w/drawal sx incl DTs
- Seizures
- Physical injury
- Need consent from patient to talk w/ family or friends
Goals of Detoxification

- Provide safe withdrawal from drug(s) of dependence and enable to live drug free
- Provide humane withdrawal and dignified
- Prepare for ongoing treatment
Alcohol Detoxification

- Withdrawal within 6-24 hours
  - Peaks in 24-48 hours
  - Resolves w/in 4-5 days

- Tremors, HTN, tachycardia, sweating, nausea, more active DTRs, diaphoresis, GI distress, irritability, insomnia, and restlessness

- Risk of DTs
  - 3-7 days after withdrawal
  - Impaired attn, disorientation, paranoia, hallucination
  - Seizure risk < 5% grand mal
Alcohol Detoxification

- Benzodiazepines
  - Abruptly abstinent with hx of seizures
  - Hx of DTs
  - Other medical condition can’t tolerate symptoms of withdrawal
  - Score > 14 CIWA-A
Alcohol Detox

- **Hospitalize**
  - Withdrawal hallucinations, seizures, or delirium
  - Very heavy use and high tolerance
  - Abusing with other drugs- opioids or sedatives
  - Severe comorbid medical or psychiatric disorder
- **Pregnant**
- **Lives with other active drinkers/addicts**
- **No reliable person to monitor detox**
- **Suicidal risk high**
Alcohol Detox

- Malnourished
  - Fluid, electrolytes, thiamine, glucose
  - Risk for Wernicke-Korsakoff syndrome
  - Hypomagnesemia $\rightarrow$ seizures and cardiac arrhythmias
## Psychopharmacology

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Treatment Goal</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Detoxification</td>
<td>Enable patients to be safely withdrawn from their drug of dependency</td>
<td>Chlordiazepoxide for alcohol withdrawal</td>
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## Psychopharmacology

<table>
<thead>
<tr>
<th>Relapse Prevention</th>
<th>Make drinking alcohol aversive</th>
<th>Disulfiram (Antabuse)</th>
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<tbody>
<tr>
<td>Reduce alcohol craving</td>
<td></td>
<td>Naltrexone (ReVia)</td>
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<tr>
<td>Block reinforcing effects of opiates</td>
<td></td>
<td>Acamprosate (Campral)*</td>
</tr>
<tr>
<td>Treat underlying or drug-induced psychopathology that</td>
<td></td>
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<tr>
<td>may cause relapse to drug use</td>
<td></td>
<td>Antidepressants, mood stabilizers (e.g., lithium or valproate)</td>
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*Note: Acamprosate (Campral) is an example of a medication that may be used in the treatment of alcohol dependence, but its use may vary depending on the specific needs of the individual.*
Alcohol Relapse Prevention

- **Disulfiram**
  - Start when ETOH free 4-5 days
  - Must want ETOH abstinence & cooperate
  - Avoid meds/substances with ETOH
  - S/E: facial flushing, throbbing h/a, tachycardia, hyperpnea, sweating, vomiting
  - Adverse Rxn: optic neuritis, peripheral neuritis, polyneuritis, peripheral neuropathy
Alcohol Relapse Prevention

- **Naltrexone (ReVia)**
  - Competitively binds to opioid receptors
  - Blocks pleasurable effects of opiates and alcohol
    - Can’t use 3 days before procedures, start 3 days after
  - Start as soon as withdrawal complete
  - Best- high level dependence, family hx, high cravings, less than high school education
  - S/E: nausea or abdominal cramping, anxiety, insomnia, malaise
Alcohol Relapse Prevention

- Campral
  - Action unknown but believes works on GABA and glutamate receptors
  - Decreases desire to drink secondary to post acute withdrawal
  - Used daily for up to 1 yr in conjunction w/ 12 step program and/or counseling
Postdetoxification

- Some enter detox to satisfy family, work, or courts
- Family suffer consequences
  - Lost income
  - Domestic violence
  - Divorce
  - Maladaptive behavior from children
  - Lack of trust
Detoxification

Cognitive Recovery

- 14-28 days: Unable to think clearly or process information as quickly.
  - Short term effect of withdrawal
- 6-18 months: Long term effect; recovery of most cognitive functioning
- 3-5 years: Return to pre-drinking/pre-drug use mental state
Psychosocial Interventions

- Group therapy
- Marital/Family therapy
- Cognitive behavioral therapy
- Behavioral contracting or contingency management
- Relapse prevention
- Self-Help Groups
Behavior Oriented Treatment

- Patient must assume primary responsibility to change
- Have to accept they have a problem
- Need to learn how to deal with cravings without relapse
  - Motivational enhancement therapy
  - CBT
  - Contingency contracting
  - Exposure treatment
Dual Diagnosis

- Comorbidity

- Intoxication $\rightarrow$ psychiatric symptoms that resolve with abstinence

- Substance use can mask, exacerbate, or ameliorate psychiatric symptoms in mentally ill
Dual Diagnosis

- Substance abuse and personality disorder
  - Inflexible, maladaptive coping with stress
  - Impairment in loving, working, and relating
  - Impulsivity
  - Inability to accommodate other people’s needs
  - Boundary problems- expect others to solve their problems
  - History of pervasive anger and resentment
Dual Diagnosis

- Lack food, income, and housing
- High incidence of untreated health problems
- Very frustrating to their caregivers
- Self medicate
- Fall frequently and higher rates of violence, murder, and suicide → more arrests
Special Populations

