

**DEXTROMETHORPHAN ABUSE IN TEENS: BEWARE ACETAMINOPHEN POISONING!**

*To the editor:* During the spring of 2011, a number of First Nations teens, ages ranging from 11 to 15 years, were brought to the Cowichan District Hospital emergency department with symptoms of decreased level of consciousness, agitation, and dissociative state. The products they were abusing recreationally were tablets containing dextromethorphan (DXM) 15 mg, acetaminophen 325 to 500 mg, and varying amounts of decongestant. The teens reported using up to 36 tablets (540 mg of DXM) at a time; however, it was evident that they were unaware that they were coingesting up to 18 g of acetaminophen. Thereafter, all teens presenting with DXM overdose were screened and treated for acetaminophen toxicity; however, there was serious concern that most teens abusing these medications would never have contact with medical care.

Cowichan First Nations and the Cowichan District Hospital emergency physicians petitioned the local pharmacies to move DXM tablets behind the counter, but these requests were largely ignored. A campaign in the local newspapers, on CBC radio, and on CTV News was launched, which successfully resulted in the College of Pharmacists of British Columbia recommending

that DXM-containing products be temporarily moved behind the counter at all the Cowichan Valley pharmacies.

**DISCUSSION**

In the 1990s, DXM became available in the form of gelcaps, and this formulation change was associated with an increase in DXM abuse.<sup>1</sup> From 1999 to 2004, the California Poison Control System found a 15-fold increase in DXM abuse in children ages 9 to 17 years.<sup>2</sup> It is thought that approximately 1 million youth and young adults in the United States misuse DXM preparations each year.<sup>3</sup>

In Canada, DXM is available in both syrup and tablet form; however, many preparations also contain acetaminophen. A 2008 study in Calgary demonstrated that unintentional overdose with acetaminophen, in patients using medications mixed with acetaminophen, is the greatest predictor for hepatotoxicity (odds ratio 5.18; 95% confidence interval 3.00–8.95).<sup>4</sup>

A recent case report in the *Canadian Journal of Emergency Medicine*<sup>5</sup> and our own experience may be indications that Canada will start to see more DXM abuse. With this, acetaminophen hepatotoxicity may increase as well. Although pharmacies may intermittently respond to periodic outbreaks of abuse with temporary limitation of access to these products, it may serve the population better for physicians

and their representing associations (Canadian Association of Emergency Physicians, Canadian Medical Association) to proactively lobby Health Canada to have acetaminophen-mixed cold formulations permanently recalled to prevent a possible tragic epidemic of liver failure in young teens.

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