

Impact of Preoperative Appointments on Failed General Anesthesia Dental Visits



Authors: Jonathan Pham DMD¹, Takish Ziad BDS², Shreekrishna Akilesh DMD, MPH³, Manuel R. Vazquez-Sanchez MS⁴

¹PGY-2 Resident, ²Associate Program Director, ³Senior Associate Program Director, ⁴Assistant Research Scientist

^{1,2,3}Advanced Education in Pediatric Dentistry, NYU Langone Dental Medicine, Hansjörg Wyss Department of Plastic Surgery, Division of Dental Medicine, NYU School of Medicine

⁴Division of Biostatistics, Department of Population Health, NYU Grossman School of Medicine

NYU Langone Dental Medicine
Postdoctoral Residency Programs

INTRODUCTION

- Children and individuals with special health care needs may require general anesthesia (GA) for safe, humane dental treatment due to extensive oral needs, anxiety, uncooperative behavior, cognitive immaturity, disabilities, or medical conditions.¹
- When providing dental treatment under GA for pediatric patients, it is essential to weigh the benefits and risks. Preoperative GA appointments are critical to ensuring safe care for patients.
- Missed GA dental appointments can delay essential care, waste resources, and increase health risks-including pain, tooth loss, and life-threatening infections from untreated dental caries^{3,4}-underscoring the need to improve GA dental appointment attendance.

PURPOSE

This retrospective study aimed to assess whether implementing preoperative general anesthesia (GA) dental appointments reduces the rate of failed GA dental appointments.

METHOD

- Reviewed data for 147 GA patients treated at Sun Life Pediatric Dentistry from December 2021 to November 2022. The study compared GA appointment failure rates before and after introducing preoperative GA appointments. It also examined attendance patterns at both appointment types and analyzed age and gender distributions.
- Fisher's exact test, Pearson's chi-square test, and Wilcoxon rank-sum tests were used to analyze the data. A p-value ≤ 0.05 was considered statistically significant, while p-values > 0.05 were deemed non-significant.

FIGURES

Figure 1.

