

Methamphetamine abuse

[Health & Medicine](#), [Addiction](#)



Methamphetamine abuse is a major problem in the United States, as it increases spreads from Western parts of the country to other parts. With its root in the Hawaii, it has gradually spread to the Southern and Mid-west part of the states; and is increasingly associated with unsafe and frivolous behaviors that predispose to transmission of infectious diseases like hepatitis B and C, and even the dreaded virus, HIV. Of course, the later condition makes it more worrisome for the government, healthcare workers and Drug agency. It is associated with brain damage, serious cardiovascular disorder, behavioral changes, psychotic symptoms, depression, and deleterious effects in pregnant women.

This is a situation where an individual consumes methamphetamine in quantities that are above a therapeutic abuse, without prescription, and for unsolicited personal gains. It presents with short term gains such as euphoria accompanied by rush, high level of activity and increased attention.

Methamphetamine is used as therapeutic drug in attention deficit syndrome, and is used to treat narcolepsy, a sleep disorder.

Methamphetamine is a Schedule II stimulant. This implies that it had a high addiction tendency and increased potential for abuse. Although it is only available through a prescription that can not be refilled, it is abused by many within the country. Most of these are man aged 18-25white.

Etiology

The cause of this abuse can not be divorced fro the use of drug for personal or group work. In most cases of abuses [if not all], methamphetamine is taken as a neuroactive stimulant to produce short term effects in the

individual. Such effects include: euphoria, rush, increase rate of breathing, Increased attention and concentration, Increased activity and wakefulness, reduced appetite and decreased fatigue. It also increases libido. These short term advantages are associated with a good feeling in the user.

Besides, it does not last long enough, and as a compensatory mechanism, methamphetamine drug users and chronic abuser engage in continual use of drug, increased consumption frequency. Sometimes, they take high dose of the drug to increase the effect of the drug on their behavior such as improved sexual performance, better attention and increased tendency to work better and more effectively.

Methamphetamine comes in a variety of forms. It can be smoked, snorted, injected, or orally ingested. The method that is adopted by a region depends on the cultural behaviour with respect to other abused drugs and the pattern of choice has changed over time. Of these methods, smoking is commonest because of its faster rate of absorption into the brain to produce the desired effects.

One other factor that contributes to Methamphetamine abuse is that it is readily available at local clandestine laboratories. Although it is manufactured by foreign specialized laboratories, the ingredients for its manufacture are readily available over the counter at affordable prices; as a result, it is produced for local use. This contributes greatly to its widespread use.

Pathogenesis

Methamphetamine is similar to amphetamine but they do not share essentially the same properties of site of action. It is particularly similar to dopamine structurally. Its primary site of action is the brain. Although it shares certain similar behavioral and physiological effects with cocaine, it is different from it in its mechanism of action. It has a high retention rate in the body. This implies that it is not readily eliminated from the system via excretion or detoxification in the liver. Since its primary site of action is the brain, its absorption and long stay in there increase its stimulant action.

Central to this action is the fact it increases the levels of the brain chemical dopamine. Dopamine is a neurotransmitter that is involved in emotional motivation, pleasure, and motor function. Methamphetamine blocks dopamine re-uptake, while increasing the release of dopamine, leading to much higher concentrations in the synapse, which can be toxic to nerve terminals. This has an implication in chronic abusers, their increased frequency of consumption or ingestion of higher concentration potentiates these effects and makes dopamine readily available for its deleterious effects on neurons.

Clinical Features

The symptoms of methamphetamine abuse and signs elicited on examination arise from the euphoria of short term effect, and the toxic effects of dopamine by virtue of long term use. The short term effects have been mentioned earlier. The long term effects are usually negative: one of such is addiction. Association with chronic consumption of the methamphetamine is

increased tolerance for the substance. This creates a preparatory ground for addiction.

Other symptoms seen in chronic abusers of methamphetamine include anxiety, confusion, insomnia, mood disturbances, and violent behavior. They also can display a number of psychotic features, including paranoia, visual and auditory hallucinations, and delusions. Memory Loss, Aggressive or violent behavior, Mood disturbances, severe dental problems, Weight loss also form part of features seen in this category of people.

Treatment

The alarming rate of spread of methamphetamine indulgence across the nations is worrisome for health care providers. It is equally a headache for every member of the community interested in safe sexual behavior, peace and progress; those averse towards violence and communal clashes which have been associated with methamphetamine abuse. In the midst of this sad picture emerges the good news that methamphetamine abuse can both be prevented and more interestingly treated.

Since the disorder includes brain damage which presents in functional and behavioral disturbances, the treatment options available are targeted at these. Treatment of methamphetamine intoxication is primarily supportive. Treatment of methamphetamine abuse is behavioral; cognitive behavior therapy, contingency management, and the Matrix Model have proven effective. Treatments by use of drugs are under investigation.

REFERENCES

- Winslow BT, Voorhees KI, Pehl KA., Methamphetamine abuse. Swedish Medical Center Family Medicine Residency, Littleton, Colorado 80121, USA.
- <http://www.drugabuse.gov/about/organization/cewg/pubs.html>.
- <http://www.nida.nih.gov/ResearchReports/Methamph>
- Injury associated with methamphetamine use: A review of the literature Hawaii Med J. 1997; 56: 34–6, 44. [PubMed]; Murray JB. Psychophysiological aspects of amphetamine-methamphetamine abuse. J Psychol. 1998; 132: 227–237. ...
www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1448174
- Psychophysiological aspects of amphetamine-methamphetamine abuse. From: The Journal of Psychology | Date: 3/1/1998 | Author: Murray, John B. ...
www.encyclopedia.com/doc/1G1-20565391.html
- Thomas Ernst, PhD, Linda Chang, MD, Maria Leonido-Yee, MD and Oliver Speck, PhD Evidence for long-term neurotoxicity associated with methamphetamine abuse <http://www.neurology.org/cgi/content/abstract/54/6/1344>
- Methamphetamine Abuse During Pregnancy: Outcome and Fetal Effects BERTIS B. LITTLE, MA, PhD, LAURA M. SNELL, MPH and LARRY C. GILSTRAP, III, MD <http://acogjnl.highwire.org/cgi/content/abstract/72/4/541>