the associated pain and its management. Our primary objective was to quantify the pain experienced by children with acute gastroenteritis in the 24-hours prior to emergency department (ED) presentation. Secondary objectives included describing maximum pain, analgesic use, discharge recommendations, and factors that influenced analgesic use in the ED. **Methods**: Study participants were recruited into this prospective cohort study by the Alberta Provincial Pediatric EnTeric Infection TEam between January 2014 and September 2017. This study was conducted at two Canadian pediatric EDs; the Alberta Children's Hospital (Calgary) and the Stollery Children's Hospital (Edmonton). Eligibility criteria included < 18 years of age, acute gastroenteritis (□ 3 episodes of diarrhea or vomiting in the previous 24 hours), and symptom duration □ 7 days. The primary study outcome, caregiver-reported maximum pain in the 24-hours prior to presentation, was assessed using the 11-point Verbal Numerical Rating Scale. **Results**: We recruited 2136 patients, median age 20.8 months (IQR 10.4, 47.4); 45.8% (979/2136) female. In the 24-hours prior to enrolment, 28.6% (610/2136) of caregivers reported that their child experienced moderate (4-6) and 46.2% (986/2136) severe (7-10) pain in the preceding 24-hours. During the emergency visit, 31.1% (664/2136) described pain as moderate and 26.7% (571/2136) as severe. In the ED, analgesia was provided to 21.2% (452/2131) of children. The most commonly administered analgesics in the ED were ibuprofen (68.1%, 308/452) and acetaminophen (43.4%, 196/452); at home, acetaminophen was most commonly administered (77.7%, 700/901), followed by ibuprofen (37.5%, 338/901). Factors associated with analgesia use in the ED were greater pain scores during the visit, having a primary-care physician, shorter illness duration, fewer diarrheal episodes, presence of fever and hospitalization. **Conclusion**: Although children presenting to the ED with acute gastroenteritis experience moderate to severe pain, both prior to and during their emergency visit, analgesic use is limited. Future research should focus on appropriate pain management through the development of effective and safe pain treatment plans.

Keywords: gastroenteritis, pain, pediatrics

LO36

Hyoscine butylbromide (Buscopan) for abdominal pain in children: a randomized controlled trial

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Introduction: Abdominal pain is one of the most frequent reasons for an emergency department (ED) visit. Most cases are functional and no therapy has proven effective. Our objective was to determine if hyoscine butylbromide (HBB) (BuscopanTM) is effective for children who present to the ED with functional abdominal pain. **Methods**: We conducted a randomized, blinded, superiority trial comparing HBB 10 mg plus acetaminophen placebo to oral acetaminophen 15 mg/kg (max 975 mg) plus HBB placebo using a double-dummy approach. We included children 8-17 years presenting to the ED at London Health Sciences Centre with colicky abdominal pain rated >40 mm on a 100 mm visual analog scale (VAS). The primary outcome was VAS pain score at 80 minutes post-administration. Secondary outcomes included adverse effects; caregiver satisfaction with pain management using a five-item Likert scale; recidivism and missed surgical diagnoses within 24-hours of discharge. Analysis was based on intention to treat. **Results**: We analyzed 225 participants (112 acetaminophen; 113 HBB). The mean (SD) age was 12.4 (3.0) years and 148/225 (65.8%) were females. Prior to enrollment, the median (IQR) duration of pain prior was 2 (4.5) hours and analgesia was provided to 101/225 (44.9%) of participants. The mean (SD) pre-intervention pain scores in the acetaminophen and HBB groups were 62.7 (15.9) mm and 60.3 (17.3) mm, respectively. At 80 minutes, the mean (SD) pain scores in the acetaminophen and HBB groups were 30.1 (28.8) mm and 29.4 (26.4) mm, respectively and there were no significant differences adjusting for pre-intervention scores (p = 0.96). The median (IQR) caregiver satisfaction was high in the acetaminophen [5 (2)] and HBB [5 (1)] groups (p = 0.79). The median (IQR) length of stay between acetaminophen [235 (101)] and HBB [234 (103)] was not significantly different (p = 0.53). The proportion of participants with a return visit for abdominal pain was 4/112 (3.5%) in the acetaminophen group and 6/113 (5.3%) in the HBB group. The most common adverse effect was nausea (9% in each group) and there were no significant differences in adverse effects between acetaminophen (26/112, 23.2%) and HBB (31/113, 27.4%) (p = 0.52). There were no missed surgical diagnoses. **Conclusion**: For children with presumed functional abdominal pain who present to the ED, both acetaminophen and HBB produce a clinically important (VAS < 30 mm) reduction in pain and should be routinely considered in this clinical setting.

