

methamphetamine

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What is methamphetamine?

- a methyl derivative of amphetamine
- first synthesized in Germany in the late 1800's
- pharmacologically categorized under the phenylethylamine class of stimulant drugs
- related to both amphetamine and MDMA (3,4-Methylenedioxymethamphetamine; Ecstasy),
- colloquially known as “tina”, “crystal,” “crank,” “chalk,” “chandelier,” “ice,” “quartz,” or “redneck cocaine”

What is methamphetamine?

- typically appears as a translucent crystal that is similar in appearance to rock candy or salt
- a Schedule II drug under federal regulations due to the high potential for abuse and likelihood of subsequent dependence
- medicinally, has been prescribed to treat obesity, narcolepsy, and attention deficit disorder

What are the physiological effects of methamphetamine use?

- methamphetamine directly affects the functioning of the autonomic nervous system (ANS) and central nervous system (CNS)
- increased heart rate, elevated blood pressure, vasoconstriction, urinary retention, dry mouth, dilated pupils, and perspiration or chills
- CNS stimulation due to the drug has been shown to lead to increased irritability, hypothermia, insomnia, aggressiveness, paranoia, and anxiety

What are the damaging effects of methamphetamine use?

- abuse of methamphetamine may result in a variety of medical conditions related to damage to the CNS and cardiovascular system
- strokes, heart attacks, hemorrhages and irreversible damage to blood vessels are among the biological effects of methamphetamine on the cardiovascular system
- high doses of methamphetamine also have been shown to cause irreversible damage to neural cell-endings in rats, pigs, cats, and nonhuman primates

How does methamphetamine use affect the brain?

- massive release of dopamine similar to the effects of cocaine
- may cause long lasting injury to the brain
- may lead to psychiatric conditions such as paranoid psychosis which may last for months
- users often demonstrate early signs of Parkinson's Disease
- Users demonstrate deficits in learning, memory, attention, and movement
- It is unclear if lost brain functions can be totally recovered

What are the psychological effects of methamphetamine use?

- hyper-sexuality, euphoria, a lowering of sexual inhibitions, increased self-esteem, and increased confidence
- periods of methamphetamine use have been related to depression after the CNS stimulation has ceased
- long-term use of methamphetamine has been linked to an induced psychosis characterized by paranoid ideation, as well as delusions of persecution, social withdrawal, flattening of affect, and auditory, tactile, olfactory, visual hallucinations, as well as suicidal ideation

What are the psycho-sexual effects of methamphetamine use?

- aphrodisiac qualities
- affects the subjective pleasure of sexual experience, independent of any effect on libido or sexual drive
- use of the drug has been linked to the increased likelihood of impulsive sexual behavior
- use may lead to peripheral physiological effects, including the inability to obtain a full or even partial penile erection (“crystal dick”)

How widely is methamphetamine abused?

- prevalence assessments during the early 1990's determined that use of the drug was largely a regional phenomenon confined to the western portion of the United States
- recent evidence suggests the infiltration of the drug on the east coast
- in 1996 2.3% of the US population (5 million people) had reported methamphetamine use
- among gay men methamphetamine prevalence rates have ranged between 5% and 25% of

Methamphetamine Use among Drug-Using Gay/Bisexual Men*

- Preliminary data from Project BUMPS:
 - Of 641 men screened, 53.2% (n = 341) reported the use of methamphetamine in the year prior to screening
 - Of the 341 who reported use of methamphetamine, use was reported on 29.3 days over the course of the year
 - Of the 641 men, 49.6% identified White, 17.5% African American, 23.6% Latino, 2.1% API, 4.7% mixed race, 17.3% other

What is the link between methamphetamine and risky sex?

- reduces sexual inhibitions and thus is likely to increase risk taking
- in studies of gay men, use has been reported to multiple sexual partnerings per usage episode
- use of the drug has been associated with higher frequency of attendance at bars, bath houses, clubs, and dance or “circuit” parties

Does data support the relationship of methamphetamine and risky sex?

