

Introduction

Dental caries is one of the most prevalent chronic diseases in US children [1]. For pediatric patients with extensive needs or behavioral challenges, comprehensive treatment under general anesthesia (OR) is often required.

While this comprehensive treatment restores the patient's oral health, the long-term impact of this intervention on dental service utilization, including routine follow-up and emergency dental visits, is unknown.

Although studies have found high rates of relapse and poor follow-up [2, 3] after OR dental treatment, the reason for this finding is not clearly established, creating a critical research gap.

This study aims to determine whether OR treatment leads to better long-term oral health habits by comparing dental service utilization before and after treatment.

Purpose

To determine if there are statistical differences in the number of Routine and Emergency dental visits before vs. after comprehensive OR treatment.

Hypotheses

- For routine visits: The number of routine preventive visits will not change post-OR.
- For emergency visits: The number of emergency visits will not change post-OR.

Methods

Study Design: Retrospective Chart Review.
Location: University of Toledo Dental Service.
Sampling: 272 pediatric patients.
Timeframe: July 2023 – June 2024
(data collected 06/25/2025).

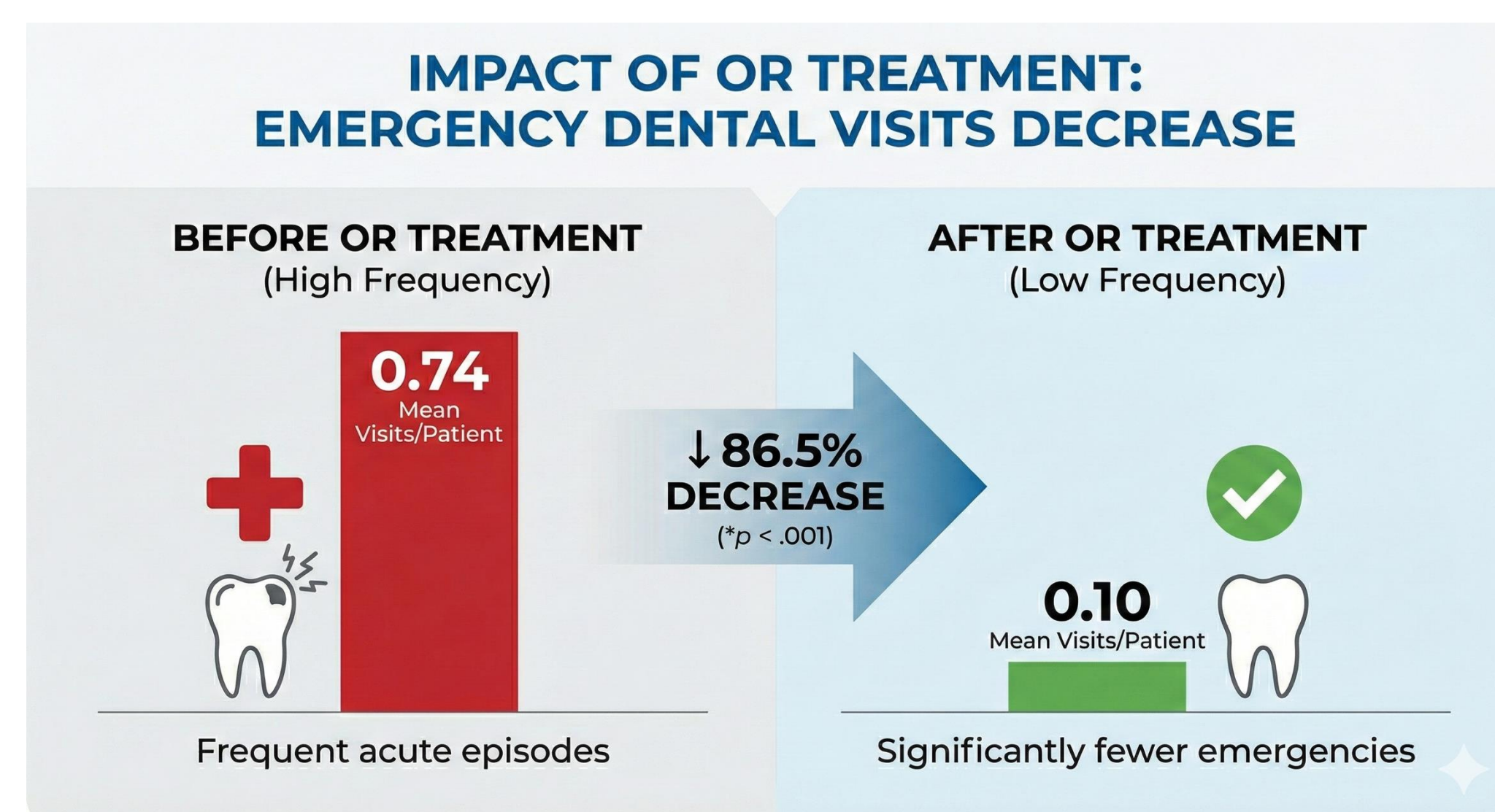
Inclusion Criteria:

- Ages 2–12.
- Completed comprehensive dental treatment in the OR.
- Active records at UT Dental Service.

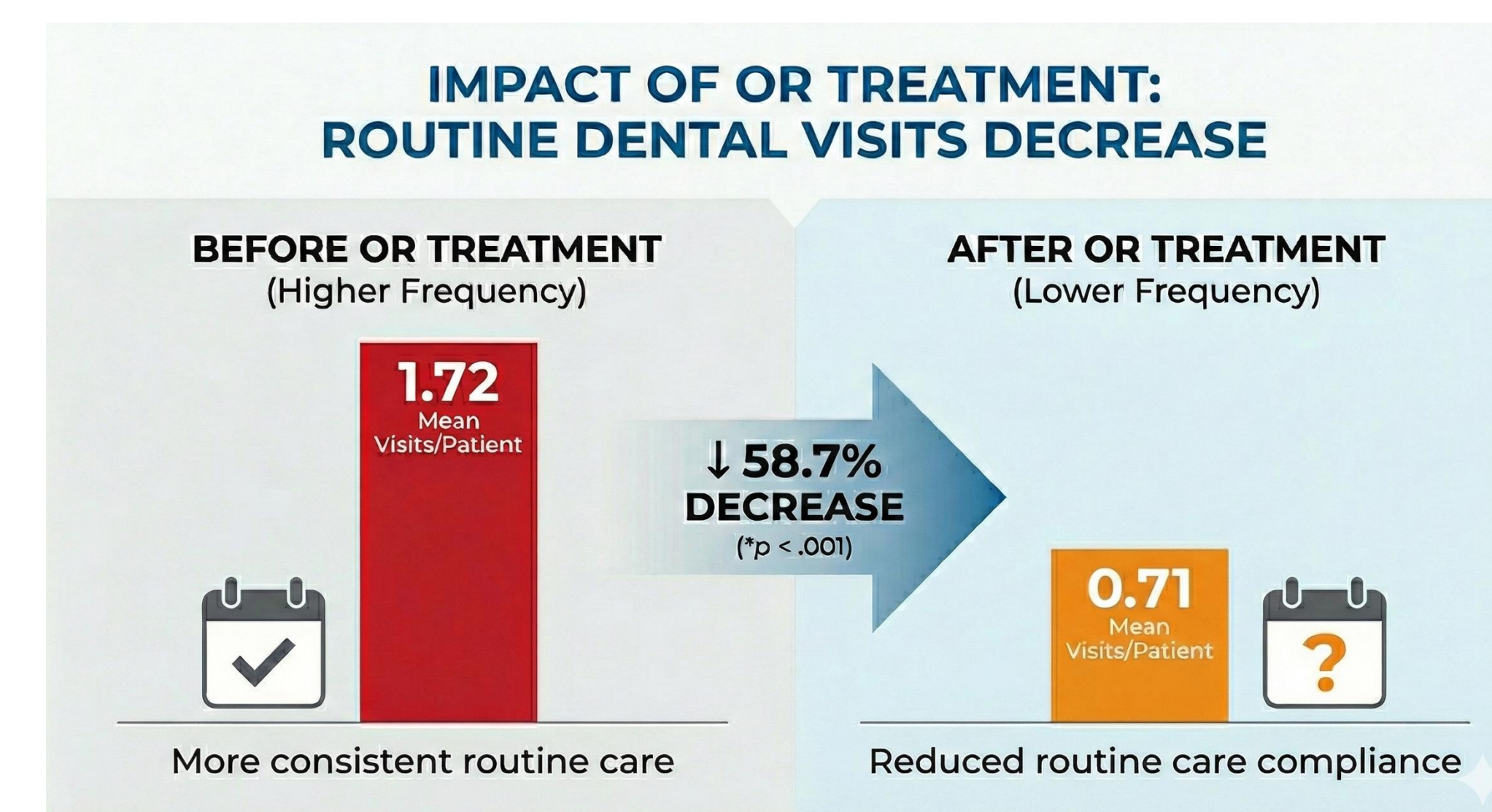
Results

Category	# of patients	p-value		Statistical difference (95%)?		Average # of visits before OR		Average # of visits after OR		% reduction # of visits	
		Routine	Emergency	Routine	Emergency	Routine	Emergency	Routine	Emergency	Routine	Emergency
Male	132	<0.001	<0.001	yes	yes	1.73	0.65	0.67	0.12	61.3%	81.5%
Female	140	<0.001	<0.001	yes	yes	1.70	0.82	0.74	0.07	56.5%	91.5%
2-YO	3	0.333	0.211	no	no	1.00	0.33	0.67	0.00	33.0%	100.0%
3-YO	23	<0.001	<0.001	yes	yes	1.43	0.43	0.65	0.13	54.5%	69.8%
4-YO	39	<0.001	<0.001	yes	yes	1.51	0.67	0.59	0.05	60.9%	92.5%
5-YO	51	<0.001	<0.001	yes	yes	1.71	0.67	0.80	0.06	53.2%	91.0%
6-YO	58	<0.001	<0.001	yes	yes	1.84	0.83	0.76	0.09	58.7%	89.2%
7-YO	33	<0.001	<0.001	yes	yes	1.52	0.82	0.64	0.15	57.9%	81.7%
8-YO	32	<0.001	0.001	yes	yes	2.19	0.84	0.81	0.22	63.0%	73.8%
9-YO	14	<0.001	0.003	yes	yes	2.00	0.64	0.71	0.00	64.5%	100.0%
10-YO	10	0.003	0.052	yes	no	1.60	0.40	0.40	0.00	75.0%	100.0%
11-YO	6	0.305	0.006	no	yes	1.00	1.17	0.67	0.17	33.0%	85.5%
12-YO	3	0.16	0.047	no	yes	2.67	2.67	0.67	0.00	74.9%	100.0%
Total	272	<0.001	<0.001	yes	yes	1.72	0.74	0.71	0.10	58.7%	86.5%

Key Takeaway: Statistically significant decreases were observed for both visit types.



Interpretation: The OR intervention effectively reduced the need for emergency care.



Interpretation: After OR treatment, patients' compliance with preventive care was reduced.

References:

- Fleming, E., & Afful, J. (2018). Prevalence of total and untreated dental caries among youth: United States, 2015–2016. *NCHS Data Brief*, (317), 1–8.