- Pregnancy
  - Fetal alcohol syndrome preventable cause of mental retardation and hyperactivity- 1-3/1000 births
  - OB care, pediatric care, child dev’t, parenting skills, economic security, housing, birth control
  - May be on methadone, not disulfiram or naltrexone
Special Populations

- **Women**
  - More likely to have depression, anxiety, PTSD from past/current physical or sexual abuse, codependency
  - Need help with child care, parenting skills, health relationship, avoid sexual exploitation, preventing HIV/STI, and enhance self-esteem

- **AIDS**
  - 69% of female AIDS cases r/t drug use
  - Needle sharing
  - ETOH inhibit judgment ➔ unsafe sex and drug use practices
Special Populations

- **Adolescents**
  - Ask annually about ETOH, nicotine, illicit drugs, OTC and prescriptions including anabolic steroids
  - High rates of depression, eating disorders, and hx of sexual abuse
  - Need peer-oriented treatment

- **Elderly**
  - 10% males; 2% females alcohol and Rx drugs
  - Unexplained falls, confusion and inadvertent overdose
Special Populations

- Developmentally disabled
  - Manipulated easily
  - Medicate for feelings of anxiety or depression
  - Use to feel accepted or socialize
  - Difficult to participate in 12-step secondary to lacking verbal skills and motivation
Special Populations

- **Minority Groups**
  - African American
    - Involve church
  - Native Americans
    - Incorporate traditions
    - Family focus
    - Bilingual staff and translated materials

- **Culturally sensitive treatment not necessary if person no longer strongly identifies with group**
Special Populations

- **Homeless/Indigent**
  - 30-40% have alcohol abuse; 10-15% other drug
  - ETOH used for escapism
  - No insurance, not eligible for treatment
  - Distrust public programs so won’t seek help

- **Prostitutes**
  - Daily use among male
    - Psychological distress with sexual orientation
  - Higher status precedes addiction vs streetwalkers were addicts first
    - Youth streetwalk to support drug habit
Drug-Seeking Patients

- **Scam**- patient generated pressure to prescribe w/ your feeling of hesitancy
  - “I’m feeling pushed by you to write a prescription today that is not medically indicated and thus I’m concerned about you. We should talk about your alcohol (or drug) use.”

- **Fear of avoidance**- patients have stronger relationship w/ drug than you

- **Countertransference**
  - Anger, guilt, wish to disengage, pity, revulsion

- **Codependency**- fear anger and abandonment

Working with the Recovered

- Record sobriety date and confirm at each visit
- Non judgmental
- Document use of support
- Review all meds including OTC and herbs
- Those in recovery are more likely to be adhere
- Encourage family and friends to participate in 12-step programs

Jones (2003)
Working with Recovered

- Many fear use of medication will lead to relapse
  - Promote Lifestyle therapy
    - Stress reduction
    - Relaxation
    - Heat, ice, rest, elevation
    - PT, acupuncture, biofeedback

- Pain Management
  - No early refills
  - Collaborate with addiction specialists
  - May need higher doses
  - Keep pain diary
  - Short term use of ketorolac for acute/post-op pain

Jones (2003)
Rationale for Total Abstinence

- Other drugs and alcohol can cause cravings
- Others use
  - makes more difficult to resist cravings
  - Lead to irresponsible and inappropriate behavior
  - Grows out of control
  - Disrupts development of coping skills
  - Encourages to continue being w/ high risk people, places, and things
  - Impairs judgment
Affect on Family

33% said their overall health status was “extremely affected” by another person’s drinking

- Extremely affected: 33%
- Somewhat Affected: 49%
- Neither: 8%
- Somewhat unaffected: 5%
- Completely unaffected: 4%

NOTE: Percentages do not total 100% due to rounding.

n = 611

Question 11: Another person’s drinking can affect us in many different ways. Please tell us the extent to which each aspect of your health, listed below, has been affected by someone’s drinking.
Children of Alcoholics

- 1 in 4 children exposed to alcohol abuse and/or dependence in family before age 18

- Family Life
  - Pain, guilt, fear, tension and insecurity + keeping family secret prevent seeking help including as adults

- 3 Factors that keep children quiet
  - Denial by the abuser
  - Develop instinct to not tell others
  - Social stigma of disease and carry shame
Physical Findings in COA

- Infants - feeding problems, vomiting, incessant crying
- Youth - h/a, abd pain, tics, nausea, enuresis, sleeping problems
- Children - more prone to migraines, asthma, allergies, freq colds or coughs, weight problems
- Teens - fights at school, reading difficulty, eating disorders and own AOD problems
Children of Alcoholics

- Most don’t become alcoholics
- Use more medical and hospital services than other children
  - 24% higher overall inpatient admissions
  - 29% longer length of stay
  - 36% greater than average hospital charges
COA Personality challenges

- Compulsive need to achieve
- Inability to develop close relationships
- Difficulty w/ issues of control, mistrust, responsibility and tendency to ignore personal needs
- Not all “victims” some more resilient despite
Resources

- BRN Diversion Program
  - 1-800-522-9198
- www.aa.org
- http://findtreatment.samhsa.gov
Confidentiality

- Alcohol and drug abuse patient records protected by federal law
- 1987- patient records from general medical setting and hospitals are not covered unless treating provider has primary interest in substance abuse treatment
- Handle information with discretion
- Need written consent to release information
The good news is...

Alcohol Abuse is a **preventable** behavior

and

Alcohol dependence is a **treatable** disease