

review. No studies were eligible for inclusion in the systematic review, as none addressed the primary outcome. One study addressed the outcomes of poor functional recovery after delirium and the rate of improvement of delirium symptoms after presentation of delirium with ASB. **Conclusion:** Even though current guidelines recommend against treatment of ASB, no guideline states whether ASB should be treated in elderly patients with delirium. Little evidence exists to elucidate whether treating delirious patients with ASB results in improvement in outcomes. Future studies should focus on demonstrating the relationship between resolution of delirium with antibiotic treatment. This will clarify whether delirium is a true symptom of ASB and whether treatment results in faster resolution of delirium.

Keywords: bacteriuria, asymptomatic, delirium

LO16

Showing your work: experiences with mind maps and faculty teaching

K. L. Gossack-Keenan, T. M. Chan, MD, MHPE, E. Gardiner, MD, M. Turcotte, K. de Wit, MBChB, MSc, MD, J. Sherbino, MD, MEd, McMaster University, Hamilton, ON

Introduction: Cognitive processing theories postulate that decision making depends on both fast and slow thinking. Experienced physicians (EPs) make diagnoses quickly and with less effort by using fast, intuitive thinking, whereas inexperienced medical students rely on slow, analytical thinking. This study used a cognitive task analysis to examine EPs cognitive processes and ability to provide knowledge translation to learners. **Methods:** A novel mind mapping approach was used to examine how EPs translate their clinical reasoning to learners, when evaluating a patient for a possible venous thromboembolism (VTE). Nine EPs were interviewed and shown two different videos of a medical student patient interview (randomized from six possible videos). **Results:** EPs were asked to demonstrate their clinical approach to the scenario using a mind map, assuming they were teaching a learner in the Emergency Department. EPs were later re-interviewed to examine response stability, and given the opportunity to make clarifying or substantive mind map modifications. Maps were broken into component pieces and analyzed using mixed-methods techniques. A mean of 15.7 component pieces were identified within each mind map (standard deviation (SD) 7.8). Maps were qualitatively coded, with a mean of 2.8 clarifying amendments (e.g. adding a time course caveat) (SD 1.5-5.75) and 4.4 substantive modifications (e.g. changing the flow of the map) (SD 2-5). **Conclusion:** Resulting mind maps displayed significant heterogeneity in teaching points and the degree to which EPs used slow thinking. EPs frequently made fast thinking jumps, although learners could prompt slow thinking by questioning unclear points. This is particularly important as learners engage in cognitive apprenticeship throughout their training. An improved understanding of EPs cognitive processes through mind mapping will allow learners to improve their own clinical reasoning (Merrit et al., 2017). Educating EPs on these processes will allow modification of their teaching styles to better suit learners.

Keywords: innovations in emergency medicine education, mind mapping, fast thinking

LO17

Examining publication bias among randomized controlled trials in child health research: a follow-up study

L. K. Crockett, MSc, T. Klassen, MD, MSc, George and Fay Yee Centre for Health Care Innovation, Winnipeg, MB

Introduction: Non-publication of trial findings results in research waste and compromises medical evidence and the safety of interventions in

child health. The objectives of this study were to replicate, compare and contrast findings of a previous study (Klassen et al., 2002) to determine the impact of ethical and editorial mandates to register and publish findings. **Methods:** Abstracts accepted to the Pediatric Academic Societies meetings (2008-2011) were screened in duplicate to identify Phase-III RCTs enrolling pediatric populations. Subsequent publication was ascertained through a search of electronic databases. Study internal validity was measured using Cochrane Risk of Bias and Jadad Scale, and key variables (e.g., trial design, study stage) were extracted. Pearson X², t-tests and Wilcoxon rank sum tests were used to examine association between variables and publication status. Logistic regression, log-rank tests, rank correlation and Egger regression were used to assess predictors of publication, time to publication and publication bias, respectively. **Results:** Compared to our previous study, fewer studies remained unpublished (27.9% vs. 40.9%, $p = .007$). Abstracts with higher sample sizes ($p = 0.01$) and those registered in ClinicalTrials.gov were more likely to be published ($p < .0001$). There were no differences in quality measures/risk of bias or in preference for positive results ($p = 0.36$) between published and unpublished studies. Mean time to publication was 26.5 months and published manuscripts appeared most frequently in Pediatrics, the Journal of Pediatrics, and Pediatric Emergency Care. The funnel plot ($p = 0.04$) suggests a reduced but ongoing existence of publication bias among published studies. Overall, we observed a reduction in publication bias and in preference for positive findings, and an increase in study size and publication rates over time. **Conclusion:** Despite heightened safeguards and editorial policy changes in recent decades, publication bias remains commonplace and presents a threat to assessing the efficacy and effectiveness of interventions in child health. Our results suggest a promising trend towards a reduction in publication bias over time and positive impacts of trial registration. Further efforts are needed to ensure the entirety of evidence can be accessed when assessing treatment effectiveness.

