

Abstracts

delivery formats or strategies with little attention given to communication behaviours or the context in which the communication occurs.

OBJECTIVES: The aim of this mixed methods study was to characterize the process and structure of discharge communication in a paediatric ED context.

DESIGN/METHODS: Real-time video observation methods were used in two academic paediatric 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 to 5, and English speaking, were eligible to participate. All ED physicians, learners, and clinical staff members were also eligible to participate. Provider-parent communication was analyzed using the Roter Interaction Analysis System (RIAS) to code each utterance. Parent comprehensive was evaluated using a follow-survey 72 hours after discharge.

RESULTS: A total of 106 unique ED visits involving six illness presentations: abdominal pain (n=23), asthma (n=6), bronchiolitis (n=4), diarrhea/vomiting (n=20), fever (n=27), and minor head injury (n=26) were video recorded. The average length of stay in the ED was 3 hours, with an average of three provider-parent interactions per visit. Interactions ranged in time from less than one minute to 29 minutes, with an average of six minutes per interaction. A total of 34,544 unique utterances were coded across all interactions. The majority of patient visits were first-time visits for the illness presentation (63.2%). Physicians most commonly gave medical information (22.9%) or asked close-ended medical questions (9.4%), whereas nurses most commonly gave orientation instructions (20.9%). Medical trainees were most likely to employ active listening techniques (e.g. back channels, 14.2%). Communication that included post-discharge instructions for parents comprised 8.5% of all utterances. Overall, providers infrequently assessed parental understanding of information (2.0%). Parent satisfaction with the amount of information communicated was generally high (89.6% agreed or strongly agreed).

CONCLUSION: This is the first discharge communication study to be conducted in a paediatric ED context using video observation methods. Provider-parent communication was predominantly characterized by the exchange of medical information, with little time devoted to adequately preparing parents to care for their child at home. Greater assessment of parental comprehension is needed to ensure that parents understand important instructions and know when to seek further care.

24**INTERVENTIONS TO ASSIST PARENTS IN ACCURATELY DOSING LIQUID MEDICATIONS FOR THEIR CHILDREN: A SCOPING REVIEW**

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BACKGROUND: Parents' inaccurate dosing of liquid medications for their children is common, resulting in treatment failure and potential adverse effects. Educational interventions delivered by health care professionals are a means to help parents properly administer liquid medications.

OBJECTIVES: This scoping review was conducted to identify and describe empirically researched educational interventions that prevent inaccurate dosing of liquid medications by parents of children less than 12 years old.

DESIGN/METHODS: We conducted a scoping review using the Joanna Briggs Institute Methodology for Scoping Reviews. With assistance from a library scientist, we searched PubMed, CINAHL, and Web of Science for English-language articles published before June 2017. We also looked at the reference lists of the included articles and subsequent articles that have cited them to identify additional studies (forward and backward searching). Two reviewers independently screened the retrieved titles and abstracts using predetermined criteria. Only

quantitative, empirically designed studies that examined interventions delivered by health care professionals to help parents of children under 12 years old to accurately dose liquid medications were included. We appraised the quality of the included articles using the mixed methods appraisal tool (MMAT) and conducted a thematic analysis to identify trends and patterns.

RESULTS: Of the 180 abstracts identified in the search strategy, 9 studies met our inclusion criteria. We identified four main types of interventions: 1. use of visual aids (n=6); 2. use of advanced counselling strategies (n=2); 3. use of standardized measuring tools (n=3); and, 4. use of standardized units of measurement (n=2). Some studies evaluated more than one type of intervention. The overall quality of the included studies was moderate, with 11.1% (n=1) scoring 0.25, 33.3% (n=3) scoring 0.50, 55.6% (n=5) scoring 0.75, and none scoring 1.0.

CONCLUSION: Dosing accuracy of liquid medication for children by their parents is an important topic. More high quality studies conducted by a variety of research groups are needed to ensure the development and implementation of effective evidence-based educational interventions. There is a lack of standardization in the definition of a dosing error. Consensus regarding a standard definition would help studies be more comparable.

