

pregnancies among all pregnancies in the cohort. ED utilization peaked in the first trimester and in the first week postpartum. A dose-response effect was seen in the number of peri-pregnancy ED visits in relation to certain maternal characteristics. Women residing in rural areas had an odds ratio (OR) of 3.44 (95% CI 3.39 to 3.49) for ≥ 3 ED visits, compared to those in urban areas. Women with 3-5 (OR 1.99 95% CI 1.97-2.01), 5-6 (OR 3.55, 95% CI 3.49 to 3.61), or ≥ 7 (OR 7.59, 95% CI 7.39 to 7.78) pre-pregnancy comorbidities were more likely to have ≥ 3 peri-pregnancy ED visits than those with 0-2 comorbidities. Of all recognized pregnancies in the cohort, only 106,989 (3.9%) had an injury-related ED visit. **Conclusion:** Peri-pregnancy ED utilization occurs in nearly 40% of pregnancies, notably in the first trimester and immediately postpartum. Efforts are needed to streamline rapid access to ambulatory obstetrical care during these peak periods, when women are vulnerable to either a miscarriage, or a complication after a livebirth.

Keywords: early pregnancy complications, obstetrics, pregnancy

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Distraction in the ED using Virtual reality for Intravenous Needs in Children to Improve comfort- DEVINCI - a pilot RCT

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Introduction: Venipuncture is a frequent cause of pain and distress in the pediatric emergency department (ED). Distraction, which can improve patient experience, remains the most studied psychological intervention. Virtual reality (VR) is a method of immersive distraction that can contribute to the multi-modal management of procedural pain and distress. **Methods:** The main objectives of this study were to determine the feasibility and acceptability of Virtual Reality (VR) distraction for pain management associated with venipunctures and to examine its preliminary effects on pain and distress in the pediatric ED. Children 7-17 years requiring a venipuncture in the pediatric ED were recruited. Participants were randomized to either a control group (standard care) or intervention group (standard of care + VR). Principal clinical outcome was the mean level of procedural pain, measured by the verbal numerical rating scale (VNRS). Distress was also measured using the Child Fear Scale (CFS) and the Procedure Behavior Check List (PBCL) and memory of pain using the VNRS. Side effects were documented. **Results:** A total of 63 patients were recruited. Results showed feasibility and acceptability of VR in the PED and overall high satisfaction levels (79% recruitment rate of eligible families, 90% rate of VR game completion, and overall high mean satisfaction levels). There was a significantly higher level of satisfaction among healthcare providers in the intervention group, and 93% of those were willing to use this technology again for the same procedure. Regarding clinical outcomes, no significant difference was observed between groups on procedural pain. Distress evaluated by proxy (10/40 vs 13.2/40, $p=0.007$) and memory of pain at 24 hours (2.4 vs 4.2, $p=0.027$) were significantly lower in the VR group. Venipuncture was successful on first attempt in 23/31 patients (74%) in the VR group and 15/30 (50%) patients in the control group ($p=0.039$). Five of the 31 patients (16%) in the VR group reported side effects. **Conclusion:** The addition of VR to standard care is feasible and acceptable for pain and distress management during venipunctures in the pediatric ED. There was no difference in

self-reported procedural pain between groups. Levels of procedural distress and memory of pain at 24 hours were lower in the VR group.

Keywords: pain management, pediatric, virtual reality

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Emergency department visits for hyperglycemia: through the eyes of the patient

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Introduction: Patients with poorly-controlled diabetes often visit the emergency department (ED) for treatment of hyperglycemia. While previous qualitative studies have examined the patient experience of diabetes as a chronic illness, there are no studies describing patients' perceptions of ED care for hyperglycemia. The objective of this study was to explore the patient experience regarding ED hyperglycemia visits, and to characterize perceived barriers to adequate glycemic control post-discharge. **Methods:** This study was conducted at a tertiary care academic centre in London, Ontario. A qualitative constructivist grounded theory methodology was used to understand the experience of adult patient partners who have had an ED hyperglycemia visit. Patient partners, purposively sampled to capture a breadth of age, sex, disease and presentation frequency were invited to participate in a semi-structured individual interview to probe their experiences. Sampling continued until a theoretical framework representing key experiences and expectations reached sufficiency. Data were collected and analyzed iteratively using a constant comparative approach. **Results:** 22 patients with type 1 or 2 diabetes were interviewed. Participants sought care in the ED over other options because of their concern of having a potentially life-threatening condition, advice from a healthcare provider or family member, or a perceived lack of convenient alternatives to the ED based on time and location. Participants' care expectations centred around symptom relief, glycemic control, reassurance and education, and seeking referral to specialist diabetes care post-discharge. Finally, perceived system barriers that challenged participants' glycemic control included affordability of medical supplies and medications, access to follow-up and, in some cases, the transition from pediatric to adult diabetes care. **Conclusion:** Patients with diabetes utilize the ED for a variety of urgent and emergent hyperglycemic concerns. In addition to providing excellent medical treatment, ED healthcare providers should consider patients' expectations when caring for those presenting with hyperglycemia. Future studies will focus on developing strategies to help patients navigate some of the barriers that exist within our current limited healthcare system, enhance follow-up care, and improve short- and long-term health outcomes.

Keywords: diabetes, hyperglycemia, patient experience

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Emergency department prevalence of intracranial aneurysm on computed tomography angiography (EPIC-ACT)

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Introduction: Evidence is accumulating that a CT plus a CT angiogram (CTA) of the head and neck may be adequate to rule out subarachnoid hemorrhage (SAH) in patients with a thunderclap