Drug use in South Africa – Fact Sheet

Heroin use in South Africa
Fact sheet by:
Alcohol & Drug Abuse Research Group
Medical Research Council

What is heroin?

• Heroin (diacetylmorphine) is a semi-synthetic opiate which acts as a central nervous system (CNS) depressant and an analgesic.
• It is produced from morphine, which is extracted from the Asian poppy (Papaver somniferum)
• Heroin has the appearance of a white or brownish powder.

Modes of administration

• Historically, the main mode of heroin use has been through injection.
• Improvements in the purity of heroin and the fear of HIV have resulted in more new users snorting or smoking heroin.
• There is little culture of injection use in SA, with heroin users preferring to smoke heroin with dagga or inhale the vapours (“chasing the dragon”).

Short-term effects

• Heroin acts on the opioid receptor sites in the brain, resulting in feelings of intense pleasure and a dulling of pain. This rush includes a flushing of the skin, a dry mouth, heaviness in the limbs, and may involve nausea, vomiting, and severe itching.
• These initial effects are accompanied by feelings of relaxation and drowsiness, dulling of mental functions, and slowed breathing and cardiac functions.
• The rush occurs within 7 to 8 seconds of intravenous heroin use and within a couple of minutes of snorting or smoking heroin.

Long-term effects

• With chronic use, psychological and physical addiction occurs and tolerance and craving for the effects of heroin develop. If heroin is not used regularly, the addicted user will experience withdrawal symptoms, for example hypothermia, stomach cramps, insomnia, diarrhea, and vomiting.
• In large doses, heroin toxicity (overdose) may occur due to the depressant action of heroin on the CNS, which may lead to coma and potentially, death. The risk of overdosing increases with the concurrent use of other CNS depressants (such as alcohol), greater heroin dependence, and a longer history of heroin consumption.
• Injection drug users risk developing bacterial infections of the blood vessels, heart valves, and heart lining: collapsed veins; skin abscesses, wound botulism, and tetanus, from the use of unsterile or blunt needles.
• When used intravenously, contaminants in heroin may clog the blood vessels of vital organs, resulting in infection, loss of cell patches, or immune reactions (eg arthritis).
• Respiratory problems (eg pneumonia and tuberculosis).
• Reduction of body's ability to resist and fight infection.
• Use during pregnancy may place a child at risk for developmental difficulties. There is an increased risk of miscarriage, low birth weight, and foetal abnormalities.
• Indirect and direct sharing of injection equipment places the user at high risk for contracting HIV and other blood-borne viruses such as Hepatitis B, C, and G.
There is a link between heroin use and trauma unit visits in the USA, with heroin being the primary drug involved in drug-related emergency room visits and mortality.

There is a link between heroin use and criminal activity in the USA and Europe, with heroin use being linked to property crime and crimes of violence. These crimes are often committed to support the heroin addiction.

Adverse psychological consequences: impaired concentration, attention, and memory; impaired psychological development (especially for adolescents); together with impaired social and occupational functioning.

**Cocaine use in South Africa**

*Fact sheet prepared by:
Alcohol & Drug Abuse Research Group
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**What is cocaine?**

- Cocaine is a central nervous stimulant extracted from the leaves of the coca plant (Erythroxylon coca).
- There are two chemical forms of cocaine: cocaine hydrochloride (HCL) which has the appearance of a white, crystalline powder; and "freebase" cocaine. Crack is a specific form of freebase cocaine which is processed from cocaine HCL by the addition of an alkaline substance (e.g. bicarbonate of soda), to form smokeable rocks.

**Modes of administration**

- Cocaine HCL is usually administered intranasally (sniffing/snorting), or less frequently, intravenously, through injection.
- Crack cocaine is mainly ingested through smoking/inhalation.

**Short-term effects**

- Cocaine is a stimulant which causes the pulse rate to increase and blood pressure to rise. It leads to changes in neurotransmitter functioning, resulting in feelings of euphoria, self-confidence, heightened awareness, and alertness. This "rush" may result in a loss of fatigue, a loss of appetite, and heightened sexual arousal.
- In large doses, cocaine may lead to paranoia, violent and erratic behaviour, dizziness, and dilated pupils.
- The rush occurs within 5 to 10 minutes of snorting cocaine powder, and tapers off within 15 minutes to an hour (depending on the purity). If crack is smoked, the rush begins within about 10 seconds.