Keywords: abdominal pain, Buscopan, paediatric

LO37

Prevalence of cigarette smoking amongst adult emergency department patients

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Introduction: Tobacco smoking is a priority public health concern, and a leading cause of death and disability globally. While the smoking prevalence in Canada is approximately 13-18%, the proportion of smokers among emergency department (ED) patients has been found to be significantly higher. This disparity primes the emergency department as a critical environment to provide smoking cessation counselling and support. **Methods**: A verbal questionnaire was administered to adult patients (18+) presenting to Royal University, Saskatoon City, and St. Paul's Hospital ED's. Patients were excluded if they were underage, too ill, or physically/mentally unable to complete the questionnaire independently. Patients' smoking habits were also correlated with Fagerstrom tobacco dependence scores, chief complaints, Canadian Triage Acuity Scale (CTAS) scores, and willingness to partake in ED specific cessation counselling. Data were analyzed using IBM SPSS software to determine smoking prevalence and compared to Statistics Canada data using chi-square tests. **Results**: In total, 1190 eligible patients were approached, and 1078 completed the questionnaire. Adult Saskatoon ED patients demonstrated a cigarette smoking prevalence of 19.6%, which is significantly higher than the general adult Saskatchewan public at 15.1% (p < 0.0001). Comparing smoking and non-smoking cohorts, there are no significant differences in CTAS scores (p = 0.60). Of the proposed cessation interventions, ED cessation counselling was most popular among patients (62.4%), followed by receiving a pamphlet (56.2%), and being contacted by a smokers' quit line (49.5%). Out of the smoking cohort, 51.4% indicated they want to quit smoking, and would be willing to partake in ED-specific cessation counselling, if available. Additionally, 88.1% of current smokers started smoking when they were less than 19

https://doi.org/10.1017/cem.2019.80 Published online by Cambridge University Press

years old. **Conclusion**: The higher smoking prevalence demonstrated in ED patients highlights the need for a targeted intervention program that is feasible for the fast-paced environment. Quit attempts have been demonstrated to be more efficacious with repeated interventions, which could be achieved by training ED staff to conduct brief motivational interviews and faxing referrals to a smokers' quit line for follow-up. Furthermore, pediatric ED's could be a valuable location for cigarette smoking screening, as the majority began smoking in their adolescence.

Keywords: cigarette smoking, primary prevention, smoking cessation

LO38

Assessment of pain and provision of non-pharmacologic analgesia to children by prehospital providers in Southwestern Ontario: a cross-sectional study

