



"New" Designer Drugs: What They Are and What We Call Them

Designer drugs are drugs that are created to avoid the provisions of existing drug laws, usually by preparing analogs or modifying the chemical structure of existing drugs to varying degrees. Many of the designer drugs being sold on the streets are perfectly legal. However, by changing the molecular structure of an illegal drug, chemists create variants that have not yet been outlawed. Designer drugs may consist of entirely different chemical structures that produce similar subjective effects to illegal recreational drugs. Currently, DEA experts are analyzing as many as 50 new synthetic drugs. In recent history most designer drugs have been cannabinoids, stimulants and opiates.

Designer Cannabinoids

Designer cannabinoids (i.e., synthetic marijuana) is a term used to describe a diverse family of herbal mixtures marketed under many street names, including K2, Spice, fake marijuana, Yucatan Fire, Skunk, Moon Rocks, and others (NIDA, December 2011). In December 2008, two compounds of synthetic marijuana were found to be active components of "herbal smoking blends" that were sold as legal alternatives to marijuana. These blends consist of a collection of herbal products labeled as incense or potpourri to which one or more marijuana-like chemicals have been added. These chemicals mimic the effects of cannabis and are potentially more powerful than the chemicals made by the marijuana plant. Like marijuana, designer cannabinoids are inhaled. Since 2008 a growing range of synthetic cannabinoid agonists have continued to appear.

Designer Stimulants

Two popular designer stimulant drugs, mephedrone (which are marked under the street names Meow Meow, MCAT, meph or drone) and methylone, entered the drug scene in the 2000s with innocuous names like "bath salts" or "plant food." It is reportedly similar to the cathinone compounds found in the khat plant of eastern Africa. Mephedrone comes in the form of tablets or a powder, which users can swallow, snort or inject, producing similar effects to MDMA, amphetamines, and cocaine. However, websites selling mephedrone covertly refer to it as "bath salts" or "plant food" and urge the reader to buy mephedrone so they can have a beautiful garden. Other designer stimulants are as geranamine, mephedrone, MDPV and desoxypradol.

Variations of Fentanyl

Variations of fentanyl are common designer opiates on the streets. About one in five addicts use a synthetic heroin, which can be stronger than heroin. Synthetic heroin has been linked to several overdose deaths in recent years. Like many synthetic drugs, fentanyl variations cannot be detected by standard blood or urine tests, so treatment and law enforcement have little way of determining drug use.

The National Institute on Drug Abuse (NIDA) is currently seeking new ways of detecting "designer drug" use by promoting the development of biofluid drug screens based on pharmacological activity rather than chemical structure. Because designer drugs are constantly evolving, they are often missed in drug screens; however NIDA hopes to promote Small Business Innovation Research and Technology Transfer grants to develop drug screenings that can test for designer drugs.