**Long-term effects**

The following are among long-term effects that have been reported from cocaine use:

- Crack cocaine and cocaine powder are psychologically and physically addictive, and when the "high" wears off, the addicted user is left craving more stimulation.
- For the addicted user of crack cocaine or cocaine powder, the "high" is short-lived and is sometimes followed by feelings of irritability, depression, paranoia, and anxiety. These are symptoms of withdrawal. Withdrawal symptoms may also include nausea, vomiting, insomnia, shaking fits, and muscle weakness.
- Increased risk of strokes, heart attacks, and seizures.
- Gastrointestinal complaints (diarrhoea).
- Respiratory problems from smoking crack cocaine: chronic bronchitis, "crack lung" syndrome, and respiratory failure.
- Perforated nasal septum from snorting cocaine powder.
• Reduction of body's ability to resist and fight infection.
• Adverse psychological consequences: cocaine psychosis, depression, anxiety, and insomnia, impaired memory and concentration, impaired psychological development (especially for adolescents), and impaired social and occupational functioning.
• Use during pregnancy may place child at risk for later developmental difficulties, such as poor attention and learning. There may also be an increased risk of miscarriages, premature birth, and fetal abnormalities.
• Crack cocaine may have a pro-sexual effect and lead to risky sexual behaviour. Prolonged crack cocaine consumption has been associated with an increased risk for contracting an STD or HIV.
• There has been a link between violent crime and crack consumption in the USA with crime often being committed to support the crack cocaine addiction.

Ecstasy use in South Africa

Prepared by:
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What is Ecstasy?

• The principal active ingredient in Ecstasy is MDMA (3,4 methylenedioxymethamphetamine).
• MDMA has a chemical structure similar to the central nervous system (CNS) stimulant methamphetamine and the hallucinogen mescaline and can produce both stimulant and psychedelic effects.
• The psychedelic effects of MDMA are milder than those produced by hallucinogens such as LSD.
• MDMA is most often found in tablet form although it is sometimes found in powder and capsule form.

Modes of administration

• MDMA is usually administered orally.
• Less frequently, MDMA is administered intranasally (snorted), inhaled (smoked), or inserted anally.
• MDMA is rarely used intravenously.

Short-term effects

• MDMA stimulates the release of the neurotransmitters serotonin and dopamine, resulting in a "high" that can last between four to six hours.
• An MDMA "high" is characterised by CNS stimulant effects (such as an enhanced sense of pleasure, increased self-confidence, and increased energy) and psychedelic effects (that include feelings of peacefulness, acceptance, and empathy).
• This "high" occurs 30 to 90 minutes after ingestion.
• The stimulant effects of MDMA lead to transient side-effects that include an increased heart rate, raised blood pressure, nausea, dry mouth, decreased appetite, jaw clenching, grinding of teeth, muscle aches, gait disturbance, and insomnia.
• Transient hallucinatory side-effects may include perceptual and visual distortions, alterations in consciousness with sensual and emotional overtones, and altered speech.
• Large doses of MDMA can lead to hyperthermia, dehydration, urinary retention, seizures, strokes, heart attacks, cardiac arrhythmias, paranoia, and hallucinations.
• Although rare, cases of MDMA toxicity leading to death have been reported. MDMA toxicity is generally caused by changes in thermo-regulatory processes characterised by hyperthermia, seizures, acute renal and hepatic failure, and disseminated
intravascular coagulation disorder. Less frequently, death may occur due to hypnoatramia (a complication of heat exhaustion). In such cases, depleted sodium levels may lead to the formation of brain oedemas that could damage the brain stem and result in loss of consciousness and death.

**Long-term effects**

- The long-term effects of MDMA are difficult to identify as Ecstasy tablets are often adulterated with a range of psychoactive substances.
- Although physical dependence on MDMA does not seem to develop, physical dependence on the other substances contained in Ecstasy tablets (e.g. amphetamines) may occur.
- With chronic use, tolerance for the effects of MDMA develop and psychological dependence on MDMA may develop (characterised by deterioration in social and occupational functioning, craving and tolerance).
- Adverse psychological consequences of regular MDMA use include major depression, anxiety and panic disorders, paranoid ideation, increased impulsiveness, and sleep disorders. MDMA use may precipitate the onset of psychosis in predisposed individuals.
- MDMA has a neurotoxic effect on the serotonin neurons which are thought to play a role in regulating mood, aggression, sleep, appetite, and cognition.
- Regular use of MDMA may lead to persistent memory deficits, especially in working memory.

**Global use of ecstasy**

- Worldwide, an estimated 4.5 million people use Ecstasy. In some countries Ecstasy is the second most widely abused illicit substance after cannabis (e.g. the Netherlands).
- Although Ecstasy markets are still concentrated in Western Europe, North America and Australia, they are expanding to Asia and Africa. This is in keeping with the globalisation of youth culture.