Product label changes do not prevent accidental acetaminophen overdoses

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Changes to acetaminophen product labels did not decrease rates of hospitalization for accidental acetaminophen overdoses, according to a new Canadian study in *CMAJ* (*Canadian Medical Association Journal*).

"We found that changes to acetaminophen labels that communicated the risks of overdose and the presence of acetaminophen in over-the-counter products did not affect rates of hospital admission for accidental acetaminophen overdose, ICU admission for accidental acetaminophen overdose and admission for acetaminophen overdoses involving opioids," writes Dr. Tony Antoniou, Li Ka Shing Knowledge Institute, St. Michael's Hospital, Unity Health Toronto, with coauthors.

Acetaminophen is a medication commonly used by millions of people worldwide for pain relief, and although it is generally safe if taken correctly, accidental overdoses can occur because the drug is found in many over-the-counter products for treating pain and the common cold. In Canada, the percent of acetaminophen-related injuries related to accidental overdose in Canada increased from 27% in 2006 to 45% in 2011.

To increase awareness of potential harm, product label changes were made in Canada in October 2009 to warn of the risk of possible liver damage. In 2016, they were updated with additional labeling for safe dosing and to identify products containing acetaminophen.

However, in this study of more than 12,000 hospital admissions for accidental acetaminophen overdose in 9 provinces and 3 territories in Canada between 2004 and 2020, researchers found there was no impact from the updated labeling on admissions.

The authors suggest these findings have several implications for public health.

"Because of the human and economic burden imparted by accidental acetaminophen overdoses, additional measures for preventing these episodes are required, beyond those that attempt to inform consumers about the potential risks of acetaminophen through product labels and

package inserts. This is especially important when considered in light of previous research that showed that fewer than 50% of patients regularly read labeled instructions for use of over-the counter analgesics, and only 26% read the active ingredients before first use."

Additionally, 4.5% to 6% of patients exceed the maximum daily dosage, perhaps because acetaminophen is found in other cough and cold medications, according to studies from the United Kingdom and the United States.

Suggestions for preventing accidental acetaminophen overdoses include removal of acetaminophen from other nonanalgesic over-the-counter medications, discontinuing opioid–acetaminophen combination products and restricting maximum doses of 325 mg per unit.

A Practice article about treating acetaminophen overdose provides easy-to-follow guidance for health care providers on treatment for this potentially life-threatening condition. Most deaths occur after deliberate overdose or from excessive dosing for fever or pain over several days.

More information: Impact of acetaminophen product labelling changes in Canada on hospital admissions for accidental acetaminophen overdose: a population-based study, *Canadian Medical Association Journal* (2022). DOI: 10.1503/cmaj.210842

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