Designer Drugs: A Lethal High

National Drug and Alcohol Facts Week takes place from January 23-29, 2017

Designer drugs are substances designed to mimic the effects of an existing drug. Their chemical structure is altered, which prevents them from appearing in standard drug screening tests. The idea behind these drugs is to create a new substance that is not classified as illegal, allowing dealers to sell it without breaking the law. As law enforcement officials get to know these drugs, they are classified as illegal. Dealers then alter the structure again, repeating the cycle. In the United States, around 200-300 new designer drugs were identified between 2009-2014. These drugs are often distributed in night clubs, parties, and raves. Aside from their many detrimental effects on the body, these drugs have an added danger and lethality. Many of these drugs are produced in home laboratories, using dangerous chemicals such as detergents and poisons.

With these drugs, people obtain the effects of illegal drugs using and combining legal substances. These drugs can be divided into two broad categories: central nervous system depressants and central nervous system stimulants.

Central nervous system depressants may cause sleepiness, decreased breathing rate, decreased heart rate, loss of consciousness, coma or even death. Examples include:

- **Gamma-Hydroxybutyric acid (GHB)**- GHB is also known as “G” or “liquid ecstasy”. This drug is commonly used as a date rape drug, since it is odorless and completely dissolves in drinks. Its initial effects include euphoria, disinhibition, feelings of social closeness, and
increased libido. It can subsequently cause hallucinations, sedation, loss of consciousness, amnesia, and coma. When it is combined with alcohol, respiratory depression and death may occur.

- **Ketamine**- Ketamine is also known as “special K”. Ketamine was originally an anesthetic and even though it is not commonly used as such, it has some medical uses. However, it is commonly used recreationally, as it is a strong hallucinogen. Other effects include high blood pressure, nausea, vomiting, depression, amnesia, and potentially fatal respiratory problems.

- **Rohypnol (flunitrazepam)**- This drug is also known as “roofies”. While illegal in the United States and Puerto Rico, it is legal in some countries (used to treat severe insomnia). This drug is commonly used as a date rape drug, as it causes sedation. It can also cause anterograde amnesia, that is people cannot remember events they experienced while under influence of the drug.

Central nervous system stimulants may cause feelings of alertness, increased energy and feelings of well-being, loss of appetite, decreased need for sleep, and hallucinations. Examples include:

- **Methamphetamines**- Also known as “meth” and “chalk”. This drug is made by combining over-the-counter cold medicine with battery acid or drain cleaner. Meth is typically made in home laboratories and it is common to hear news of these labs exploding. It is highly addictive, and some reports have described addiction occurring after just one use. Meth can cause tooth decay, hyperactivity, euphoria, anxiety, tachycardia, depression, psychosis, and suicidal impulses. Overdose can cause hyperpyrexia (dangerously high body temperature), psychosis, kidney failure, seizures, and coma.

- **3,4-Methylenedioxyamphetamine (MDMA)**- Also known as “ecstasy”, “E”, “Molly”, and “rola” (in PR)- This is the classic designer drug and is typically consumed at parties. It is a potent hallucinogen and can cause severe dehydration and hyperthermia, or elevated body temperature. Cases of severe hyponatremia (low concentration of sodium in the blood) have been reported in people who consume excessive amounts of water in order to
prevent dehydration. Other effects include euphoria, irritability, impulsivity, anxiety, and depression. It also increases heart rate and blood pressure, which can be dangerous for people with heart conditions.

- **Lysergic acid diethylamide (LSD)** - Also known as “acid”, “battery acid”, “purple heart”, and “gota” (in PR). LSD is a strong hallucinogen. People on LSD see, feel and hear things that are not real but feel real. They often see intense colors and experience an altered sense of time. Sensations seem to be altered and “crossed over”, some people report hearing colors and hearing sounds. Users call this experience a “trip”, which may last up to 12 hours. It can cause severe psychiatric reactions such as extreme paranoia, anxiety, and delusions. When these reactions occur, users call this a “bad trip”. These can be so severe that they can lead to suicidal or homicidal ideation. Long-term effects include “flashbacks”, or re-experiencing a trip, even when no longer using the drug.

- **Methylenedioxypyrovalerone (MDPV)** - Also known as “bath salts”. Effects include strong cravings for the drug, psychotic reactions, violent behavior, euphoria, paranoia, insomnia, hallucinations, and delusions. It can also cause heart attacks, kidney damage, liver damage, brain death, seizures, and death. A 2013 study found that MDPV is possible more addictive than methamphetamines, which is one of the most addictive substances that exist.

- **Synthetic marijuana** - Also known as “spice”, “K2”, “potpourri”, “chillax”, or “la sintética” (in PR). This dangerous drug is often sold in gas stations and other stores as “incense”. It is designed to reproduce the effects of tetrahydrocannabinol (THC), the active ingredient in marijuana. Some of its effects include aggression, loss of consciousness, seizures, panic attacks, severe paranoia, psychosis, suicidal impulses, heart attacks, and strokes. Use of synthetic marijuana can also provoke severe muscle breakdown known as rhabdomyolysis. This breakdown of muscle can overwhelm the capacity of the kidneys to clear the blood, causing fulminant renal failure. A 2013 U.S. government report found the number of emergency department visits in 2011 involving toxic reactions to synthetic marijuana had increased 2.5 times, to 28,531. In Puerto Rico, an increase in the number of visits to the emergency room and deaths due to synthetic marijuana has also been reported.

These drugs represent a very serious public health hazard. Often times abusers of these drugs are young people, which is why parents should be aware of these drugs. It is equally important health professionals recognize the signs of abuse of these drugs in order to intervene before it is too late. If you know somebody who is using these drugs, obtain help. The sooner they can be evaluated by a psychiatrist or an addiction specialist, the better chance of recovering and regaining their life.

**References**
American Psychiatric Association (2013); Diagnostic and Statistical Manual of Mental Disorders (5th ed.) Cannabis Use Disorders, pp.481.


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