CODEINE PRESCRIPTION IN CHILDREN IN THE UNITED STATES: A NATIONALLY REPRESENTATIVE STUDY

Margaret Livingstone, MD, FRCP(C)
Seattle Children's Hospital, University of Washington
Student/Trainee

INTRODUCTION / AIM
Serious concerns regarding the safety of codeine, particularly in the pediatric population, have been raised. Cases of life-threatening respiratory depression and death in children have been attributed to common genetic polymorphisms in codeine’s metabolic pathway. Several international health agencies including the Food and Drug Administration (FDA) now recommend restricted use of codeine in children. Despite these recommendations, a recent study found that in the United States in 2012 codeine constituted 40% of pediatric opioid prescriptions. Further information about patterns and predictors of opioid prescriptions to children may help to understand the reasons for continued use of codeine.

METHODS
We used complex survey methods to estimate the patterns and predictors of codeine prescriptions among children ages 0-17 using United States nationally representative data from the 1996 to 2013 Medical Expenditure Panel Surveys (MEPS). MEPS are a set of large-scale surveys that are the most complete data source on health care use in the USA. Multivariable logistic regression was used to examine the relationship between codeine prescription and child characteristics including age, gender, race/ethnicity, geographical region, insurance coverage, and physical and mental health status.

RESULTS
Data from 154362 children were included in the study. The frequency of codeine prescriptions decreased from 1.60% to 1.46% from 1996 to 2013. Codeine was most frequently prescribed by emergency physicians (18%) and dentists (14%). Odds of codeine prescription was higher in children ages 12-17 (odds ratio [OR] 1.40; 95% confidence interval [1.21-1.61]), outside of the Northeast US, and to children with poor physical health status (OR, 3.29 [1.79-6.03]). Codeine prescription was lower in children whose race/ethnicity was non-white and in those who were uninsured (OR, 0.47 [0.34-0.63]).

DISCUSSION / CONCLUSIONS
Codeine prescriptions in children have declined from 1996-2013, but remain frequent. It is unknown whether health care providers are aware of recent FDA advisories and international guidelines advising limited use of codeine in children. Because codeine is potentially hazardous and safer alternatives to treat children’s pain are available, educational efforts are needed to modify provider prescriptive behavior.
OTHER AUTHORS

Cornelius Groenewald

Tonya Palermo