




Sex, Drugs, Rock & Roll: Substance Use & HIV


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Substance Abuse USA


- Substance use directly affects >17 million Americans (Archives of General Psychiatry, August 2004)
- 40 million more are indirectly affected
 - Alcohol responsible for approximately 17K traffic deaths per year
 - Responsible for 630K traffic-related injuries
- 1 in 5 people with a substance use disorder have a co-occurring mental disorder
- Cost in dollars is inestimable






Cost Benefit Analysis


According to NIDA for every \$1 spent on substance abuse treatment, the taxpayer is saved \$5 - \$7 in criminal justice and medical costs






HIV and Substance Use


- HIV is a blood-borne disease transmitted by:
- Syringes
- Injection “Works”
- Pipes and Straws
- High Risk Sexual Behaviors





Substance Use & Mental Health

~ 3 of 5 people with a substance use disorder have a co-occurring mental disorder (Dr. Nora Volkow, NIDA, addressing American Psychiatric Association Annual Meeting, May 2007)






Common Co-Occurring Psychiatric Disorders with Substance Use


- Depression
- Bipolar Disorder
- Post Traumatic Stress Disorder






The DSM IV Recognizes


- Intoxication
- Abuse
- Dependence






Intoxication


A reversible substance-specific syndrome due to the recent ingestion of or exposure to a substance





Abuse

Maladaptive pattern of substance use manifested by recurrent and/or significant adverse consequences related to repeated use of substances





Dependence



Abuse definition plus a pattern of repeated self-administration that results in tolerance, withdrawal, and compulsive drug-taking behavior





Taking a Substance Use History



- Start with alcohol
- Move to marijuana
- Over the counter and Rx medications
- Street drugs






CAGE



- Have you ever felt the need to **CUT DOWN** on your drinking?
- Have you ever felt **ANNOYED** by criticism of your drinking?
- Have you ever felt **GUILTY** about your drinking?
- Do you ever take a drink as a morning **EYE-OPENER**?












Alcohol and Women

- Female alcoholics score lower than their male counterparts in tests that assess working memory, visuospatial skills and psychomotor speed
- Female drinkers experience accelerated damage to the liver, heart and muscles, compared with male alcoholics


Alcoholism: Clinical and Experimental Research, May 2007







Alcohol and HIV


- Positively associated with high risk sexual behaviors and injection drug use
- ~ 60% of HIV-infected patients meet diagnosis for alcohol abuse or dependence (Fiellin, 2004)
- Once infected, this population has higher vulnerability to virus progression



Alcohol and HIV

- Increased risk of TB & streptococcal pneumonia
- Increased risk of hep C & B
- May increase severity of AIDS-related dementia
- Negative correlation between alcohol use and medical adherence





Inhalants



- Cheap, easy to get
- Prevalent among youth, poor, & NAs living on reservations
- Produce sense of euphoria
- Physical consequences can include
 - Organ damage (liver/renal)
 - Cardiac arrest
 - Neurologic damage
 - Fetal abnormalities





Street Drugs



- **Stimulants:** cocaine, meth/amphetamine, MDMA (ecstasy)
- **Depressants:** GHB, benzodiazepines, barbiturates
- **Opiates:** heroin, pain meds (percodan, darvon, vicodin, oxycontin, dilaudid)






Cocaine



- **Street names:** coke, rock, crack, snow, blow, toot, flake, C, bump
- **Use:** injected, snorted, smoked
- **Effects:** euphoria, alertness, aggression, energy; increased heart rate, bp, metabolism; abdominal pain, headache, post-use depression







MDMA

(methylenedioxyamphetamine)


- **Street names:** ecstasy, E, X, XTC, Eve, Adam, lover's speed, peace
- **Use:** swallowed
- **Effects:** mild hallucinogenic, ↑ tactile sensitivity, euphoria, sensation of peace/good will; ↑ heart rate, bp; disorientation, anxiety






“Sextasy”


- Ecstasy combined with Viagra or other ED meds
 - Peace
 - Goodwill
 - A long-lasting erection
- HIV implications?





