Substance Use Disorders

A Major Problem

- Lifetime rates of alcoholism estimated at 13.4%
- Rates of drug abuse estimated at 6%
  - Marijuana is most frequent
- Approximately 600,000 deaths each year from substance abuse
- Violence is greatly increased with use

Defining Addiction

- What is “addiction”?  
- Typically seen as a complex, progressive behavior pattern having biological, psychological, and sociological components
  - Distinguished by the individual’s attachment to the substance/behavior, compulsion to continue doing/using, and lack of feeling of control over that substance/behavior
Dependence vs Abuse

• Dependence
  – Marked by cognitive, behavioral, and physiological symptoms that show continued use despite significant problems

• Abuse
  – Maladaptive pattern of use leading to adverse consequence

DSM Dependence Criteria

• Maladaptive pattern of substance use that leads to significant impairment or distress over any time in 12-months

• Must have at least three of the seven following areas of impairment / distress

DSM Dependence Criteria

• Tolerance
  – Need for increased amounts of substance to achieve intoxication
  – Markedly diminished effect with continued use of same amount

• Withdrawal
  – Characteristic withdrawal syndrome for a particular substance
  – The same or related substance is taken to relieve or avoid withdrawal symptoms
**DSM Dependence Criteria**

- Substance is taken in larger amounts or over a longer period than intended
- Persistent desire or unsuccessful efforts to cut down or control use
- Large amounts of time is spent in activities to either obtain, use, or recover from the effects of a substance

**DSM Dependence Criteria**

- Important social, occupational, or recreational activities are given up because of use
- Use is continued despite having a physical or psychological problem that is a result of continued use

**DSM Abuse Criteria**

- Maladaptive pattern of use leading to impairment in at least one of the following over 12-months
  - Failure to fulfill major social obligations
  - Recurrent use in dangerous situations
  - Substance-related legal problems
  - Use despite having persistent social or interpersonal problems caused by the substance use
DSM CRITERIA

- Specify if
  - With physiological dependence
    - Evidence of tolerance or withdrawal
  - Without physiological dependence
    - No evidence of tolerance or withdrawal

- Course specifiers
  - Early / Sustained - Partial / Full Remission
  - On Agonist Therapy
  - In a Controlled Environment

DSM SUBSTANCE USE DISORDERS

- Alcohol
- Amphetamine
- Caffeine
- Cannabis
- Cocaine
- Hallucinogens
- Inhalants
- Nicotine
- Opiod
- Phencyclidine
- Sedative, Hypnotic, or Anxiolytic
- Polysubstance

CULTURAL AND SOCIAL ISSUES

- Move from recreational use to disorder is determined by cultural and social contexts
- What is acceptable depends on what society is occurs in
  - Norms are determined by how society’s members define addiction
Sociocultural View

• Those with disorders are deviating from socially acceptable standards

• Diagnosing can be very different from giving an opinion on whether someone drinks/smokes too much

• Label may be more value-based than evidence-based

Sociocultural View

• Labeling substance use as a “disease” has many societal implications
  – Legitimizes medical treatments
  – Restricts non-medical treatment providers who can provide care

• Definition of abuse provides acceptable use guidelines for society

Gender Issues

• Majority of research is on males

• Overall, males more likely to use and abuse psychoactive substances

• Different reasons given for substance use
  – Women use more in response to current stressors
  – More likely to have use preceded by another mental disorder
**Gender Issues**

- Very different cultural norms for male and female substance use
  - Women who use seen as more promiscuous
  - Women users more likely to be victims of violent crime
- Stigma surrounding substance using women appears impacts treatment, family support, and numerous other factors

**Etiology**

- Use of drugs make it more likely that you will use drugs
  - Brain’s reward system
- Strong familial history research
  - From both human and other animal models
  - 40-60% risk of alcoholism is explained by genetic influences
  - Alcohol dependence is 3-4 times higher in close relatives of people with alcohol dependence.
- Learning history and environmental modeling
- Reinforcement of substance use because of how it reduces anxiety and tension
- “Alcoholic personality”
**PHARMACOTHERAPY TREATMENT**

- Several options developed, but all have little effect if discontinued
  - Antabuse, naltrexone for alcohol
  - Methadone, LAAM for opiates
- May treat co-occurring disorders medically
  - E.g., antidepressants, SSRIs

**PSYCHOSOCIAL TREATMENT**

- Peer support (e.g. 12-steps)
  - Limited empirical evidence, only works if you “work it” (about 15% of clients)
- Psychotherapy
  - Motivational Enhancement Therapy
    - Used first in alcohol, being expanded
  - CBT
    - Teaches coping skills

