

Poison control data show energy drinks and young kids don't mix

November 16 2014



More than 40 percent of reports about energy drinks to U.S. poison control centers involved children younger than 6 with some suffering serious cardiac and neurological symptoms, according to a new study presented at the American Heart Association's Scientific Sessions 2014.

This disproportionate representation of children is concerning given the number of reports of serious cardiac and [neurological symptoms](#), said Steven Lipshultz, M.D., the study's senior author and professor and chair of pediatrics at Wayne State University and pediatrician-in-chief at Children's Hospital of Michigan in Detroit.

Researchers analyzed October 2010-September 2013 records of the American Association of Poison Control Centers' National Poison Data System, which contains information calls about energy exposures from the public and healthcare providers to 55 poison control centers in the

United States. "Exposures" are defined as actual or suspected contact with any substance which has been ingested, inhaled, absorbed, applied to, or injected into the body, regardless of toxicity or clinical manifestation. Researchers found:

- Of the 5,156 reported cases of energy drink exposure, 40 percent were unintentional, (i.e. unforeseen or unplanned) exposures by young children.
- Moderate to major outcomes were reported in 42 percent of cases involving [energy drinks](#) that had been mixed with ethanol (alcohol) and in 19 percent of non-alcohol-containing energy drinks.
- Among cases across all age groups with major outcomes, cardiovascular effects (including an [abnormal heart rhythm](#) and conduction abnormalities) were reported in 57 percent of cases, and neurologic effects (seizures, including status epilepticus) in 55 percent.

"Energy drinks have no place in pediatric diets," "And anyone with underlying cardiac, neurologic or other significant medical conditions should check with their healthcare provider to make sure it's safe to consume energy drinks."

He noted that he is not a toxicologist but was interested in the topic after treating children who became ill after consuming energy drinks.

Energy drinks may contain pharmaceutical-grade caffeine and additional caffeine from natural sources that may cause the heart to race and blood pressure to increase. Energy drinks with multiple caffeine sources were tied to a higher rate of side effects, typically involving the nervous, digestive or cardiovascular systems.

Some energy drinks contain up to 400 milligrams (mg) of caffeine per

can or bottle, compared to 100-150 mg in a typical cup of coffee, Lipshultz said.

Caffeine poisoning can occur at levels higher than 400 mg a day in adults; above 100 mg a day in adolescents; and at 2.5 mg per kilogram (2.2 pounds) of body weight in children younger than 12, he said.

Researchers don't yet know whether compounds other than caffeine in the drinks contribute to the ill effects. Many of the added ingredients have never been tested for safety in children and have never been tested in combination.

In 2010, the U.S. Food and Drug Administration banned pre-packaged energy drinks that contain alcohol. Since then, calls to poison control centers about such drinks fell sharply, which supports the effectiveness of the combination ban. But some people might custom mix alcohol-energy brews, Lipshultz said.

Reports to poison control centers vastly underestimate the problem because many people who become ill from energy drinks don't call the hotlines and emergency room visits are not included.

"The reported data probably represent the tip of the iceberg," Lipshultz said.

Researchers called for improved labeling of caffeine content and potential health consequences, as well as continued efforts to decrease children's exposures to the products.

Provided by American Heart Association

Citation: Poison control data show energy drinks and young kids don't mix (2014, November 16)

retrieved 4 May 2024 from

<https://medicalxpress.com/news/2014-11-poison-energy-young-kids-dont.html>

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