Patterns of substance use associated with fentanyl exposure in Vancouver

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- British Columbia researchers analyzed urine samples of 669 people who used street drugs.
- 15% of all participants had been exposed to the extremely powerful opioid fentanyl.
- Exposure to fentanyl was higher among those who inject drugs.

In the past several years, deaths from opioid overdose have increased in Canada and the U.S. In Canada the increase in deaths was initially reported in British Columbia and then spread to neighbouring Alberta and other parts of Canada. British Columbia continues to grapple with what has been described as an epidemic of opioid-related overdoses, many caused by exposure to the extremely powerful opioid fentanyl. This drug has been found combined with other street drugs, including heroin, cocaine and methamphetamine. This means that people who regularly use street drugs are at heightened risk for an overdose because of fentanyl.

It is important to find out about the degree of exposure to fentanyl among people who use street drugs so that interventions, such as overdose prevention and addiction treatment programs, can be enhanced. Researchers at the British Columbia Centre for Excellence in HIV/AIDS and universities in Vancouver collaborated in a study to assess fentanyl exposure among people who use street drugs. The researchers relied on a well-validated method —assessing urine samples—with 669 people.

Drug screening found that about 15% of participants were exposed to fentanyl. However, among people who injected street drugs, researchers found that almost 20% had been exposed to fentanyl. Furthermore, all people who tested positive for fentanyl also tested positive for other street drugs, the most common were morphine/heroin, amphetamine/methamphetamine and cocaine.

Given the relatively high rate of exposure to fentanyl among people who injected street drugs, the Vancouver researchers said, “There is an urgent need to design and scale up interventions to reduce overdose risk.”

Study details

The researchers used data collected from the following three observational studies with people who used street drugs:

- VIDUS – the Vancouver Injection Drug Users Study
- ACCESS – the AIDS Care Cohort to Evaluate Exposure to Survival Services
- ARYS – the At-Risk Youth Study

These studies have been ongoing for many years and participants completed questionnaires every six months about a variety of study-related issues, including substance use. In June 2016 researchers added a sophisticated urine drug screening test to the studies that was capable of simultaneously detecting many substances in as little as five minutes. The researchers said it is “commonly believed” in the scientific community that the screening test can detect fentanyl used as many as three days prior to the day of testing. The substances that the test can detect include the following:

- fentanyl
- morphine/heroin
methadone
buprenorphine
oxycodone
amphetamine/methamphetamine
benzodiazepine
tetrahydrocannabinol

For the present analysis researchers focused on participants who had disclosed the use of street drugs in the past six months.

A brief average profile of participants upon entering the present study was as follows:

- age = 47
- 63% men, 37% women
- 55% were white (no details were provided about the ethno-racial composition of the remaining participants)
- 67% injected street drugs
- 33% disclosed that they used stimulants (cocaine, methamphetamine, ecstasy) and not opioids

The study was done between June and October 2016.

**Results**

Fentanyl was detected in the urine sample of 15% of participants who were distributed as follows:

- 20% of people who injected street drugs
- 4% of people who engaged in non-injecting use of street drugs

Researchers found that all participants who tested positive for fentanyl tested positive for other substances. Some of the more common substances were:

- morphine/heroin – 89%
- amphetamine/methamphetamine – 75%
- cocaine – 72%

People who tested positive for fentanyl were more likely to have the following features:

- female
- younger
- injected street drugs in the past six months
- experienced a drug overdose in the past six months

Among people who injected street drugs, 56% disclosed having used opioid substitution therapy with methadone in the past six months. However, only 5% reported having accessed opioid substitution therapy based on the combination of buprenorphine + naloxone in the same period.

Researchers also found that participants who tested positive for marijuana use were less likely to test positive for fentanyl.

**Bear in mind**

In the present study, people who tested positive for fentanyl also tested positive for other street drugs, including combinations of opioids and stimulants.

The researchers stated: “the fairly high rate of fentanyl exposure among people who inject street drugs is concerning. Targeted overdose prevention efforts are needed for this population. In particular, our results suggest younger people who inject street drugs are at elevated risk for fentanyl exposure. This is congruent with the B.C. Coroner’s Service report documenting that those aged 30 to 39 years had the highest street drug overdose death rates.”
The study was observational and cross-sectional in nature. According to the researchers, such studies cannot determine “whether opioids or stimulants led to fentanyl exposure.” However, the researchers noted that people who used both opioids and stimulants “were among the most vulnerable to fentanyl exposure.”

Given the rise in drug overdose deaths, the researchers call for the “urgent implementation of a range of treatment and harm-reduction strategies, including a range of opioid-agonist approaches involving oral and injectable treatments.”

It is noteworthy that in the present study, done in 2016, researchers found that 20% of people who injected street drugs tested positive for fentanyl. As deaths from opioid overdoses are ongoing, it is likely that a more recent analysis will find a higher rate of exposure to fentanyl. A future CATIE News bulletin will explore this.

Resources

Research Update: Supervised injection facilities in Canada: past present and future – Prevention in Focus

Best Practice Recommendations for Canadian Harm Reduction Programs

Implementing Supervised Injection Services – Registered Nurses' Association of Ontario

REFERENCES:


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