FACTS about DRUGS: MDMA

May 2013

We are the Drug Policy Alliance.

What Is MDMA?

MDMA (3,4-methylenedioxymethamphetamine), commonly referred to as ecstasy, is sold either as a pressed pill taken orally, or as a powder that is snorted or swallowed. MDMA's effects resemble those of both stimulants and psychedelics.[1] It is reported to decrease fear and increase trust and empathy.[2] Street names include ecstasy; E; X; Rolls; Adam; Molly.[3]

People who use ecstasy describe themselves as feeling open, accepting, unafraid and connected to people around them. Typically used in social settings, especially among the rave and dance club cultures, ecstasy's effects are stimulated by visuals, sounds, smells and touch. A typical dose of 100 to 125 mg lasts four to six hours. Some people experience nausea at the outset, but after about forty-five minutes, most people report feelings of relaxation and clarity. Ecstasy causes dilation of the pupils and, often, sensitivity to light. Jaw-clenching and tooth-grinding are also observable effects. People using ecstasy experience heightened sensations and want to intensify these feelings by dancing, talking and touching.[4]

Before MDMA became popular at clubs and raves, it was utilized for therapeutic purposes by psychologists and other mental health practitioners in the 1970s and early 1980s. After MDMA was placed in Schedule I in 1985, a lawsuit challenging this designation won a favorable ruling from the DEA Administrative Law Judge, who concluded that MDMA had "currently accepted medical use" and "acceptable safety", yet it remains in Schedule I today. In 2002, the RAVE Act ("Reducing Americans' Vulnerability to Ecstasy") increased penalties and mandatory minimum sentences.

Prevalence of MDMA Use

According to the *National Survey on Drug Use and Health*, only 0.2 percent of people aged 12 and older reported using MDMA in the past year. Among young people aged 12-17, 0.4 percent reported using it in the past month, and 1.7 percent in the past year.[5]

Less than one percent (0.8) of students in 8th, 10th and 12th grades combined reported using ecstasy in the past month, according to the annual *Monitoring the Future* survey[6], while 35.9 percent of 12th graders reported that it is "fairly easy" or "very easy" to obtain.[8]

"The ecstasy tablet that most recreational users buy and ingest is not necessarily MDMA. Indeed, in many cases, it clearly is not."[9]
– British Journal of Pharmacology, 2012

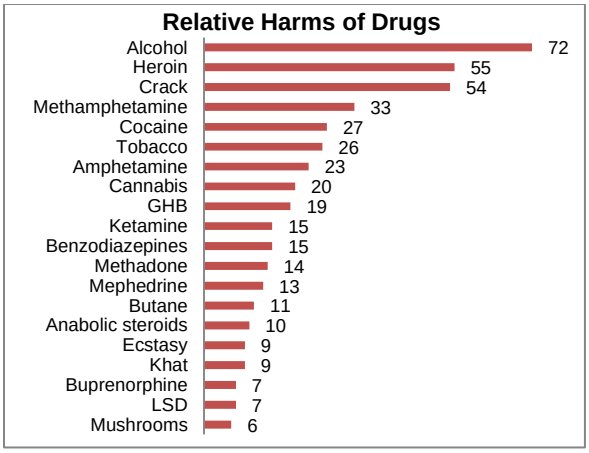
Reducing Potential Harms of MDMA Misuse

Because ecstasy is illegal – and, therefore, unregulated – it is impossible know what a "dose" contains. In fact, many ecstasy pills are not MDMA.[10] Besides MDMA, ecstasy pills may contain varying levels of MDA (methylene-dioxyamphetamine), other stimulants such as caffeine, or anesthetics such as Ketamine or dextromethorphan (DXM)[11] – which can significantly amplify potential harms.[12] Testing kits are available to detect if pills contain MDMA or another substance, but cannot determine potency or purity.[13]

Most of MDMA's potential harms derive from the setting of its use.[14] Although few adverse effects have been reported, hyperthermia – a dangerously high increase in body temperature – is the most common problem related to ecstasy. Hyperthermic reactions result from physical exertion (such as dancing) in an overheated environment without replenishing fluids,[15] which is why users take breaks and consume fluids like water or Gatorade.[16] Overdoses are extremely rare

and are also usually linked to dehydration or mixing drugs, rather than as a direct result of using ecstasy.[17]

Some people report feeling depressed for up to 48 hours after using. With prolonged use, people report tiredness, jaw aches and diminished euphoria.[18]



Source: Nutt, David J, et al., "Drug Harms in the UK: A Multicriteria Decision Analysis." The Lancet 376, no. 9752 (2010): 1558-65.

Long-term effects of ecstasy are still under investigation. Some researchers suggest that slight brain changes may result from heavy use, but the evidence is far from conclusive.[19] Ecstasy may affect serotonin and dopamine levels, but it is unclear what impact these changes cause in the long-term. [20] Ecstasy can cause arrhythmia and those experiencing hypertension or heart disease should avoid using it.[21] MDMA use alone does not cause cognitive differences between people who use it and those who do not.[22] Evidence also shows that "[a]dverse effects decrease with… abstinence."[23] Several studies have found that substances like MDMA have far lower potential to cause harm than legal drugs like alcohol.[24]

Medical and Therapeutic Applications

MDMA-assisted psychotherapy combines traditional psychotherapy with the administration of MDMA.[25] Because of MDMA's unique effect of diminishing fear and enhancing interpersonal trust, it is an ideal adjunct medicine to psychotherapy, and it has been administered to over 500 human subjects in clinical trials without a single serious adverse event.[26] A seminal study published in 2010 found that PTSD patients who received MDMA-assisted psychotherapy reported overwhelming reductions in the severity of their symptoms[27] – reductions which were sustained, on average, for more than three years.[28] Such findings have been replicated by other studies,[29] and additional research is underway in the U.S., Canada, Israel, U.K. and Australia.[30] Yet the drug war continues to obstruct this vital research.[31]

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[8] Ibid, "Table 17."
[9] AR Green et al., "Ecstasy Cannot Be Assumed to Be 3, 4-Methylenedioxyamphetamine (Mdma)," *British J. Pharmacology* 166, no. 5 (2012).
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[12] Green et al., "Ecstasy Cannot Be Assumed to Be 3, 4-Methylenedioxyamphetamine (Mdma)."
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