- Al-Emyan, K. J., BinShabaib, M., Alsanee, M., & Al-Sarheed, M. A. (2022). Systematic review of different outcomes for dental treatment provided to children under general anesthesia. *Annals of Dental Specialty*, 10(4), 187–194.
- Rathi M.D., Kashani R., Chinn C.H., Nandi S.S. (2021). Compliance of Special Health Care Needs and Healthy Pediatric Patients with Preventive Visits after Dental Treatment under General Anesthesia. *J Dent Child (Chic)*, 88(2), 74–79.

Discussion

Why Emergency Visits Dropped (-86.5%)?

- Disease Resolution:** Extractions and restorations removed the source of pain.
- No "Waiting Period":** Patients were no longer waiting months for care with active disease.

Why Routine Visits Dropped (-58.7%)?

- Perception of "Cure":** Caretakers may believe the child is "fixed" and deprioritize care.
- Barriers:** Cost, transport, and time constraints persist post-surgery.
- Transfer of Care:** Patients may have returned to referring dentists or found a new "Dental Home" closer to their residence.

Conclusions

- Comprehensive OR dental treatment is effective at eliminating emergency dental needs.
- The intervention fails to improve—and actually creates a decline in—adherence to routine preventive care.
- Without consistent follow-up, these high-risk patients remain vulnerable to disease recurrence.

Recommendations

1. Caretaker Education:

- Must emphasize that surgery treats the result of the disease, not the cause.
- Reinforce caries as a chronic, recurring condition.

2. Seamless Coordination of Care:

- Implement a protocol where the first 6-month recall visit is scheduled before discharge.
- Verify the "Dental Home" status if the patient plans to transfer care.