Benzodiazepines & Barbiturates

- **Street names:** reds, yellows, blues, dolls, rainbows, downers, goofballs
- **Use:** usually oral
- **Effects:** sedation, drowsiness, depression of CNS

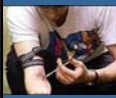




GHB (gammahydroxybutyrate)

- **Street names:** grievous bodily harm, liquid ecstasy, serenity, enliven
- **Use:** swallowed
- **Effects:** relaxation, exhilaration, sexual disinhibition





HEROIN/OPIATES

- **Street names:** H, smack, skag, China, white, horse, Charley, brown sugar
- **Use:** inject, smoke, snort; oral use for pain pills
- **Effects:** dreamy state of warmth and well-being; CNS/respiratory depression





Amphetamine


- **Street names:** speed, ice, black beauties, crosses, uppers, whiz
- **Use:** injected, swallowed, smoked, snorted
- **Effects:** exhilaration, energy, increased sexuality; increased heart rate, bp, metabolism; delirium, panic






Methamphetamine






Methamphetamine: What is it?


- Highly (& rapidly) addictive stimulant
- Powder, pill or crystallized solid
- Activates Dopamine (pleasure) and Norepinephrine (fight or flight) pathways in brain
- Half-life 10 -12 hours
- Cheaper than cocaine





Methamphetamine: What is it? (cont.)

- **Street names:** crystal, Chrissie, Tina, crank, glass, ice, meth, speed, tweak
- **Use:** injected, swallowed, smoked, snorted, inserted












Good News, Bad News


- # of labs ↓ (almost 1/2) in U.S.
 - ↓ lab explosions
 - ↓ environmental contamination
 - therefore safer for children/law enforcement
- Cartels from Mexico & China ↑
 - ↑ crystal/ice rather than speed
 - purer, more potent & addictive
 - "crash"/withdrawal ↑ difficult
 - ↑ paranoia/aggression
 - more \$\$ in meth – big biz
 - Cartels have ↑ \$ to smuggle than law enforcement has to catch/prosecute







Physiological Effects


- ↑ heart rate
- ↑ metabolism
- ↑ body temp
- Vaso-constriction
- Pupil dilation
- Nausea/vomiting
- ↓ appetite/weight loss
- Impaired speech
- Perspiration/chills
- Psychomotor agitation/retardation
- Stroke
- Heart failure
- Seizures
- Coma




Brain Functioning


- Using methamphetamine changes the way the brain functions
- This is obvious from the ways in which people behave, however, technological advances help us understand exactly how this is true






Brain Functioning


- While methamphetamine operates in many areas of the brain, a key area of impact is the reward center of the brain (nucleus acumbens)
- This area is responsible for the good feelings a person has when s/he encounters pleasing things






Psychological Effects

- Anxiety
- Obsessive/compulsive
- Euphoria
- Hyper-vigilance
- Tenseness
- Depression
- Panic
- Hallucinations
 - Audio
 - Visual
 - Tactile
- Paranoia
- Delusions
- Psychosis
- Memory loss (may be permanent)







Behavioral Effects ("Tweaking")

crystal intoxication lasts 8-12 hours, depending on dose & purity; may last several days from repeated dosing

- Teeth grinding
- Skin picking
- No hunger or thirst
- No sleep 2 -3 days
- Hallucinations
- Rapid body movement/jerking
- Hyper sexuality
- Poor medication adherence & ↓ medication efficacy
- Extreme energy
 - Clean house
 - Work many hrs
 - Study
 - Party/dance
- Aggressive behavior
 - Violence/belligerence
- Repetitive behavior
 - Skin picking (meth bugs)
 - Carpet picking







“Crashing”

Withdrawal effects include:


- Extreme exhaustion
- Sleep disorder
- Depression/suicidal ideation
- Increased generalized anxiety and/or other anxiety disorders
- Can lead to continued use (“crash avoidance”)
- Using “downers” (sleeping pills) and/or opiates to alleviate withdrawal






Physical Consequences of Chronic Use

- Severe wasting
- Sinus infection
- Tremor
- Headaches
- Skin lesions
- “Meth mouth”
- Impotence (“crystal dick”)
- Increased risk of STDs and HIV






Meth ↑ Viral Replication

- Increases production of protein that promotes the spread of HIV in infected users
 - Increase in receptor that allows the virus to invade the immune system

Medical Research News, Aug 4, 2006



“Meth Mouth”

- Combination of neglect & smoking crystal meth
- Caustic substances found in smoke are destructive to teeth and soft tissue
- Xerostomia (dry mouth) effect from drug



Formication

“Speed bumps” are generally caused by a psychological process called *formication*. This is the delusion of bugs or electric currents moving under the skin. Picking to get them out leads to sores and infections. Resulting infections can become systemic leading to sepsis.




Formication




Photos: North Metro Task Force






Psychological Consequences of Chronic Use


- Impaired mental functioning (inc. inability to perceive risks & consequences)
- Memory loss (long term or permanent)
- Depression (long term or permanent)
- Anhedonia (long term or permanent)





Perceived Benefits

- Energy
- Creativity
- Sociability/disinhibition
- ↑ sexuality/sexual pleasure
- Medicate depression/anxiety
- Weight loss
- Awake/Alert
 - homeless
 - work
 - on the road









NO SUBSTANCE is “Impossible to Treat”

Treatment Implications:


- Client-centered
- Culturally appropriate
- Risk reduction focused
- Specialized for substance of abuse
- Long term (in many cases)
- AVAILABLE!!!



Optimal Candidates for Outpatient Treatment:

- Those who do not inject MA.
- Those without chronic mental illness and those without significant psychiatric symptoms at admission
- Those who are using MA less than daily at admission
- Those under legal supervision (especially drug court)
- Older individuals (over 21)
- Those who are not disabled
- Those who have a stable living situation (without active drug users)








Special Treatment Consideration should be Made for the Following Groups of Individuals:

- Homeless, chronically mentally ill and/or individuals with high levels of psychiatric symptoms at admission
- Individuals under the age of 21
- MSM (at very high risk for HIV and hepatitis)








Women/Girls: Special Considerations

- *In general*
 - Live within & are judged within the context of relationships
 - Introduced to illicit substances by males
 - ↑ susceptible to partner influence
 - Using
 - Getting sober/seeking tx
 - Will sacrifice sobriety to keep a partner


SAMHSA Offices of Applied Studies, 2005






Women/Girls: Special Considerations

- Pregnancy considerations
- ↑ physical vulnerability to the effects of substance use (faster organ damage)
- ↑ # comorbid psych disorders
 - Anxiety
 - Depression
 - Bipolar
 - PTSD
 - Eating disorders
 - Psychosexual disorders
- ↑ levels of dysfunction in family of origin
- ↑ trauma events/life stressors
- ↑ stigma (even in tx)
- ↑ poor/unemployed
 - Especially women of color






Treatment Implications

- Do better in female-only treatment
 - Focus on relationships, pregnancy, parenting and other “women’s issues”
- May require ancillary services
 - MH care
 - Social Services collaboration
 - Education/job training/voc rehab
 - Elimination of barriers
 - Child care
 - Transportation
 - ?





Making Treatment Referrals

National source for state-by-state referrals:

<http://dasis3.samhsa.gov/>

Site has state maps and FAQs



Tips for HIV clinicians working with Methamphetamine Users

Methamphetamine (aka meth, tina, crystal, crank, tweak, glass, ice) use is associated with behaviors that may negatively impact a client's HIV treatment plan. Below are some tips – and evidence supporting them – for HIV clinicians working with active and recovering meth users.