25**ADHERENCE TO THE PECARN PEDIATRIC HEAD INJURY RULE IN TWO CANADIAN EMERGENCY SETTINGS**

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BACKGROUND: Head computerized tomography (CT) increases the risk of cancer in children and should be carefully prescribed to paediatric patients with head injury. The Pediatric Emergency Care Applied Network (PECARN) validated a rule to identify children at risk of a clinically important traumatic brain injury (TBI) needing a head CT.

OBJECTIVES: The objective was to evaluate adherence to the PECARN rule as a function of CT overuse (defined as a prescribed CT when not recommended by the rule) and underuse rates (no CT performed when recommended) in two Canadian emergency departments (EDs).

DESIGN/METHODS: We conducted a retrospective chart review of children under 17 years of age seen in 2016 in a paediatric Level I (site 1) and a general Level II (site 2) trauma center. We reviewed charts to determine the appropriateness of head CT use according to the PECARN rule in a random subset of children presenting with a head trauma. Mandatory inclusion criteria were (1) that the head trauma occurred in the 24 hours prior to arrival to the ED, (2) a GCS over 13 and (3) and at least one sign or symptom of minor TBI. Patients with

a special condition that could have influenced the decision to order a head CT were automatically excluded. When a patient did not receive a head CT when recommended by the rule, we reviewed medical records to determine if the patient has returned to the ED after his discharge within the next 30 days.

RESULTS: 1546 eligible patients younger than 17 years consulted during the study period. Of the 203 randomly selected cases per setting, 16 (7.9%) and 24 (12%) respectively from sites 1 and 2 had a head CT performed. For the younger group (< 2), both overuse and underuse rates were below 3%. For the older group, overuse rates were higher in site 2 (9.3% (95%CI:4.8–17%) vs. 1.2% (95%CI:0.2–6.5%) ($P=.03$)) and there was no difference in underuse rates (22% (95%CI:6.3–55%) vs 39% (95%CI:18–65%) ($P=.65$)). For children who did not receive a head CT when recommended, none returned to the ED for a related complication.

CONCLUSION: Overall, even if there may be slightly more overuse of head CTs in the Level II trauma center, results showed an excellent agreement with the PECARN rule when CT was not recommended. However, results also showed a deviation when CT was recommended, where a higher portion of patients than expected did not receive a head CT. Reasons to explain this behaviour will need further exploration.

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THE EFFECTIVENESS OF VIDEO DISCHARGE INSTRUCTIONS FOR ACUTE OTITIS MEDIA IN CHILDREN: A RANDOMIZED CONTROLLED TRIAL

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BACKGROUND: Pain, the most identifiable feature of acute otitis media (AOM), is undertreated with 30% of children ≤ 2 years experiencing pain, fever, or both for up to 7 days, highlighting the importance of effective caregiver education.

OBJECTIVES: We sought to determine if video discharge instructions were associated with improved symptomatology, functional outcomes, and knowledge compared to a paper handout.

DESIGN/METHODS: We conducted a randomized controlled superiority trial comparing video discharge instructions (Easy Sketch Pro³™) on management of pain and fever to a paper handout detailing the same. We included primary caregivers of children 6 months to 5 years presenting to the emergency department (ED) with a clinical diagnosis of AOM. The primary outcome was symptomatology using the Acute Otitis Media Severity of Symptom (AOM SOS) score between 48 and 72 hours. The 7-item self-report AOM-SOS is scored from 0 to 13 with a higher score indicating more symptomatology. Secondary outcomes included knowledge gain using a 10-item survey, days of daycare/school/work missed, and recidivism.