**RELAPSE PREVENTION**

- Crucial part of long-term positive outcomes
- Focuses on avoiding actions that may lead to being in situations where relapse is possible
ALCOHOL USE

- View that alcohol problems are a disorder became dominant in mid 1900s (rise of AA and proclamation by AMA that alcoholism is a disease)
- Was not based on evidence, but it shifted problems from criminal justice system to health profession

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount of Alcohol Consumed by Each Person</th>
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<td>1800</td>
<td>6.6 gallons</td>
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<tr>
<td>1810</td>
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<tr>
<td>1820</td>
<td>6.8 gallons</td>
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<tr>
<td>1830</td>
<td>7.1 gallons</td>
</tr>
<tr>
<td>1840</td>
<td>3.1 gallons</td>
</tr>
<tr>
<td>1850</td>
<td>1.8 gallons</td>
</tr>
</tbody>
</table>

PREVALENCE

- Alcohol is 2nd most used psychoactive substance, next to caffeine.
- Lifetime prevalence 13.3%-15%, past year prevalence 4.4%.
- 77% highest prevalence for those between 26-34.
- Prevalence of alcohol abuse is twice the rate of alcohol dependence.

COMORBIDITY

- Alcohol dependence and abuse often associated with other substances
- Can co-occur with Axis I and Axis II: Mood disorders, Anxiety, Schizophrenia, and Antisocial Personality Disorder
- Depression may result from effects of intoxication or withdrawal.
- Evidence lacking about whether treatment for other problems should be concurrent or sequential.
GENDER, AGE, CULTURAL FACTORS

• Prevalent in western countries.
• Asian cultures: prevalence low, male to female ratio high
• White males’ heavy drinking peaks in 20s and decreases in 30s and 40s compared to low drinking in 20s of African American Males which increases with age

ALCOHOL INTOXICATION CRITERIA

• Refer to criteria for substance intoxication
A. Recent ingestion
B. Behavioral or psychological changes
   – inappropriate sexual or aggressive behavior
   – mood lability
   – impaired judgment
   – impaired social or occupational functioning

C. One (or more) developing during, or shortly after, alcohol use:
   1) Slurred speech
   2) Incoordination
   3) Unsteady gait
   4) Nystagmus
   5) Impairment in attention or memory
   6) Stupor or coma
**Alcohol Withdrawal**

A. Stopping or reducing heavy or prolonged use.

B. Two (or more) of the following:
   1) Autonomic hyperactivity (sweating or pulse rate greater than 100)
   2) Increased hand tremor
   3) Psychomotor agitation
   4) Insomnia
   5) Nausea or vomiting
   6) Transient visual, tactile, or auditory hallucinations or illusions

**Alcohol Withdrawal Criteria**

7) Anxiety
8) Grand mal seizures

C. Causes clinically significant distress or impairment

D. Not due to a general medical condition and not better accounted for by another medical disorder.

Specify if:

With perceptual Disturbances

**Other Drug Prevalence**

- Marijuana most common, followed by cocaine, hallucinogens, and heroin.
- Among psychiatric inpatients, current and lifetime rates of SUDs range from 20 – 40%.
- Among incarcerated individuals, rates of SUDs are the highest – from 45-70%.
COMORBIDITY

• 53% - 76% have at least one other co-occurring psychiatric disorder, (mood & anxiety).
• Axis II: Borderline and antisocial personality disorders have the highest rates of comorbidity with estimates ranging from 5 – 32% and 14-69% respectively.
• SUDs are more strongly associated with antisocial personality disorder than with any other Axis I disorder.

LONGITUDINAL COURSE/OUTCOMES

• A majority of people with substance use disorders receive no professional treatment
• NIDA Drug Abuse Treatment Outcome Study (DATOS) indicates that on average, treatment entry lags 6 – 10 years after the initiation of drug use, despite clear negative lifestyle, health, and emotional consequences of drug use.
• Treatment dropout rates range up to 50% (SAMHSA, 2005)

AMPHETAMINE RELATED DISORDERS

• Taken orally or intravenously, some snorting – methamphetamine.
• Can be obtained by prescription.
• Male to female ratio of 3 or 4:1.
• More common among 18 – 30 year olds.
• 1 – 6%, with peak prevalence amongst 26-34 years old.
• Little or no data on long-term course of abuse.
AMPHETAMINE USE DISORDERS

- Amphetamine Dependence
  - Similar to cocaine dependence
  - Intense anxiety
  - Paranoid ideation
  - Psychotic episodes
- Amphetamine Abuse
  - Legal problems possible
  - Rule out dependence