Maintain calm and create an accepting environment

Meth users can experience delusions and paranoia.^{1,2} They may cite concerns that reflect perceived threats. A calm voice, reassurance of safety, an environment with low sensory stimulation (e.g., lowered lighting, quiet environment), and a calm and non-aggressive body posture and non-judgmental language can help an active – or abstaining – meth user from reacting negatively to the treatment environment.

Be prepared to refer to specialists: familiarize yourself with co-occurring disorders (CODs) and medical professionals in your area who treat CODs

The psychotic, depressive, and anxious symptoms many meth users experience, both when using and during withdrawal, can be difficult if not impossible to distinguish from other major mental illnesses.³ Active meth users may have an existing diagnosis of bipolar disorder, depression, or schizophrenia. A thorough medical history and mental health assessment is often needed to disentangle mental health and substance use issues. Know your local mental health providers who specialize in CODs so that you can make appropriate referrals.

Maintain support and vigilance for depression – even months after abstinence

Meth abusers who become abstinent experience a reduction in dopamine, a brain neurotransmitter, that may reach its lowest point *after several months* of abstinence.^{4,5} Dopamine levels may take a year or longer to fully return to baseline levels. Most substance abuse treatment provides immediate interventions, but appropriate mental health and other support services may be important *months after* abstinence from methamphetamine. Depression is a common feature during this period, and patients benefit from being so informed, as this delayed-onset depression may increase the risk of relapse. Developing an individual *plan* for addressing possible depression (support, nutrition, exercise, psychiatric consultation) is encouraged.

Write down instructions/explain instructions *visually*

Research has shown that auditory memory is more negatively impacted and returns more slowly than visual memory for meth users.^{6,7} This difference may have important implications for HIV clinicians, who often share much important information verbally. Write down instructions, HIV treatment plan indications, and appointment dates; *visually* review treatment plans and schedules, reviewing the medications and placing them in pillboxes with the patient, if possible.

Address issues of methamphetamine use and HIV medications

Research shows that methamphetamine use impedes adherence to antiretroviral therapy.⁸ Non-adherence can lead to increased viral replication, more rapid HIV illness progression, and medication resistance.⁹⁻¹¹ Inform patients of the significant personal and public health consequences of missing doses, and help them develop strategies for improving medication-taking practices.

Discuss issues of sex, sexuality, HIV disclosure, and stigma

Methamphetamine use is closely connected to sexual expression and sexuality.¹² Use of the drug is associated with transmission of HIV and other STIs, particularly among MSM. Frank and honest discussions of sex, sex and drug interconnectedness, sober sex, and safer sex practices are imperative, even if sexual practices discussed seem distasteful or unacceptable to the practitioner. Reductions in methamphetamine use are associated with a marked lowering of sexual risk behaviors,¹³ which has huge individual and public health benefits.

Although disclosure of HIV status to a sex partner has been shown to decrease sexual risk behaviors,¹⁴ the stigma associated with being infected can make informing a sexual partner difficult. Individuals who are using methamphetamine are less likely to disclose their HIV status to sex partners¹⁵ than non-users or abstainers. Provide adequate support and counseling around disclosure issues and reassure patients of the safeguards in place to maintain their confidentiality.

Know your community support resources

Methamphetamine use transcends geographic boundaries and is now a pandemic impacting a very diverse array of populations. Though referral resources vary from place to place, Narcotics Anonymous and other 12-step programs are often available for specific groups (MSM, women, HIV+, etc.), and are often methamphetamine-specific. List your local referral resources in the box below and update them regularly.

Write down referral information you can share with your patient!

Need more facts about methamphetamine?

<http://www.drugabuse.gov/DrugPages/Methamphetamine.html>

Need a local substance abuse treatment referral?

Phone: 1-800-662-HELP

Need a local 12-step meeting?

Narcotics Anonymous: <http://www.na.org>
(click on "NA Meeting Search" or "helplines")

Crystal Meth Anonymous: <http://www.crystalmeth.org/>
(click on "Find a Meeting")

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