

Drug addiction

Published 20 December 2005.

Drug addiction refers to an addiction to illegal substances that affect the human nervous system and psyche. The addictive qualities of different drugs vary considerably. The most commonly used drug, cannabis, is considered mildly addictive. Out of those who have tried it, approximately 10% are estimated to become addicted to it.

Those who try amphetamine, cocaine and heroin run a much higher risk of addiction. The addictive potential of heroin is considered the strongest. However, the susceptibility of each individual to become addicted to heroin varies considerably. For those who develop an addiction easily, repeated usage over a period of a few weeks or months may lead to increased tolerance, craving for the substance and difficulties in putting an end to its use.

The symptoms become stronger relatively quickly as the drug use continues. Over months or a few years, the usage will lead to a compulsive, daily use of the substance. When the addiction becomes chronic, the role of the experienced pleasure diminishes. It is replaced by a necessity to get the substance in order to be able to function normally. This stage of addiction is called physical addiction. At this point heroin can be replaced with another substance with similar effects, like morphine, codeine, extract made from opium poppy pods ("poppy tea"), or synthetic, pharmaceutical opiates (Abalgin, Subutex, Temgesic, methadone, Tramal). From the point of view of the addict, the situation is so difficult that they will do anything to get their hands on either what they primarily crave (heroin) or some substitute substance.

The compulsive need and the resulting compulsive behaviour is, according to current understanding, caused by complex functional and structural, opiate-induced changes in the pleasure centre of the brain. These changes lead to a decrease in the amount of the brain's natural opioid, endorphin, and cause the typical symptoms. According to what is now known, the brain may in some cases normalise very slowly, and in most extreme cases the changes may be permanent. This explains why heroin addicts have a tendency to relapse even after a long period of abstinence, and why results of short withdrawal treatments are so poor.

Pharmaceutical substitute treatments for endorphin deficiency have proved to be an effective form of treatment and, in most cases, a prerequisite for the psycho-social rehabilitation of severely addicted opiate users. The most commonly used substance in pharmaceutical substitute treatments is methadone. More recent options include opioid antagonist naltrexone, long-acting methadone (LAAM) and buprenorphine. The pharmaceutical treatment may be short-term (a few weeks to a few months) or long-term (some or several years), depending on the client's situation. In Finland, there is relatively little experience with pharmaceutical treatment of opiate addicts. With the exception of naltrexone treatments, the Ministry of Social Affairs and Health has decreed that pharmaceutical treatments are to be provided only as per the rules of psychiatric clinics at University hospitals and the unit of addiction psychiatry of the City of Helsinki Health Department. The reason for the decision is said to be the risk of abuse of the pharmaceuticals used.

With amphetamine and cocaine addiction, the physical component is not as strong as with heroin addiction. The craving for the substance is, however, almost as strong and the risk of relapsing even after a successful withdrawal treatment is high. So far there is no effective pharmaceutical treatment for amphetamine and cocaine addiction. Treatments are, however, usually relatively successful when the acute, often pharmaceutically aided withdrawal treatment is followed by a non-pharmaceutical community treatment programme.

Hallucinogenic substances, like mushrooms, LSD, nutmeg or phencyclidine, are not as clearly addictive as opiates or stimulants, but they too may lead to a psychological need to use them. With these substances, the risk of addiction is smaller than the risk of being out of control and in a state of confusion - in immediate mortal danger or a threat to one's environment.

Antti Holopainen

Chief physician

Järvenpää Addiction Hospital

[link](#)

Source URL: <https://paihdelinkki.fi/en/info-bank/articles/drugs-and-other-intoxicants/drug-addiction>