Understanding designer drugs and their health risks

By Jenna Solomon

Designer drugs may sound safe, but they are often more dangerous than the original substances they are trying to mimic. Designer drugs are new products that are designed to imitate existing drugs but tend to be much more potent. These newer substances are often produced in unregulated labs and are not yet recognized by the federal Food and Drug Administration (FDA), so they cannot be regulated, tested, or even recommended.

Often these substances are marketed as "natural", but that really is just a nod to the original plant or substance that inspired the drug and does not reflect what is actually in the product sold over the counter or online.

Examples of this include marijuana or kratom plants. In both cases, products may be marketed as marijuana or kratom, which are both naturally occurring plants with cultural ties. However, today's products are designed and manufactured with higher concentrations of chemicals than the original plants (THC, 7-OH) – making them much more potent and dangerous.

Designer drugs are a threat to the public's health for several reasons:

- No quality assurance. Unlike the food we eat, these products are not regulated or inspected, so there is no way to ensure that manufacturing is safe, clean and following guidelines. As a result, products may be recalled for salmonella or heavy metal contamination.
- Labeling requirements. Ingredients, potency and allergens are not required on many of these products. Some products may even suggest recommended dosing, like kratom, but there is no data to back those suggestions.
- Intoxicating chemicals in food products. Foods like gummy candies, caramels and flavored drinks are being sold without FDA approval of the chemicals being added to products themselves.
- Uninformed consumption. People taking medication, other drugs, or with health conditions like high blood pressure, kidney disease or depression do not know how their body will respond to risky drug interactions.

Some of the most well-known designer drugs include:

- Synthetic cannabinoids like Delta-8 THC, Delta-10 THC and THCA: Commonly known as K2 or spice, they mimic marijuana. They are illegal for sale, possession or use in Montana.
- Synthetic opioids like fentanyl and carfentanil. They are between 5-10,000 times stronger than morphine and accounted for 60% of overdose deaths in the U.S. in 2024.

- Semi-synthetic and emerging synthetic kratom products like 7-OH and MGM15: Originally from kratom tree leaves, 7-OH is also being designed into higher concentrated products, which are 15 times stronger than morphine. Since 2020, the Montana Department of Justice has recorded 25 confirmed deaths attributed to kratom products, ranging from more natural teas to designer 7-OH products.
- Synthetic stimulants and psychedelics like MDMA, or ecstasy, and bath salts: These products mimic mescaline, which grows naturally in some cacti, and cathinones, which grow in a plant called khat.

Dangerous interactions

Designer drugs are sometimes used with other substances, which makes understanding the degree of impairment difficult. Designer drugs might sound safer, but they are often more dangerous and leave consumers with uncertainty for what they purchase and consume.

The best way to keep yourself safe is to avoid using products that promote a "high" or feeling of euphoria sold in retail food establishments. Products with a statement like "These statements and products have not been evaluated by the Food and Drug Administration FDA" cannot be trusted for medical advice. Consult with your primary care provider to discuss how these substances will affect you.

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