

Introduction: Increasing opioid prescribing has been linked to an epidemic of opioid misuse. Our objective was to synthesize available evidence about patient-, prescriber-, medication-, and system-level risk factors for developing opioid misuse from prescribed opioids among patients presenting with pain unrelated to cancer. Our hypothesis was that we would identify risk factors predisposing patients to developing opioid misuse. **Methods:** We developed a systematic search strategy and applied it to nine electronic reference databases and six clinical trial registries. We hand searched related journals and conference proceedings, the reference lists of included studies, and the top 100 hits on Google. We included studies where a medical professional exposed adults or children to an opioid through a prescription. We excluded studies with over 50% cancer patients, palliative patients, and those with illicit opioid initiation. Two reviewers independently reviewed titles, abstracts, and full texts, and extracted data using standardized forms. We assessed study quality using risk of bias. We synthesized effect sizes of dichotomous risk factors on opioid misuse using inverse variance random-effects meta-analysis, and the inverse variance-weighted mean difference between opioid misusers and non-misusers for continuously measured factors. We conducted an a priori defined subgroup analysis among opioid-naïve patients. **Results:** Among 9,629 studies, 67 met our inclusion criteria. Among those who had been prescribed outpatient opioids, the following factors were associated with the development of misuse: a prior history of illicit drug use (OR: 4.21, 95% CI: 2.31-7.65), recent benzodiazepine use (OR: 2.57, 95% CI: 1.23-5.38), any mental health diagnosis (OR: 2.45, 95% CI: 1.91-3.15), any short acting (IR) opioid prescription (OR: 2.40, 95% CI: 1.15-5.02), younger age (OR: 2.19, 95% CI: 1.81-2.64), and male sex (OR: 1.23, 95% CI: 1.10-1.36). Among studies limiting their population to opioid-naïve patients, younger age was the most significant risk factor for opioid misuse (OR: 5.42, 95% CI: 1.51-19.43). **Conclusion:** Of the risk factors examined, non-cancer pain patients with a prior history of substance use or mental health diagnoses were at highest risk for prescription opioid misuse. Younger opioid-naïve patients were at highest risk of misuse. Clinicians should consider these risk factors when managing acute pain in the emergency department.

Keywords: medication safety, opioid misuse, opioid prescribing

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Emergency department gastrointestinal presentations related to marijuana ingestion: a single centre retrospective study

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Introduction: Cannabis Hyperemesis Syndrome (CHS) is a poorly understood phenomenon with a subset of patients presenting to the emergency department (ED) for symptomatic control of refractory nausea and vomiting. As legalization of marijuana commenced on October 2018, it is important to recognize the presentation of patients related to marijuana consumption. The objective of this study was to describe demographic and ED visit data of patients presenting to the ED with cannabis-related sequelae. **Methods:** This was a health records review of patients ≥ 18 years presenting to one of two tertiary care EDs (annual census 150,000 visits) with a discharge diagnosis including cannabis use with one of abdominal pain or nausea/vomiting using ICD-10 codes. Trained research personnel collected data from medical records including demographics, clinical history, results of investigations within the ED. Descriptive statistics including means and standard deviations are presented where appropriate. **Results:**

From April 2014 to June 2016, 203 unique ED patients had a discharge diagnosis including cannabis use with abdominal pain or nausea/vomiting. Mean (SD) age was 30 (13.04) years and 120 (59.1%) were male. Patients presented to the ED independently 84 (41.4%), via EMS with 104 (51.23%) and 15 (7.39%) by police. The majority of patients were triaged as CTAS-2 in 27 (33%) and CTAS-3 in 106 (52.2%) of all cases. Of patients disclosing their method of consumption, 31 (15.3%) had used combustion methods and 30 (14.8%) had edible marijuana. Mean (SD) serum potassium was 3.71 (0.48) mmol/l. 162 (79.8%) were discharged home and 9 (4.4%) were given follow up (all psychiatric). Twenty-nine (14.3%) were admitted to hospital with 28 (13.8%) admitted to psychiatry and 1 (0.5%) admitted to medicine. **Conclusion:** This ED-based retrospective chart review reports a description of cannabis-related presentations to the ED. Clinicians should be aware of CHS in patients presenting to the ED, especially as Canada enters the era of legalization. Future research should focus on the impact of federal legalization of marijuana on ED utilization for CHS-related presentations.

Keywords: cannabis, emergency, marijuana

LO29

Unexplained variation in 'to-go' opioid prescribing across emergency departments in a large Canadian cohort

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Introduction: Emergency Department (ED) opioid prescribing has been linked to long-term use and dependence. Small packets of opioid medications are sometimes prescribed at discharge, i.e. 'To-Go', in an attempt to treat pain but avoid unintended consequences. The extent of this practice and its associated risks are not fully understood. This study's objective was to describe the use of 'To-Go' opioids in a large urban center. **Methods:** Multicenter linked administrative databases were used to recruit an observational cohort. The referral population was comprised of all patients discharged from a Calgary ED in 2016 (four hospitals) with an arrival pain score greater than 0. We first described this population and then performed a multivariable analysis to assess for predictors of 'To-Go' opioids. 'To-Go' opioids were either Tylenol-Codeine or Tylenol-Oxycodone. **Results:** A total of 88,855 patients were recruited. The majority were female (57%) and the average age was 44.5 yrs. Abdominal pain was the most frequent complaint (22.1%) followed by extremity (18.3%) and cardiac pain (8.0%). Overall, 2,736 patients (3.1%) received an opioid 'To-Go' with significant variation in prescribing rates across hospitals (1.8-5% $\chi^2 p < 0.05$). Logistic regression (covariates: age, sex, CTAS, pain score, type of pain, hospital, ED opioid, length of stay) revealed that receiving an opioid (IV or PO) prior to discharge was the strongest predictor of 'To-Go' opioid (OR 6.4 [5.9-7.0]). Hospital (OR 1.4 [1.3-1.4]) and male sex (OR 1.2 [1.1-1.3]) also emerged as predictors, whereas age over 65 decreased the odds of 'To-Go' opioid (OR 0.8 [0.6-0.9]). Hospital-specific ORs ranged from 1.3-2.7. **Conclusion:** In comparable patient populations some hospitals are more likely than others to provide a short course of opioids at discharge. This difference is not explained by patient demographics, pain profiles, or medications prior to discharge. The reasons for this variation are unclear but it underscores the need to determine the risks of ED opioid exposures and develop clear evidence-based prescribing guidelines.

Keywords: opioids, pain, 'to-go'