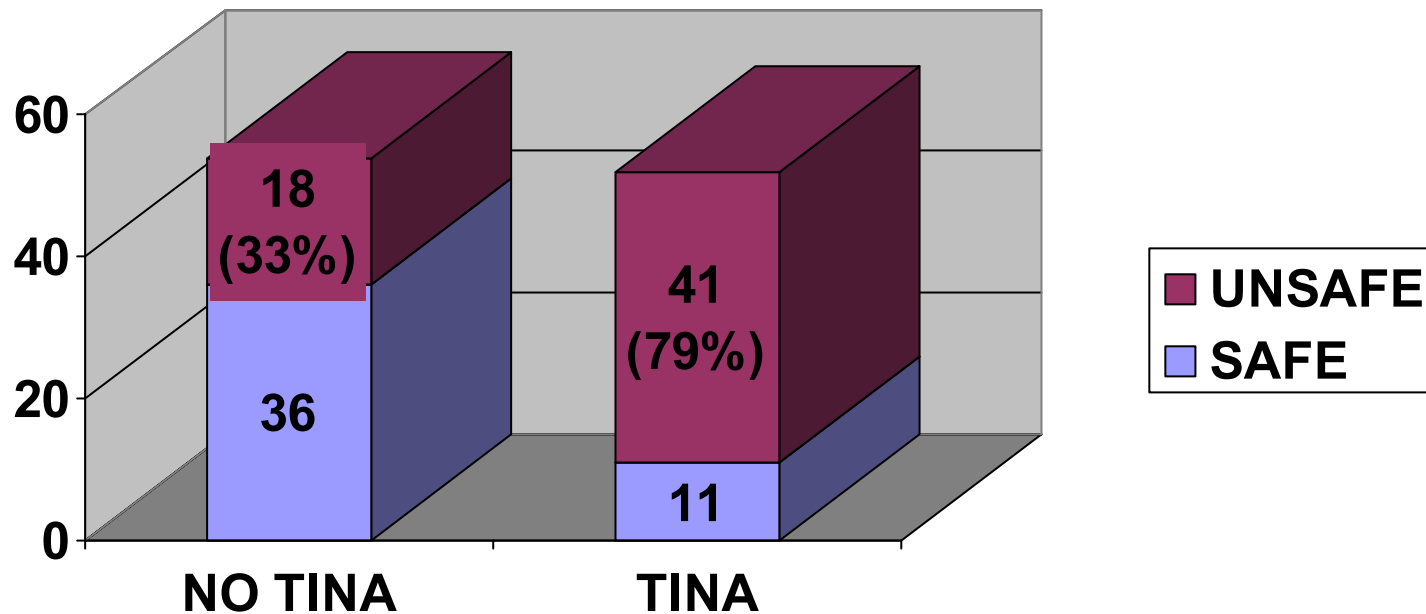
- of 26 MSM in Los Angeles who had seroconverted, 58% indicated use of methamphetamine during the period in which HIV infection occurred (Senterfiti et al.1998)
- the NIDA-funded Three Community Study of Methamphetamine Use found that 76% of the sample reported increased sexual activity due to the use of the substance, 72% of gays and 57% of straights reported multiple partnerings (Morgan et al.,1994)

Does data support the relationship of methamphetamine and risky sex?

