

Pediatric ED Visits Before and After Establishment of Pediatric Dental Program

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Purpose

The purpose of this study is to compare the prevalence of dental-related emergency visits in the emergency department before and after the establishment of pediatric dental residency program at Lincoln Medical Center. The study also aims to classify dental-related emergency visits, identify type of treatment rendered and determine incidence of follow-ups in the pediatric dental clinic.

Background

Dental caries is the most prevalent chronic childhood disease in children in the US and untreated dental caries can lead to dental pain and infection (1). Some parents may utilize an emergency department instead of a dental clinic for their child's dental concerns due to lack of dental insurance and/or limited dental providers accepting their insurance. A study from the Kaiser Foundation, 25% of all children in America did not have dental insurance, and fewer than half of all dentists participate in public dental insurance program in 2009 (2).

Pediatric emergency visits for dental issues present a major cost to the healthcare system. According to a study by Patel et al., "2.2 million patients visited hospital EDs for dental pain at a cost of \$2.4 billion" in 2016. The ADA estimates that 79% of all dentalrelated emergency department visits could be immediately diverted to a dental office, which would result in a net healthcare savings of \$1.6 billion annually (3). Emergency departments are often illequipped to handle dental emergencies, patients will receive mainly palliative care (4).

<u>Methods</u>

- Retrospective chart review study of 223 patients treated at Lincoln Medical Center Pediatric Emergency Department (ED) and Pediatric Dental Clinic during the two different time periods:
 - September 2022 September 2023 (Y1)
 - September 2023 September 2024 (Y2)
- Inclusion criteria: Children age 2-12 years old presenting to the Pediatric ED with dental-related concerns
- The following information was obtained via Epic Electronic Health Record:
 - Type of dental emergency: trauma, infection, other concerns
 - Type of treatment rendered: procedural, prescription, no treatment
 - Completion of follow-up visit at the dental clinic within one month of ED visit









Chi-Squared Analysis was performed to compare ED presentation, ED treatment, and follow-up between year 1 and year 2:

- ED presentation between years 1 and 2 were not statistically significant with X²=3.55, p-value = 0.17
- ED Treatment between years 1 and 2 was statistically significant with X²=7.96, p-value = 0.019
- Follow-up between years 1 and 2 was statistically significant with X²=8.62, p-value = 0.003

Discussion

- Dental ED visits for both time periods were mainly related to caries, followed by other concerns, and lastly trauma.
- Procedures differed between year 1 and year 2 with a reduction in prescription treatment and an increase in procedural treatment.
- Follow-up significantly improved between years 1 and 2.

Conclusions

- Many patients present to the Emergency Department with dental related concerns.
- Dental treatment conducted in Lincoln Medical Center Pediatric Emergency Department is predominantly palliative.
- An increase in patient follow-up was seen after receiving a follow-up appointment, as opposed to being informed to walk-in at a non-specific time.
- Follow-up and establishing a dental home is important for patient's with dental problems.

References

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