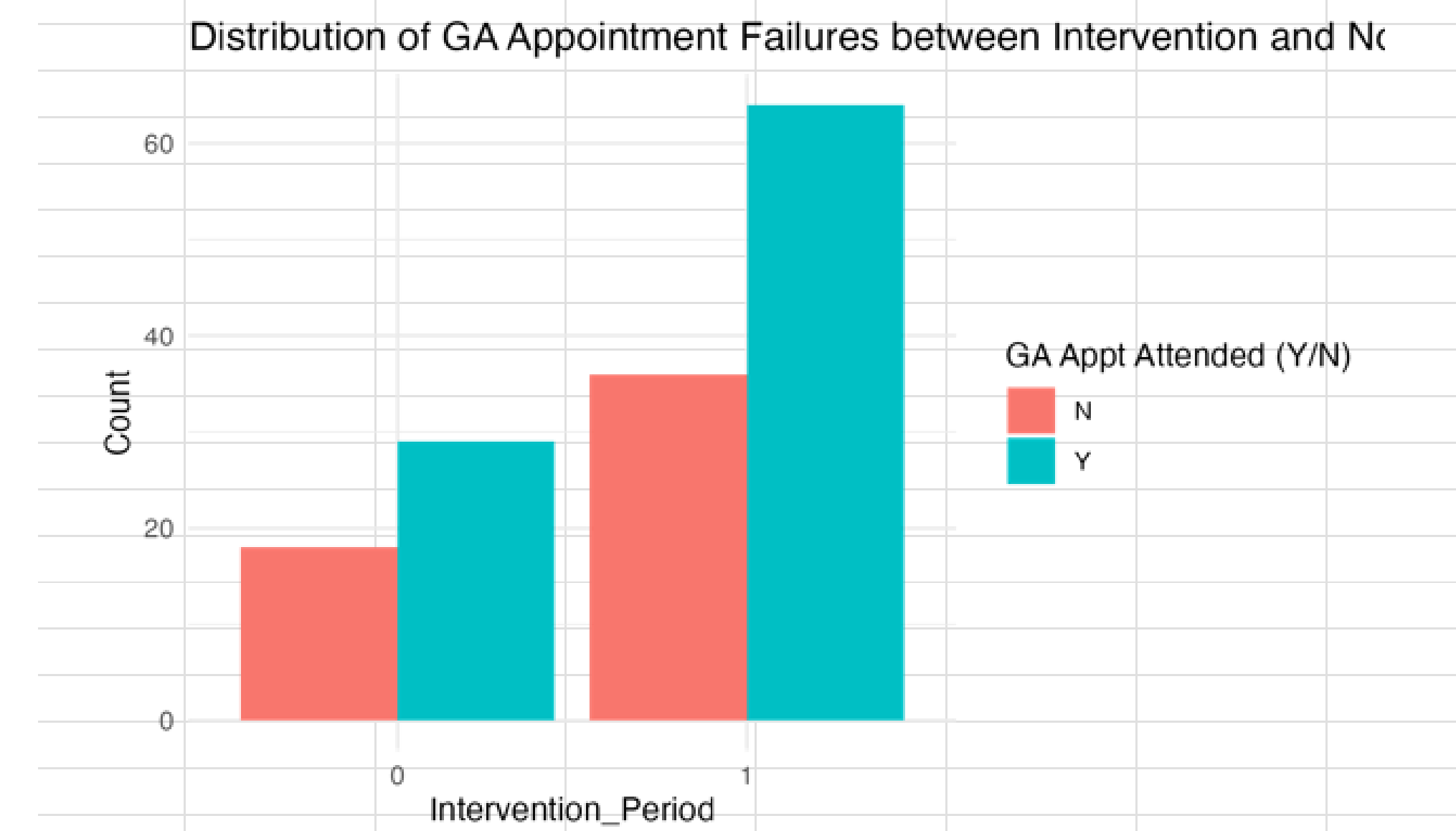
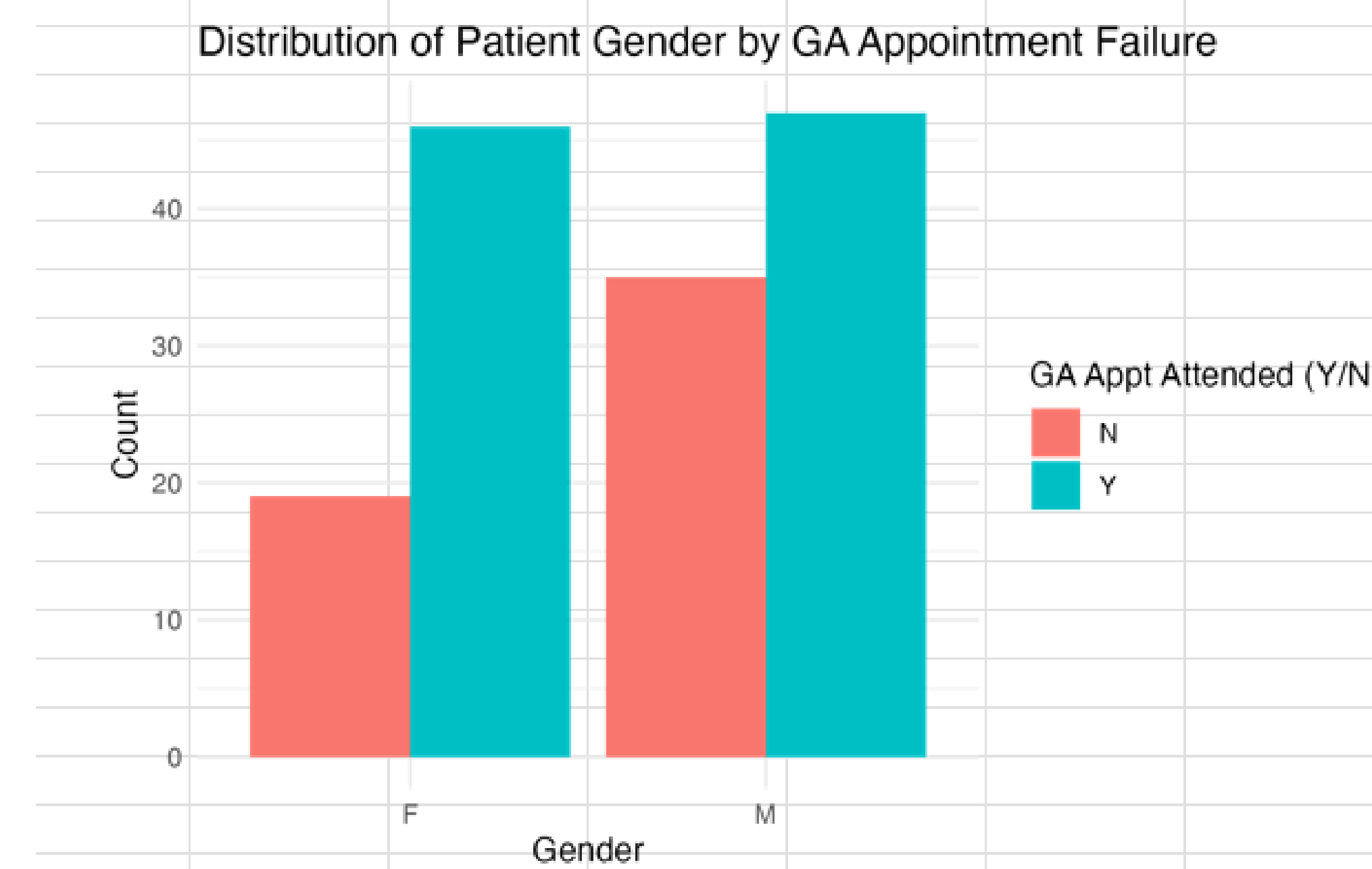


Figure 2.