RESULTS: A total of 219 caregivers were randomized and 149 completed the 72-hour follow-up (72 paper and 77 video). Participants were primarily mothers (175/219, 79.9%); 136/219 (62.1%) completed post-secondary education and 147/219 (67.1%) had previously cared for a child with AOM. Children included 107/219 (48.6%) females with an overall mean (SD) age of 2.9 (2.8) years. Caregivers did not offer analgesia to 41/219 (18.7%) of children. The median (IQR) AOM-SOS score in the video group was significantly lower than the paper group, even after adjusting for pre-intervention AOM-SOS and medication (analgesics and antibiotics) given by caregivers [8 (7,11) versus 10 (7,13), respectively, $p = 0.004$]. There were no significant differences between video and paper in the mean (SD) number of correct answers given on the post-intervention survey [9.2 (1.3) versus 8.8 (1.8), respectively, $p = 0.07$], mean (SD) number of children that returned to a health provider [8/77 versus 10/72, respectively, $p = 0.49$], mean (SD) number of daycare/school missed by child [1.2 (1.5) versus 1.1 (2.1), respectively, $p = 0.62$], mean (SD) number of work missed by caregiver [0.5 (1) versus 0.8 (2), respectively, $p = 0.05$].

CONCLUSION: Children of caregivers with AOM who received a five-minute video detailing the identification and management of pain and fever experienced less symptomatology compared to a paper handout. Our findings suggest that video discharge instructions in the ED are effective for caregiver education and should be used routinely.

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Knowledge, attitudes, and practices regarding opioid use in the pediatric emergency department

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BACKGROUND: Inadequate pain management in children is ubiquitous in the emergency department (ED). Inadequate pain management in children can have both short and long term detrimental effects. As the current national opioid crisis has highlighted, physicians are caught between balancing pain management and the risk of long term opioid dependence.

OBJECTIVES: This study aimed to describe paediatric emergency physicians' (PEPs) willingness to prescribe opioids to children in the ED and at discharge, perceived knowledge regarding common fears and myths about opioid use, management approach to hypothetical scenarios of varying musculoskeletal injury (MSK-I) pain in children, and perceived facilitators and barriers to prescribing opioids.

DESIGN/METHODS: A unique survey tool was created using published methodology guidelines. Information regarding practices, knowledge, attitudes, perceived barriers, facilitators and demographics were collected. The survey was distributed to all physician members of Pediatric Emergency Research Canada (PERC), using a modified Dillman's Tailored Design method, from October to December 2017.

RESULTS: The response rate was 49.7% (124/242); 53% (57/107) were female, mean age was 43.6 years (+/- 8.7), and 58% (72/124) had paediatric emergency subspecialty training. The most common first line pain medication in the ED was ibuprofen for mild, moderate and severe MSK-I related pain (94.4% (117/124), 89.5% (111/124), and 62.9% (78/124), respectively). For moderate and severe MSK-I pain, intranasal fentanyl was the most common opioid for first (35.5% (44/124) and 61.3% (76/124), respectively) and second line pain management (41.1% (51/124) and 20.2% (25/124), respectively). 74.8% (89/119) of PEPs reported that an opioid protocol would be helpful, specifically for morphine, fentanyl, and hydromorphone. Using a 0–100 scale, physicians minimally worried about physical dependence (13.3 +/-19.3), addiction (16.6 +/-19.8), and diversion of opioids (32.8 +/-26.4) when prescribing short-term opioids to children. They reported that the current opioid crisis minimally influenced their willingness to prescribe opioids (30.0 +/-26.2). Physicians reported rarely (36%; 45/125) or never (28%; 35/125) completing a screening risk assessment prior to prescribing opioids.

CONCLUSION: Intranasal fentanyl was the top opioid for all MSK-I pain intensities. PEPs are minimally concerned regarding dependence, addiction, and the current opioid crisis when prescribing short-term opioids to children. There is an urgent need for evidence regarding the dependence and addiction risk for children receiving short term opioids in order to create knowledge translation tools for ED physicians. Opioid specific protocols in the ED would likely improve physician comfort in responsible and adequate pain management for children.