



BACKGROUND

- Dental providers are at the highest risk to contract and transmit the virus due to aerosol generating procedures.
- Dental offices were closed during the coronavirus pandemic of 2019 (COVID-19) due to fear of virus transmission and hence, dental patients had limited access to care.
- Anecdotal evidence suggests that a higher number of pediatric dental emergencies reported during COVID-19.
- The purpose of this study was to objectively determine how the pandemic affected the dynamics of pediatric dental emergencies.

METHODS

- Electronic medical-dental records of children (0-18 years) reporting to the Children's Hospital Colorado (CHCO) for dental emergencies during COVID-19 were randomly selected and compared with records from the previous year.
- Demographic, clinical, and radiographic findings were summarized for statistical analysis to compare between the pre-pandemic (March-August 2019) and pandemic (March-August 2020) periods.
- The group differences were tested via *t*-test or Kruskal-Wallis test for continuous variables and Chi Squared test or Fisher's Exact test for categorical variables (alpha=0.05).

RESULTS

- Randomly selected chart reviews demonstrated no significant differences in the demographics of patients [including age, sex, distance travelled, race, ethnicity, insurance type, dental home, or special healthcare needs (SHCN) status] reporting to CHCO for pediatric dental emergencies during and before COVID-19.
- The dynamics of pediatric dental care were consistent, and a comparable number of patients reported for trauma or odontogenic infection before or during COVID-19 pandemic.
- No significant differences were noted in the dynamics of pediatric dental care provided at CHCO during COVID-19.
- There were no significant changes in dental management modalities due to the pandemic.

Table1: Demographics of pediatric dental emergencies at CHCO

Categories	Mar-Aug 19 (n=60)	Mar-Aug 20 (n=60)	P-value
Age Median (Q1,Q3)	7.0 (4.9, 9.1)	6.5 (4.2, 9.2)	0.793
Distance Median (Q1,Q3)	14.8 (6.4, 27.8)	13.9 (6.4, 25.9)	0.644
Gender (Female)	39 (65.0%)	45 (75.0%)	0.319
Race			0.730
White	34 (56.7%)	33 (55.0%)	
African American	6 (10.0%)	9 (15.0%)	
Pacific Islander	1 (1.7%)	0 (0.0%)	
Mixed	12 (20.0%)	16 (26.0%)	
Ethnicity			0.430
Non-Hispanic	39 (65.0%)	35 (58.3%)	
Hispanic	20 (33.3%)	21 (35.0%)	
Unknown	1 (1.7%)	4 (6.7%)	
Insurance Type			0.870
Medicaid/CHIP	30 (50.0%)	41 (68.3%)	
Private	28 (46.7%)	18 (30.0%)	
Charity care	0 (0.0%)	0 (0.0%)	
None	2 (3.3%)	1 (1.7%)	
Person accompanying			0.322
MOC	37 (63.8%)	38 (63.3%)	
FOC	3 (5.2%)	4 (6.7%)	
Parents	13 (22.4%)	17 (28.3%)	
Legal guardian	1 (1.7%)	1 (1.7%)	
Other	6 (10.0%)	0 (0.0%)	
Dental home			0.920
Private	34 (56.7%)	31 (51.7%)	
CHCO	6 (10.0%)	8 (13.3%)	
FQHC	1 (1.7%)	4 (6.7%)	
None	19 (31.6%)	17 (28.3%)	
SHCN Status			0.819
Healthy	43 (71.7%)	44 (73.3%)	
Medications only	10 (16.7%)	7 (11.7%)	
Elevated services only	3 (5.0%)	4 (6.7%)	
Medications & services	2 (3.3%)	4 (6.7%)	
Functional limitations	2 (3.3%)	1 (1.7%)	

Table 2: Dynamics of Emergency Pediatric Dental Care

Categories	Mar-Aug 19 (n=60)	Mar-Aug 20 (n=60)	P-value
Admission to discharge (mins.) Median (Q1,Q3)	256.5 (186.2, 358.8)	277.0 (200.8, 382.5)	0.536
Dental care (mins.) Median (Q1,Q3)	60.0 (33.8, 90.0)	60.0 (45.0, 105.0)	0.156
Visit diagnosis			0.826
Odontogenic infection	31 (56.4%)	27 (52.9%)	
Trauma	22 (40.0%)	23 (45.1%)	
Pathology	2 (3.6%)	1 (2.0%)	
Other	5 (8.3%)	9 (1.5%)	
Previously planned care at dental home	6 (10.0%)	7 (11.7%)	0.857
Intraoral radiographs	50 (83.3%)	51 (85.0%)	1.000
Treatment in ER			0.848
No treatment	18 (30.0%)	8 (13.3%)	
Extractions	20 (33.3%)	26 (43.3%)	
Trauma management	17 (28.3%)	22 (23.3%)	
Other	5 (8.3%)	4 (6.7%)	

DISCUSSION AND CONCLUSIONS

- It was hypothesized that there would be a significantly higher volume of pediatric patients reporting to the emergency department (ED) during the pandemic for odontogenic infections.
- Our results disproved the anecdotal evidence and our hypothesis. There was no evidence of increase in the proportion of patients reporting to the emergency room for odontogenic infections during COVID-19.
- This study provided valuable evidence that fear of the transmission risk during the Covid-19 pandemic did not influence providers' ability to provide uninterrupted, definitive care and did not influence the choice or modality of dental care.

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