

# Dental Emergencies Pre and Post COVID: A Retrospective study.

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## Introduction

The prevalence of emergency visits for pediatric dental care has been increasing in the last two decades. Many children have restricted access to dental services, and parents often take their children to the dentist only when a condition becomes urgent and causes discomfort or pain. It has been reported that 25.7 percent of children who visit a dentist for the first time are due to an emergency.

The World Health Organization (WHO) declared COVID-19 a global pandemic on March 11, 2020 . This also raised inevitable challenges in patients' access to routine dental treatment and has raised caregiver concerns and fear, which led them to postpone their dental treatments and follow-ups.

## Objectives

To explore the impact of Covid-19 on the rate and types of dental emergencies among pediatric dental patients at Tufts University School of Dental Medicine (TUSDM).

## Methods

- Retrospective chart review study.
- Reviewed the Electronic Health Records (axiUm) to collect a convenience sample of up to 1102 patients of emergency appointments
- Data collected included demographics, diagnosis of the dental condition, pain status, patient status of compliance and time of visit (pre/post COVID-19).

### Study Population

All patients who visited for dental emergency clinic at Tufts University pediatric dental clinic during the period between 09/01/2018 to 08/31/2021.

### Statistical Analysis

Chi-square test for association and Fisher’s Exact test for sparse cell count. SPSS 27 and STATA.

## Results

Table 1: Descriptive patient treated for emergencies:

Characteristics of Emergency				
Number of emergency appointment in total: n		1102		
Pre COVID-19 n		551		
Post COVID-19 n		551		
Age:		0-6 year	7-12 Year	13-21 year
Range	0-21 years	405 (n)	473 (n)	224 (n)
Mean (SD)	8.7 (4.4) years			
Gender				
-Male, N (%)		585 (53.1%)		
-Female, N (%)		517 (46.9%)		
Pain status				
Pain, N (%)		615 (55.9%)		
No pain, N (%)		485 (44.1%)		
Compliance With Regular Dental Visits:				
- Compliant patients , N (%)		174 (26.5%)		
- Non Compliant patients, N (%)		292 (15.8 %)		
- New patient , N (%)		537 (46.7%)		
- Other (eg. No record of recare, referred for limited eval) N (%)		99 (9.0 %)		

Table 2 : Type and Prevalence of Dental Emergencies

Emergency Diagnosis:		0-6 yrs	7-12 yrs	13-21 yrs
-Pulp related infections	52.%	42%	35.3%	22.7%
-Trauma Related	13.5%	52.3%	32.2%	15.5%
-Eruption Related	14%	23.4%	57.8%	18.8%
-Ortho/ Space maintainer related	10.3%	4.4%	78.8%	16.8%
-Other (eg. gingival inflammation, TMD..etc)	9.5%	40%	40%	20%

Table 3 : Effect of COVID-19 on dental infections and patient compliance with regular visits

	Pre COVID-19	Post COVID-19	P- Value
- Dental infections	44.0%	56.0%	< 0.001
- Compliant patients	50.4%	20.9%	< 0.001
- Non Compliant patients	49.6%	79.1%	< 0.001