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Introduction: There is abundant evidence that in children, assessment and pharmacologic treatment of pain by prehospital providers is suboptimal. Most paediatric calls are performed by primary care paramedics who are unable to administer pharmacologic analgesia to children but can administer non-pharmacologic therapies. We sought to describe the proportion of children provided non-pharmacologic analgesia by prehospital providers. **Methods**: We reviewed all ambulance call reports (ACR) of children age 0-17 years with an acutely painful condition (headache, abdominal pain, possible fracture, head/ears/eyes/nose/throat pain, back pain, and unclassified pain) who were transported to the Children's Hospital, London Health Sciences Centre between 2008 and 2017. We excluded ACRs lacking data pertaining to the primary outcome. Data collection was recorded by two blinded assessors using a study-specific ExcelTM sheet. The primary outcome was the proportion of children offered non-pharmacologic analgesia. We performed a hierarchical stepwise logistic regression on the primary outcome using covariates defined a priori: age, sex, visible deformity, documentation of pain score, and complaint. **Results**: Of 19782 ACRS, we report the preliminary results of 500 ACRs reviewed from Jan 1 to Feb 22, 2016. Of the 403 ACRs eligible for analysis, the median (IQR) age was 13 (8) years and 174 (43.2%) were females. 309/403 (76.7%) calls involved primary (as opposed to advanced) care paramedics. Pain assessments were performed in 171/403 (42.4%) calls, most commonly the 0-10 verbal numeric rating scale [128/171 (74.8%)] and the median (IQR) score was 7 (4) (n = 128). Non-pharmacologic analgesia was offered in 72/403 (17.9%) of calls, most commonly ice (37/72, 51%) and splint (29/72, 40%). In the multivariate model, significant predictors of non-pharmacologic analgesia included older age (OR 1.1; 95% CI: 1.1, 1.2; p = 0.01) and visible deformity (OR 8.2; 95% CI: 2.5, 30.2; p = 0.001). Sex (p = 0.62), documentation of pain score (p = 0.81), and complaint (p = 0.05) were not significant predictors. **Conclusion**: In this preliminary analysis, the provision of non-pharmacologic analgesia to children in Southwestern Ontario by prehospital providers was suboptimal despite moderate to severe levels of pain. Less than half of patients had pain assessments documented. There is a clear need for education surrounding pain assessment and non-pharmacologic analgesic options in children among prehospital providers.

Keywords: pain, pediatrics, prehospital

LO39

Systematic review of emergency department practice change interventions for improving asthma outcomes

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Introduction: Emergency departments (ED) play a vital role in asthma care for patients of all ages. Our objective was to review and synthesize all practice change interventions in ED settings that focused on improving the health outcomes of adults and children with asthma. **Methods**: This study was a systematic review adhering to the methods outlined by the Effective Practice and Organization of Care (EPOC) Cochrane Review Group. We developed a search strategy with a library scientist for the following databases: AMED, CINAHL, Embase, ERIC, MEDLINE, HealthStar, CENTRAL, DARE and Cochrane's EPOC and Airways registers. We also hand searched the Journal of Asthma, Pediatrics and Chest. Two reviewers independently reviewed titles, abstracts and full text using predetermined criteria. Data were extracted by two independent reviewers who used a structured abstraction form and assessed risk of bias. All discrepancies were resolved by consensus. **Results**: Our search strategy yielded 8,878 titles and abstracts for review. A total of 214 studies underwent full text screening and we extracted data from 27 studies. Risk of bias was judged as low in 10 studies, moderate in 8 studies and high in 9 studies. A range of interventions were employed, with education (n = 14) and reminders (n = 8) being the most prevalent. In pediatric settings, most studies targeted changing the behaviour of parents (n = 11). Four studies targeted health care providers and four studies targeted both providers and parents. We identified a major deficit in the use of behaviour change theory to guide intervention design. The most common primary outcomes of interest were unscheduled return visits (n = 14), primary care follow-up (n = 9), quality of life (n = 5) and ED length of stay (n = 4). We were not able to perform a meta-analysis due to heterogeneity in interventions and outcomes. **Conclusion**: Although we found a range of interventions used to improve asthma care in EDs, there was significant variation in reported primary outcomes. Both unscheduled return visits and primary care follow-ups, the most common primary outcomes, varied in the timeframe and manner in which they were collected. Most interventions were educational and based on an assumption that education would change behaviour. Future research in this ares would benefit from standardized outcome measures and intervention designs based upon models of behaviour change model.

Keywords: asthma, practice change

LO40

Services for emergency department patients experiencing early pregnancy complications: a survey of Ontario hospitals

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Introduction: Women experiencing complications of early pregnancy frequently seek care in the emergency department (ED), as most have not yet established care with an obstetrical provider. The primary objective of this study was to explore the services available (ED management, ultrasound access, and follow-up care) for ED patients experiencing early pregnancy loss or threatened early pregnancy loss in Ontario hospitals. **Methods**: The emergency medicine

https://doi.org/10.1017/cem.2019.80 Published online by Cambridge University Press