Assessment of the Effects of the COVID-19 Quarantine Period on the Extent of Dental Decay and Need for Emergent Treatment

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Abstract

The purpose of this retrospective observational study was to quantitatively assess the extent of dental decay before and after one year of the COVID-19 quarantine. Data was collected from the medical records of 252 patients treated under general anesthesia at Yale-New Haven Hospital(YNHH) in 2019 and 308 patients in 2021. Results show a 22% increase in patient encounters, with an increase in all procedural needs after the height of the pandemic. While emergent encounters were not significantly different, those due to acute pain rose 13%

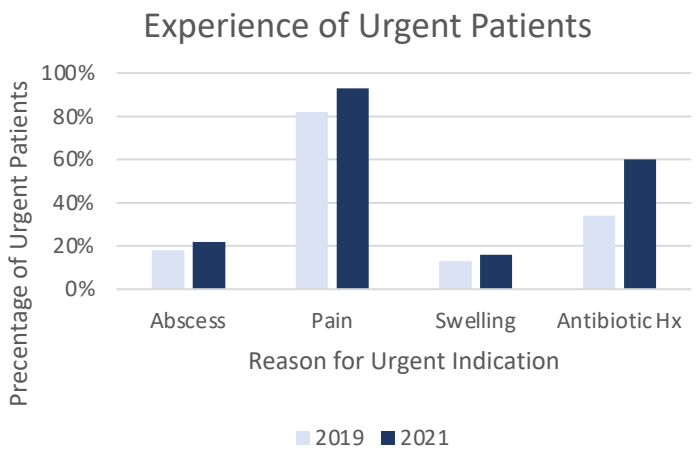
Background

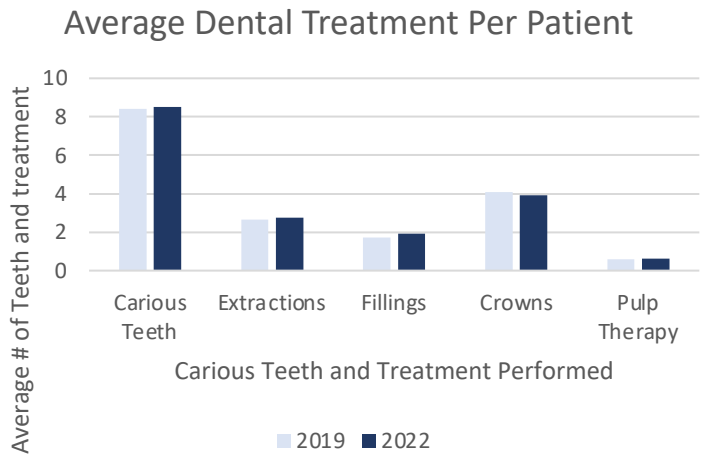
Pediatric patients requiring extensive dental care under anesthesia pose unique challenges for healthcare providers. The operating room (OR) becomes essential for managing these cases due to complex dental needs and behavioral considerations. The COVID-19 pandemic brought significant disruptions to healthcare, including dental services. Closures, capacity limitations, and altered protocols may have impacted pediatric dental care. Understanding these changes is crucial for adapting healthcare delivery and ensuring equitable access to dental services for vulnerable pediatric populations. Insights from this study will inform strategies to optimize pediatric dental care delivery, particularly for those needing extensive treatment under anesthesia.

Methods

This study considered all patients who underwent general anesthesia at the YNHH operating room during two time periods March 2019 to September 2019 and March 2021 to September 2021. Only patients aged between 0 and 18 years old who received general anesthesia due to a diagnosis of decay were included. Chart reviews were conducted by five Pediatric dental residents on eligible patients. The collected data encompassed patient demographics, treatment methods, wait times, and details regarding emergent care circumstances.

Results





Discussion

In this study of 560 patients, average age, average number of restored teeth and restorative experiences were all similar and not statistically significantly different. Fillings increased slightly from 1.7 to 1.9, while crowns decreased from 4.1 to 3.9 on average between the two years. Both groups had consistent rates of extractions and minimal pulp treatments. Surprisingly, urgent care cases decreased from 27% to 20%. Despite a 22% increase in patients receiving general anesthesia, there appeared to be no quantitative changes in decay severity, challenging the initial hypotheses. The decrease in urgent care cases in the context of increased patient volumes may mask true population needs. A 76% increase in antibiotic therapy use might suggest more severe infection, but also warrants examining prescribing practices and infection types.

Conclusion

The COVID-19 pandemic likely exerted a profound influence on children's oral health, but due to limited quantitative analyses of decay experience, the full extent remains unclear. Our study reveals a notable surge in demand for anesthesia-based care and reports of dental pain and infections among patients one year post the COVID-19 quarantine. Despite the pandemic's acute phase having passed, its enduring repercussions may only surface over time. Conducting more extensive, long-term studies is imperative to comprehensively gauge the enduring impacts of the COVID-19 pandemic on dental outcomes.

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