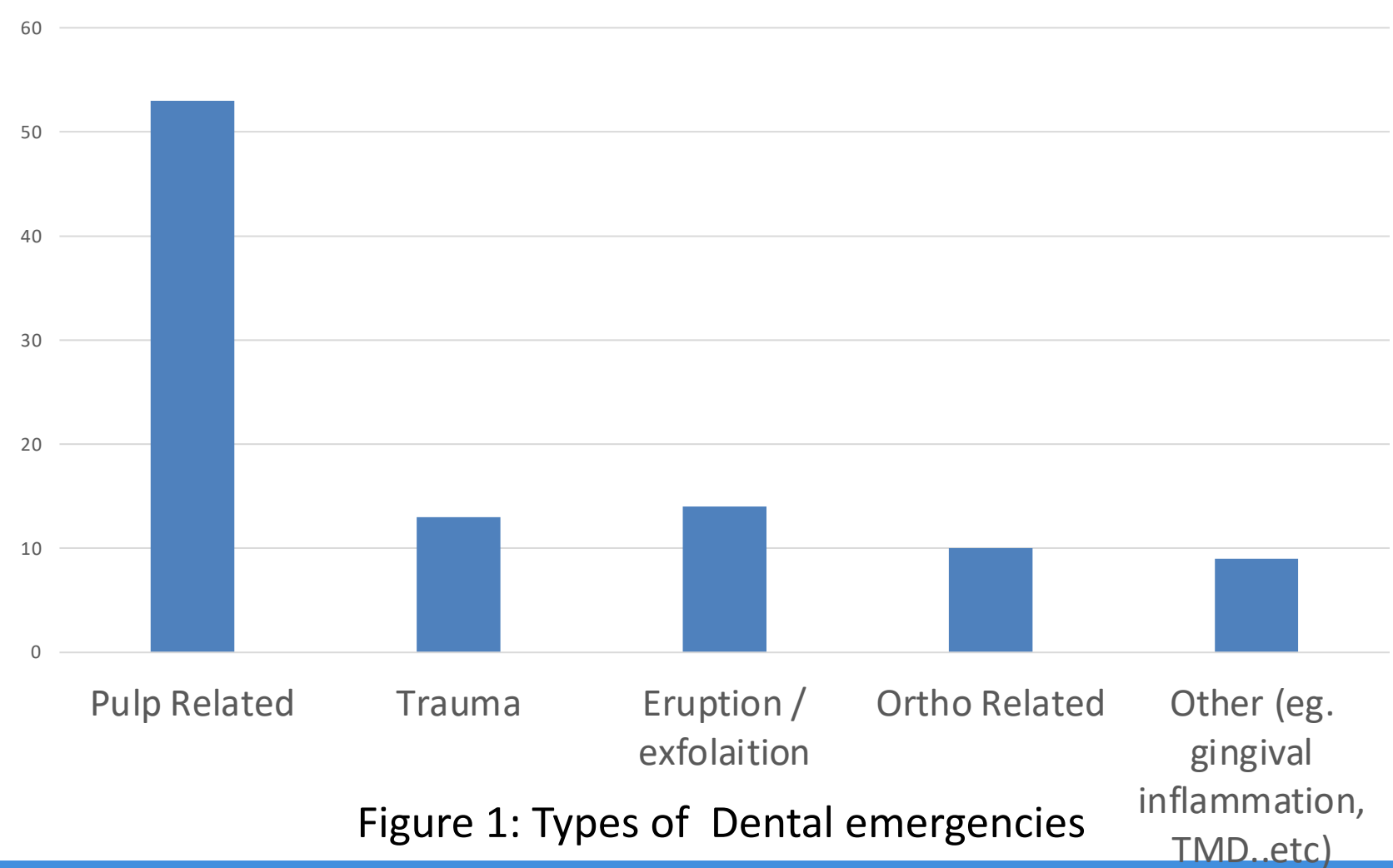


Figure 1: Types of Dental emergencies

Pulp related infections represented most of dental emergency visits (53%). (Table 1)

There is a statistically significant association between emergency diagnosis and age category. (P<0.001). Pulp related infections was seen more in age group (0-6) year along with trauma emergencies. (Table 2)

In the other hand, eruption related emergencies and ortho/SM emergencies were more diagnosed in (7-12) year age group. (Table 2)

The rate of infections after the beginning of COVID-19 increased significantly (P<0.001) when compared to before COVID-19 (56% and 44% respectively). (Table 3)

Patient compliance with regular dental visits have decreased after the start of the pandemic. (Figure 2)

There was a statistically significant association between patient non compliance with regular visit and the rate on pulp related infections (P<0.001). (Table 3)

Patients who were non- compliance with recare appointments were more likely to have an infection-related emergency (39%) when compared to patients who were compliant (21%). (Figure 3).