Keywords: randomized controlled trials, publication bias, trial registration

LO18

Access to Take Home Naloxone in the Royal Alexandra Hospital's emergency department for patients at risk of an opioid overdose

D. W. Dabbs, BSc, BScN, K. Dong, MD, MSc, K. Lavergne, PhD, H. Brooks, BSc, E. Hyshka, BA, MA, PhD, Faculty of Medicine & Dentistry, University of Alberta, Edmonton, AB

Introduction: Take Home Naloxone (THN) programs prevent death from opioid poisoning by training laypersons to recognize an overdose and administer naloxone. Dispensing THN through the emergency department (ED) is particularly critical because an ED visit for opioid poisoning strongly predicts future mortality. Many EDs have implemented THN programs, yet almost no literature examines the reach of such initiatives. To address this gap, we conducted a chart review of all patients presenting for opioid poisoning to an urban tertiary hospital, with a large ED-based THN program. This exploratory study hypothesized that more than 50% of ED patients presenting for opioid poisoning would be offered a THN kit. **Methods:** Data on demographics, clinical characteristics, and THN kit dispensing were extracted and analyzed from the charts of all ED patients presenting with a primary diagnosis of opioid poisoning between April 1 2016 and April 30 2017. Logistic regression analyzed predictors of being offered a THN kit. **Results:** A total of 347 ED visits for 301 unique patients occurred during the study period. The mean age \pm SD of patients was 38 ± 14 years, and 69% were male. In 49% of ED visits, a THN kit was offered; 73% of these episodes had a THN kit dispensation. Patients who were

male (AOR = 1.94; 95% CI 1.11 - 3.40), and reported that their overdose was unintentional (AOR = 2.95; 95% CI 1.04 8.35) and caused by illegal opioids (AOR = 4.73; 95% CI 2.63 8.52) were significantly more likely to be offered a THN kit. **Conclusion:** ED-based THN programs have the potential to reach significant proportions of patients at high risk of mortality. However, these programs may have differential reach within the target population. Further research is needed to examine barriers and facilitators to offering all eligible ED patients a THN kit. **Keywords:** Take Home Naloxone, opioids, overdose

LO19

Understanding discharge communication behaviours in a pediatric emergency care context: a mixed methods study

J. A. Curran, PhD, A. Bishop, PhD, A. Plint, BSc, MSc, MD, S. Macphee, BSc, MD, Dalhousie University, Halifax, NS

Introduction: Optimal discharge communication between healthcare providers and parents who present to the emergency department (ED) with their children is not well understood. Current research regarding discharge communication is equivocal and predominantly focused on evaluating different delivery formats or strategies with little attention given to communication behaviours or the context in which the communication occurs. The objective of this study was to characterize the process and structure of discharge communication in a pediatric ED context. **Methods:** Real-time video observation and follow-up surveys were used in two academic pediatric EDs in Canada. Parents who presented with their child to the ED with one of six illness presentations, a Canadian Triage Acuity Score of 3-5 were eligible to participate. All ED physicians, learners, and staff members were also eligible. Provider-parent communication was analyzed using the Roter Interaction Analysis System (RIAS) to code each utterance. Parent health literacy and anxiety were measured upon admission to the ED. Parent recall of important discharge information and satisfaction with communication was assessed within 72 hours of discharge. **Results:** A total of 107 ED patient visits were video recorded and a total of 70,000 utterances were coded across six illness presentations: abdominal pain (n = 23), asthma (n = 7), bronchiolitis (n = 4), diarrhea/vomiting (n = 20), fever (n = 27), and minor head injury (n = 26). The average length of stay for participants was 3 hours, with an average of three provider interactions per visit. Interactions ranged in time from less than one minute up to 29 minutes, with an average of six minutes per interaction. The majority of visits were first episodes for the presenting illness (63.2%). Physician utterances coded most commonly involved giving medical information (22.9%), whereas nurses most commonly gave orientation instructions (20.9%). Learners were most likely to employ active listening techniques (14.2%). Communication that provided post-discharge instructions for parents comprised 8.5% of all utterances. Overall, providers infrequently assessed parental understanding of information (2.0%). Only 26% of parents recalled receiving important discharge information deemed relevant to their child's disposition. Yet, parent satisfaction with the amount of information communicated during the ED visit was generally high (89.6% agreed or strongly agreed). **Conclusion:** This is the first study of ED discharge communication to be conducted in a pediatric setting using video observation methods. Provider-parent communication was predominantly characterized by giving medical information, with little time devoted to preparing families to care for their child at home. Greater assessment of parent comprehension of discharge communication is needed to ensure that parents understand important instructions and know when to seek further care.

