

Overdoses of popular painkiller send thousands to ER each year

May 3 2011, By Lisa Esposito

Overdose of the common household drug acetaminophen leads to more than 78,000 emergency department (ED) visits a year, and the majority of the overdoses are intentional, according to a new study from the Centers for Disease Control and Prevention.

It's a big problem and the study found three main causes among ED patients.

“About 70 percent are for self-harm attempts, and 13 percent to 14 percent are kids getting into products,” said lead study author Daniel Budnitz, M.D. “The other 16 percent are the adolescents and adults that generally fall into two groups: the younger adults that are misusing over-the-counter products because they are trying to get better pain control and don't understand the risks, and the older adults that are making some errors using the opioid combination products.”

Consumers take [acetaminophen](#) — the active ingredient in Tylenol — to reduce pain or fever, as a single drug in tablets, capsules or liquid. Acetaminophen combines with other drugs in a variety of over-the-counter cold, flu and sinus medicines including Theraflu, Triaminic and Sudafed. Acetaminophen also appears in combination with an opioid — a narcotic— in prescription medicines like Vicodin (with hydrocodone) or in Percocet (with oxycodone).

ED visits related to abuse of acetaminophen products were not included in the study, which appears online and in the June issue of the American

Journal of Preventive Medicine.

Young people ages 15 to 24 are at highest risk for suicide attempts or acts of self-harm involving acetaminophen, the researchers found.

“Because these data are based on ED records, it is often difficult to determine exactly what motivated the patient — if they had a premeditated plan to end their life with an overdose or if the overdose was an impulsive act,” said Budnitz, medical officer at the Division of Healthcare Quality Promotion.

Among the others in this age group, 75 percent of ED visits occurred because they went above the recommended acetaminophen dosage in search of quicker or stronger relief.

Overdoses by people who think more medicine is better points to a deep knowledge gap and need for better consumer education about a familiar drug, said Henry Spiller, director of the Kentucky Regional Poison Center. He has no affiliation with the study.

“We frequently see that with abdominal pain or tooth pain. They can’t get to the dentist for a day or two so just try to manage the pain themselves. Some actually come in with frank liver failure,” Spiller said. “I think they’re unaware that they’re risking something as bad as liver failure—especially with tooth pain.”

Taken correctly, acetaminophen is safe and effective, but the margin between a therapeutic and a dangerous dose is smaller than many people might realize.

“The toxic dose depends on the age of the person, how much they weigh and their liver function, but in general, 10 to 15 grams can cause what’s called hepatic necrosis, which is basically the liver cells dying,” Budnitz said. “So 10 grams — an extra-strength tablet is 500 milligrams of

acetaminophen — that’s about 20 tablets.”

The poison center might recommend to people who take acetaminophen continually that they should instead alternate with another pain medicine, like ibuprofen, Spiller said.

“If you double or triple the dose of acetaminophen, and you take it for several days, you will cause significant liver problems,” Budnitz said. Rather than a sudden, dramatic reaction, overdose symptoms often occur later, he said. “If untreated, the acetaminophen toxicity can take days, maybe weeks, to manifest itself.

“Depending on the person, and how much they took and what treatments they get, the outcomes range from full recovery to possible death without a liver transplant,” Budnitz said. “If you or someone you know did take an overdose of acetaminophen, the first thing to do is to call the poison center (1-800-222-1222), follow their advice, and, if directed, go immediately to the [emergency department](#) for an evaluation.”

The good news: “With prompt treatment most patients fully recover, especially children, because acetaminophen does have an antidote. If given promptly, that can protect the liver,” Budnitz said.

Overdoses caused by extra doses for symptom relief or other mistakes were more likely to involve over-the-counter products in people ages 15 to 24, and opioid-containing acetaminophen products in people older than 39.

For those who require the antidote, it is not as simple as taking a pill. “NAC comes in oral and intravenous form,” Spiller said. “NAC is sulfur-based and it smells like rotten eggs. It’s tough to get kids to drink it.” Others who overdose might undergo “gastric decontamination” with an unpleasant charcoal mixture or by having their stomach pumped.

The study analyzed two years of data from the National Electronic Injury Surveillance System to estimate the number of annual ED visits nationwide. The actual sample included 63 U.S. hospitals and findings relied on 2,717 cases.

More information: Budnitz DS, Lovegrove MC, Crosby AE. Emergency department visits for overdoses of acetaminophen-containing products. *Am J Prev Med* 40(6), 2011.

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