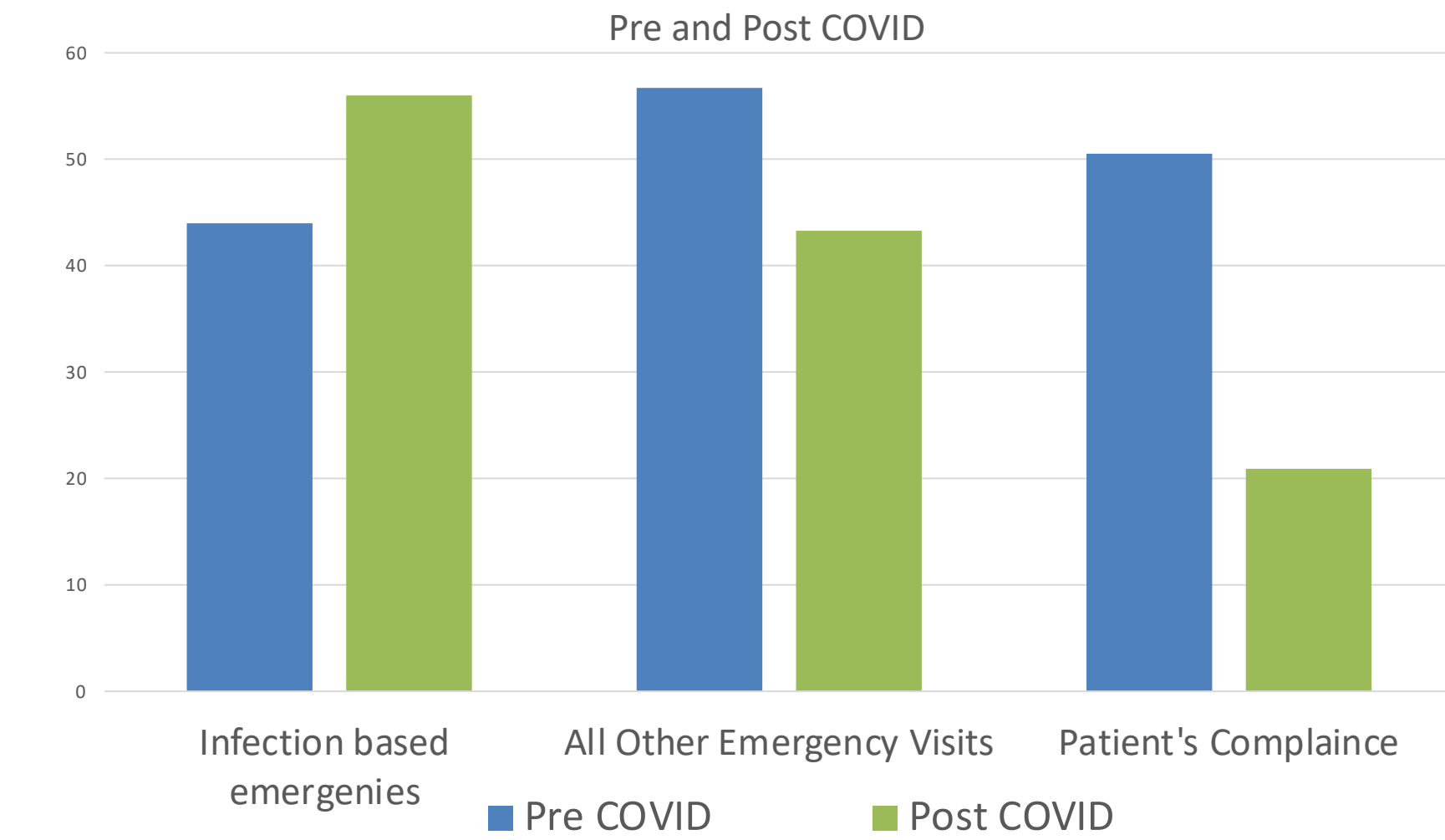


Figure 2: Effect of COVID-19 on type of emergencies and patient compliance with regular visits