AMPHETAMINE INTOXICATION

- Recent use
- Significant behavioral or psychological changes:
  - euphoria or affective blunting
  - changes in sociability
  - Hypervigilance
  - interpersonal sensitivity
  - anxiety, tension, or anger
  - stereotyped behaviors
  - impaired judgment
  - impaired social or occupational functioning

C. Two (or more) of the following, developing during, or shortly after, use:
1) Tachycardia or bradycardia (cardiac arrhythmia)
2) Pupillary dilation
3) Elevated or lowered blood pressure
4) Perspiration or chills
5) Nausea or vomiting
AMPHETAMINE INTOXICATION

6) Evidence of weight loss
7) Psychomotor agitation or retardation
8) Muscular weakness, respiratory depression, chest pain, or cardiac arrhythmias
9) Confusion, seizures, dyskinesias, dystonias, spasms, muscle contractions or coma

• not due to a general medical condition
• not better accounted for by another mental disorder.

AMPHETAMINE WITHDRAWAL

A. Stopping or reducing use that has been heavy and prolonged.
B. Dysphoric mood and two (or more) of the following physiological changes
   1) Fatigue
   2) Vivid, unpleasant dreams
   3) Insomnia or hypersomnia
   4) Increased appetite
   5) Psychomotor retardation or agitation

HALLUCINOGEN-RELATED DISORDERS

• May be used as part of established religious practices
• 3 times more common among males than among females.
• Became popular in 1960s; most commonly used are LSD and MDMA
• 0.6% lifetime rates; 12 month prevalence rate of 0.1%
### Hallucinogen-Related Disorders

- **Hallucinogen Dependence**
  - Withdrawal does not apply
  - May have "cravings"
- **Hallucinogen Abuse**
  - Likely to use less often
  - Failure to fulfill obligations
  - Legal, social, interpersonal problems

### Hallucinogen-Induced Intoxication

**A. Recent use.**

**B. Clinically significant maladaptive behavioral or psychological changes:**
- marked anxiety or depression
- ideas of reference,
- fear of losing one's mind
- paranoid ideation
- impaired judgment
- impaired social or occupational functioning

**B. Perceptual changes occurring in a state of full wakefulness and alertness**
- subjective intensification of perceptions
- Depersonalization
- Derealization
- Illusions
- Hallucinations
- synesthesias
HALLUCINOGEN-INDUCED INTOXICATION

D. Two (or more) of the following signs
1) Pupillary dilation
2) Tachycardia
3) Sweating
4) Palpitations
5) Blurring of vision
6) Tremors
7) Incoordination

CANNABIS USE DISORDERS

• Cannabis Dependence
  – Compulsive use problems
  – Tolerance effects
  – Interference with activities
  – May use throughout day over a period of months or years.
  – May add specifiers
• Cannabis Abuse
  – Interference with daily activities
  – Possible legal problems

CANNABIS-RELATED DISORDERS

• World’s most commonly used illicit substance.
• 1 – 5% lifetime prevalence.
• Highest prevalence -50% - 26-34 year olds
• Often looked at as a “gateway drug” but social, psychological, and neurochemical bases of this possible progression are not known.
**Criteria for Cannabis Intoxication**

A. Recent use

B. Clinically significant maladaptive behavioral or psychological changes:
   - impaired motor coordination
   - Euphoria
   - Anxiety
   - sensation of slowed time
   - impaired judgment
   - social withdrawal

**Cannabis Intoxication**

C. Two (or more) of the following signs, developing within 2 hours of cannabis use:
   1) Conjunctival injection
   2) Increased appetite
   3) Dry mouth
   4) Tachycardia

**Caffeine-Related Disorders**

- Mild sensory disturbances (ringing in ears and flashes of light) reported at higher doses.
- Causal connection to headaches unclear.
- Physical symptoms may include: agitation, restlessness, sweating, tachycardia, flushed face, and increased bowel motility.
CAFFEINE-RELATED DISORDERS

• Average intake in most of world is less than 50 mg/day compared to 400 mg/day or more in Sweden, UK, and other European nations.

• Increases in 20s, decreases after age 65

• 80-85% adults consume caffeine in given year.

• Prevalence unknown

NICOTINE-RELATED DISORDERS

• From 55% - 90% of individuals with other mental disorders smoke, compared to 30% in general population.

• Lifetime prevalence can be as high as 78%.

• Up to 25% of U.S. population may have nicotine dependence.

• If a first-degree biological relative smokes, risk increases threefold.

• 45% of those who consume nicotine regularly are able to stop smoking eventually.