RESULTS

- A total of 147 patients were analyzed: 47 from the pre-intervention period (December 2021-May 2022) and 100 post-intervention (June 2022-November 2022). Of these, 54 (37%) failed to attend their GA dental appointment, while 93 (62%) attended. During the non-intervention period, 18 patients missed their GA appointment while 29 attended. During the intervention period, 36 patients missed their GA appointment, whereas 64 attended.
- Following the introduction of preoperative GA appointments, the overall rate of missed GA dental appointments dropped from 38% to 36%, a 2% reduction, which is not statistically significant ($p > 0.05$).
- The mean age of participants was 5 years (4.90) (SD 1.66). The sex distribution was nearly balanced, with 82 males (56%) and 65 females (44%). No statistically significant difference was found in gender distribution between those who missed and those who attended GA appointments ($p > 0.05$).

CONCLUSIONS

- There was no significant change in GA dental appointment failures before and after implementing preoperative appointments at Sun Life Pediatric Dentistry. Although a 2% reduction was observed, it was not statistically significant. These findings suggest minimal impact of the intervention on appointment failures.
- Further research is needed to understand patient's missed GA dental appointments and the effectiveness of preoperative appointments.

REFERENCES

1. AAPD | Use of Anesthesia Providers in the Administration of Office-Based Deep Sedation/General Anesthesia to the Pediatric Dental Patient. *Aspd.org*. Published 2024. Accessed December 16, 2024. <https://www.aspd.org/research/oral-health/policies-recommendations/use-of-anesthesia-providers-in-the-administration-of-office-based-deep-sedation-general-anesthesia-to-the-pediatric-dental-patient/>
2. Campbell RL, Shetty NS, Shetty KS, Pope HL, Campbell JR. Pediatric Dental Surgery Under General Anesthesia: Uncooperative Children. *Anesthesia Progress*. 2018;65(4):225-230. doi:<https://doi.org/10.2344/anpr-65-03-04>
3. CDC. About Cavities (Tooth Decay). Oral Health. Published May 13, 2024. <https://www.cdc.gov/oral-health/about/cavities-tooth-decay.html>
4. CDC. Fast Facts: Cavities, Oral Health. Published May 13, 2024. <https://www.cdc.gov/oral-health/data-research/facts-stats/fast-facts-cavities.html>
5. Auvergne L, Quinonez R, Roberts MW, Drawbridge JN, Cowherd M, Steiner MJ. Preoperative assessment for children requiring dental treatment under general anesthesia. *Clinical Pediatrics*. 2011;50(11):1018-1023. doi:<https://doi.org/10.1177/0009922811410873>
6. Voytus ML. Evaluation, Scheduling, and Management of Dental Care Under General Anesthesia for Special Needs Patients. *Dental Clinics of North America*. 2009;53(2):243-254. doi:<https://doi.org/10.1016/j.cden.2008.12.018>
7. Fisher Q, Feldman M, Wilson M. Pediatric responsibilities for preoperative evaluation. *The Journal of Pediatrics*. 1994;125(5):675-685. doi:[https://doi.org/10.1016/s0022-3476\(94\)70057-5](https://doi.org/10.1016/s0022-3476(94)70057-5)
8. Rutherford J, Stevenson R. Careful physical examination is essential in the preoperative assessment of children for dental extractions under general anesthesia. *Pediatric Anesthesia*. 2004;14(11):920-923. doi:<https://doi.org/10.1111/j.1460-9592.2004.01320.x>
9. Coté CJ, Wilson S. Guidelines for Monitoring and Management of Pediatric Patients Before, During, and After Sedation for Diagnostic and Therapeutic Procedures. *Pediatrics*. 2019;143(6):e20191000. doi:<https://doi.org/10.1542/peds.2019-1000>
10. Becker DE. Preoperative Medical Evaluation: Part 1: General Principles and Cardiovascular Considerations. *Anesthesia Progress*. 2009;56(3):92-103. doi:<https://doi.org/10.2344/0003-3006-56.3.92>