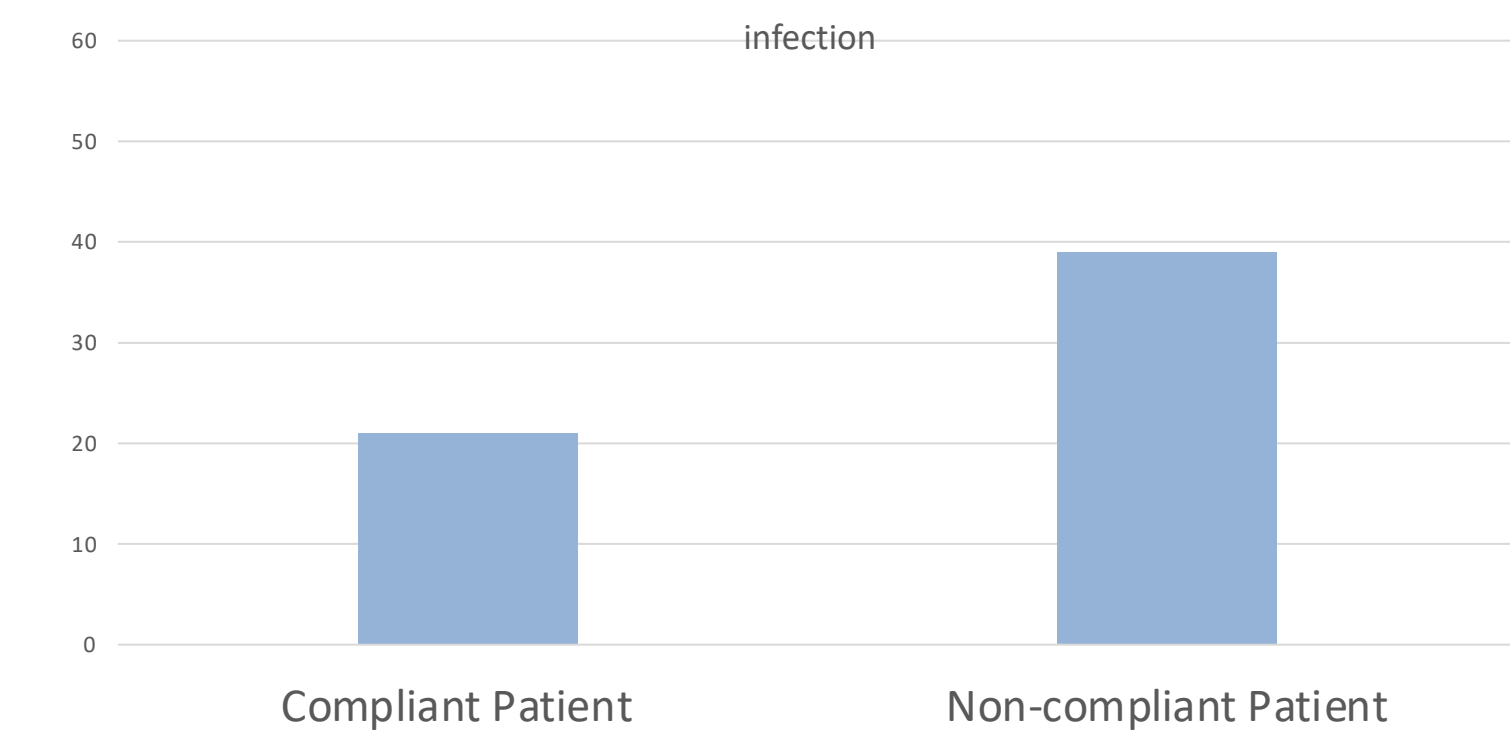


Figure 3: The effect of patient compliance with regular visits on the rate of infections

## Conclusion

Pulp-related infections represented the majority of dental emergency visits seen at (TUSDM). There has been a decrease in patient compliance after the start of COVID-19 pandemic, and infections have significantly increased.

Patients who were non-compliant with 6-month visits presented with increased infections when compared to compliant patients.

## Acknowledgment

Funding to support these educational activities for our residents was made possible by the Golub Family Advancement in Education Fund in Pediatric Dentistry

## References

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