- among 63 gay/bisexual men in Los Angeles, 79% reported inconsistent condom for receptive anal intercourse when using of methamphetamine (Reback, 1997)
- In a sample of 49 meth-using gay/bisexual men in NYC, 12.6 instances of sex under the influence were reported for a 3-month period, and the majority (61%) reported use of methamphetamine every time they had sex (Halkitis & Parsons, in press)

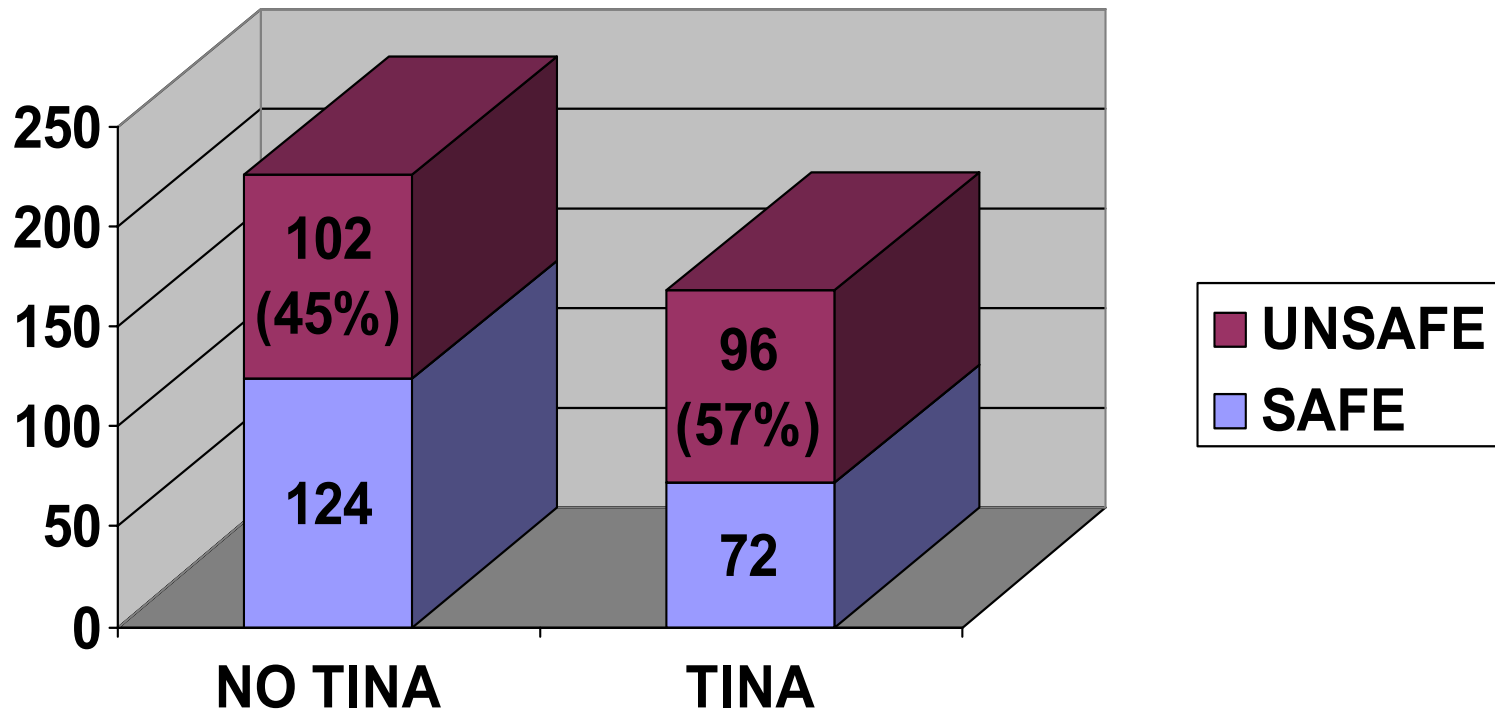
Project TINA* (Halkitis & Parsons, in press)