Keywords: discharge communication, pediatric emergency care, mixed methods

LO20

Emergency department initiated drug therapy and patient compliance in acute renal colic

A. Watt, MD, J. Brubacher, MD, MSc, L. Cuthbertson, BHSc (OT) MEd, R. Stenstrom, MD, J. E. Andruchow, MD, MSc, G. Andolfatto, MD, B. Weber, MD, G. Innes, MD, MSc, University of British Columbia Department of Emergency Medicine, North Vancouver, BC

Introduction: NSAIDs offer more effective analgesia than opioids, require less rescue medication, and decrease the incidence of nausea and vomiting in renal colic patients. Alpha blockers and Opioids are also prescribed frequently, but doses used and treatment durations are not well described. Our objective was to investigate ED prescribing decisions and medication compliance by patients with acute renal colic. **Methods:** In this prospective two-city cohort study, we invited patients with a first ED visit for image-confirmed 2-10 mm ureteric stones to consent to a telephone survey 10 days after their ED visit. During follow-up interviews, patients were asked what drugs they were prescribed and how many doses they required. This study was REB approved. **Results:** A convenience sample of 224 patients, including 152 males (67.9%) and 72 females (median age = 52.4 years) completed 10-day surveys. NSAIDs were prescribed for 48.7%, tamsulosin for 65.2% and opioids for 81.7%. One-third received a tamsulosin-NSAID combination, 40% an opioid-NSAID combination and 28% a tamsulosin-NSAID-opioid combination. Of 109 patients prescribed an NSAID, only 70 (64.2%) took 1 dose/day; however an additional 28 who were not prescribed NSAIDs took 1 NSAID dose/day. Mean (sd) NSAID intake in the overall study group was 1.1 (1.5) doses/day from day 1-5 and 0.6 (1.1) doses/day on days 6-10, with 90%ile values of 3.0 and 2.0 doses/day. NSAID compliance was more common in patients who stated they received high quality discharge instructions (63.8% vs. 32.6%; RR = 1.95; 95% CI 1.47-2.60). Mean opioid intake in the overall study group was 1.2 (1.7) doses/day from day 1-5 and 0.5 (1.3) doses/day on days 6-10, with 90%ile values of 4.0 and 2.0 doses/day. Among patients prescribed tamsulosin, the average was 4.0 days of compliance (sd = 4.3), with a 90%ile value of 10 days. **Conclusion:** This study provides estimates for the amount of drug actually used by renal colic patients during the 10-days after their ED visit. Patients used fewer opioid doses than expected, and NSAID and tamsulosin compliance appears relatively poor. NSAID compliance was better in patients who perceived high quality discharge instructions. This study suggests there is room for improvement in medication prescribing and discharge instructions for ED patients with an acute episode of ureteral colic.

Keywords: renal colic, nonsteroidal anti-inflammatory drug, pharmacology

LO21

Ability of single negative ultrasound to rule out deep vein thrombosis in pregnant women: A systematic review and meta analysis

K. Al Lawati, BSc, MD, J. Aljazeera, MBBS, S. Bates, MD, CM, MSc, W. Chan, MD, MSc, K. de Wit, MBChB, MSc, MD, McMaster University, Hamilton, ON

Introduction: The accuracy of ultrasound (US) for diagnosing lower extremity deep vein thrombosis (DVT) in non-pregnant patients has been well validated. However, in pregnant women with suspected DVT and an initial negative US (with imaging of the iliac veins), serial US is recommended. We aimed to determine the ability of single negative US to exclude DVT in symptomatic pregnant women. **Methods:** Two authors independently reviewed the following databases: MEDLINE,