**NUMBER OF ANAL RECEPTIVE ACTS
(HIV- PARTICIPANT WITH HIV+ PARTNER)**

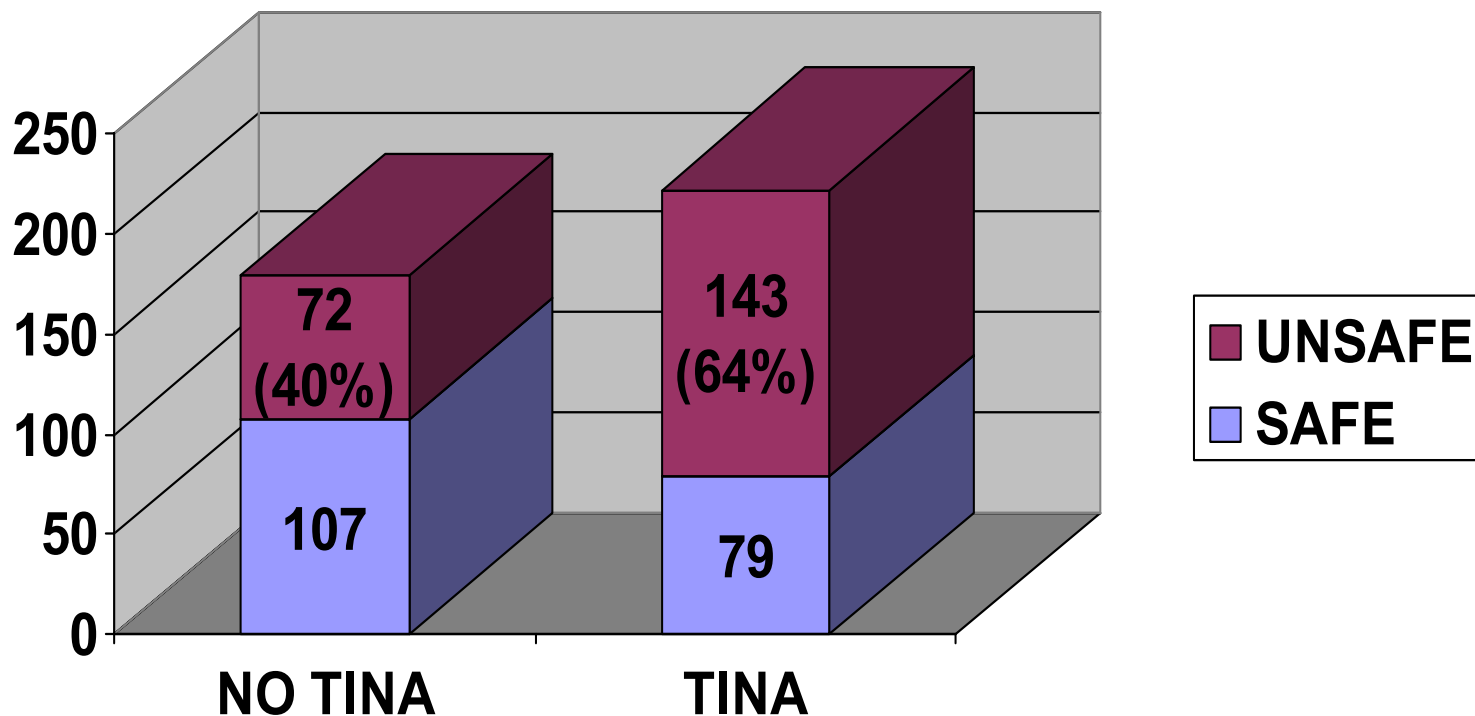


* Funded by the American Psychological Foundation

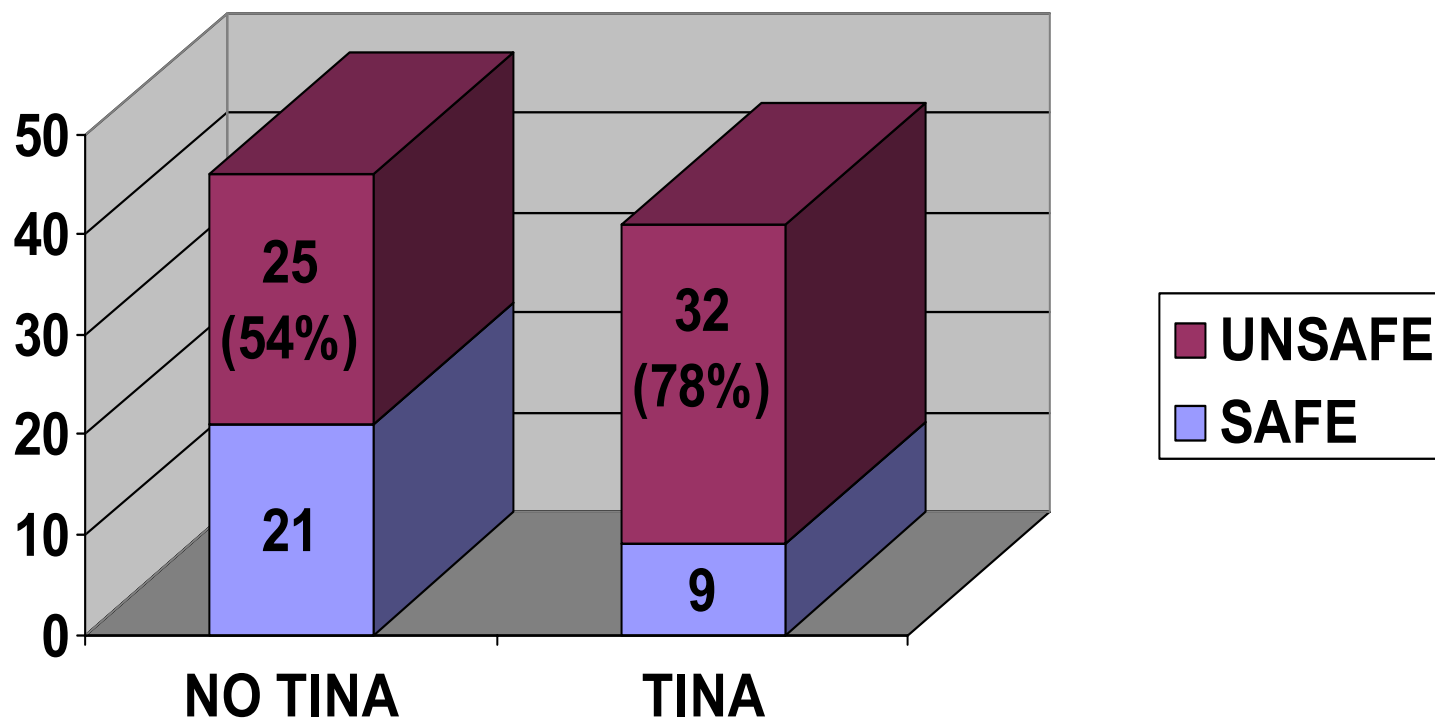
NUMBER OF ANAL INSERTIVE ACTS (HIV+ PARTICIPANT WITH HIV- PARTNER)



NUMBER OF ANAL RECEPTIVE ACTS (HIV+ PARTICIPANT WITH HIV- PARTNER)



NUMBER OF ANAL INSERTIVE ACTS (HIV- PARTICIPANT WITH HIV+ PARTNER)



Ketamine	88.5%	(23/26)
Viagra	88.0%	(22/25)
Inhalant Nitrates	81.6%	(31/38)
Marijuana	76.3%	(29/38)
Ecstasy	72.7%	(24/33)
GHB	70.0%	(7/10)
Cocaine	67.6%	(25/37)
Barbiturates	66.7%	(12/18)
Hallucinogens	44.4%	(4/9)
Crack	40.0%	(8/20)
Heroin	33.3%	(1/3)

Considerations for Treatment & Prevention

- Prevention to avoid an “epidemic”
- Harm reduction or abstinence?
- The role of self-medication
- The link to sex; the issue of dual treatment
- Poly-drug use
- The impact of the community and peers