

Comparison of Pulpotomies Done With And Without General Anesthesia



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INTRODUCTION

-One of the goals of pediatric dentistry is to maintain primary teeth until natural exfoliation. Premature loss of primary teeth can lead to problems such as space loss, crowding, and midline shift of the permanent dentition. The pulpotomy procedure (surgical removal of coronal pulp from tooth) maintains a tooth's vitality and allows for a tooth with caries approaching the pulp, or inside the pulp, to be restored.

-The pulpotomy procedure requires excellent isolation to prevent bacterial contamination from saliva.

-Treatment under General Anesthesia (GA) offers perfect patient compliance and isolation, two factors that are at play in the success of restorative dental work.

- Studying GA as a factor in the success of the pulpotomy procedure is useful in the dental treatment planning of pediatric patients.

PURPOSE

-To compare the success of pulpotomies done under GA vs those done without it.

-To improve pediatric dental treatment planning: if the study shows that pulpotomies done under GA are more successful, the treating dentist may be swayed to utilize GA in a case where one or more pulpotomies are required.

METHOD

-This was a retroactive chart review of 229 pediatric patient charts from Compass Health in Columbia, MO, who had a pulpotomy done in the year 2022, either under GA or in the office.

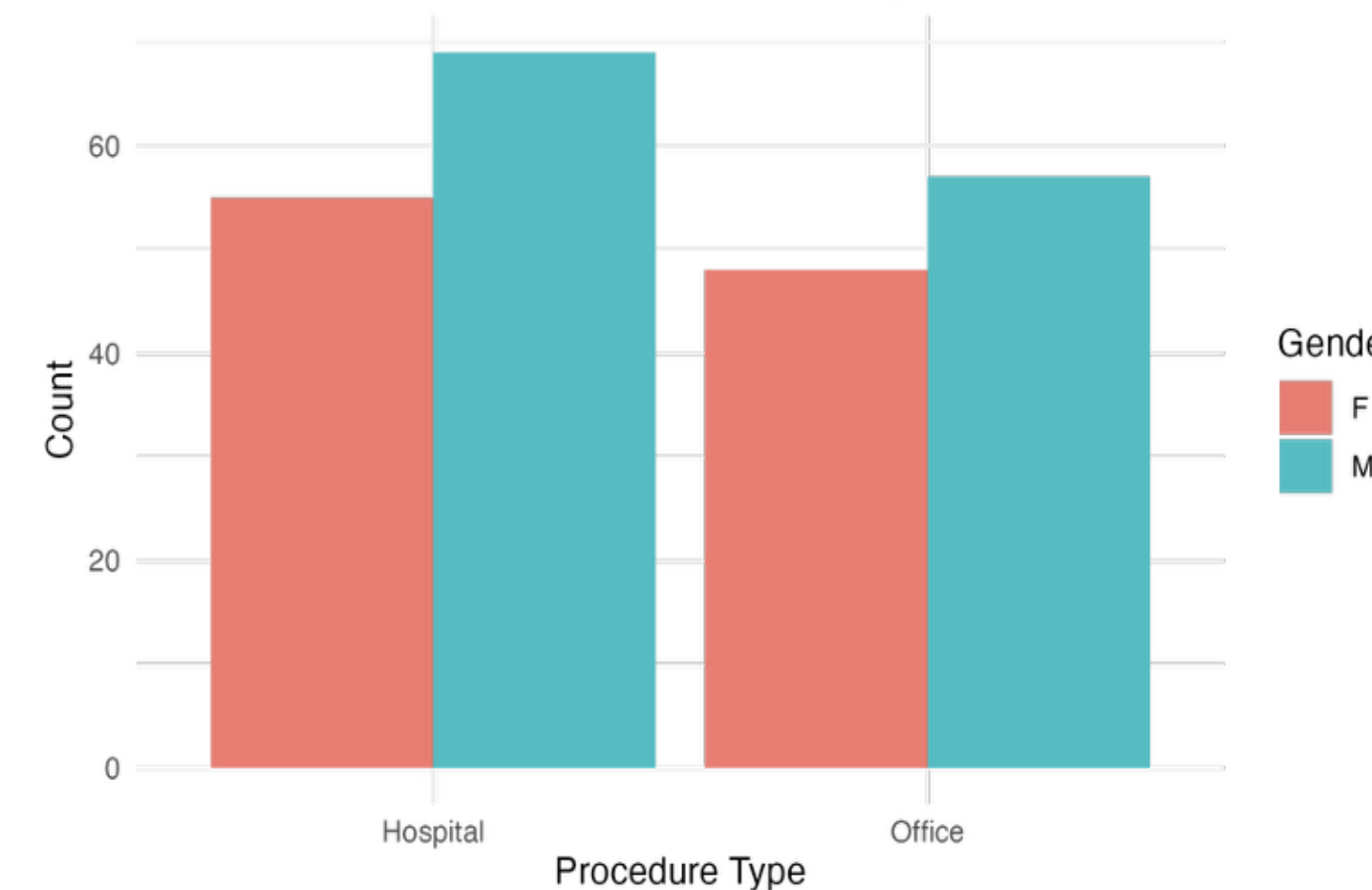
-Patient charts were reviewed from January 2022 until February 2025.

-The metric of success was defined as the pulpotomized tooth not needing to be extracted sometime in the three years following the pulpotomy procedure.

EXTRACTIONS FROM GA PULPOTOMIES VS. IN-OFFICE PULPOTOMIES

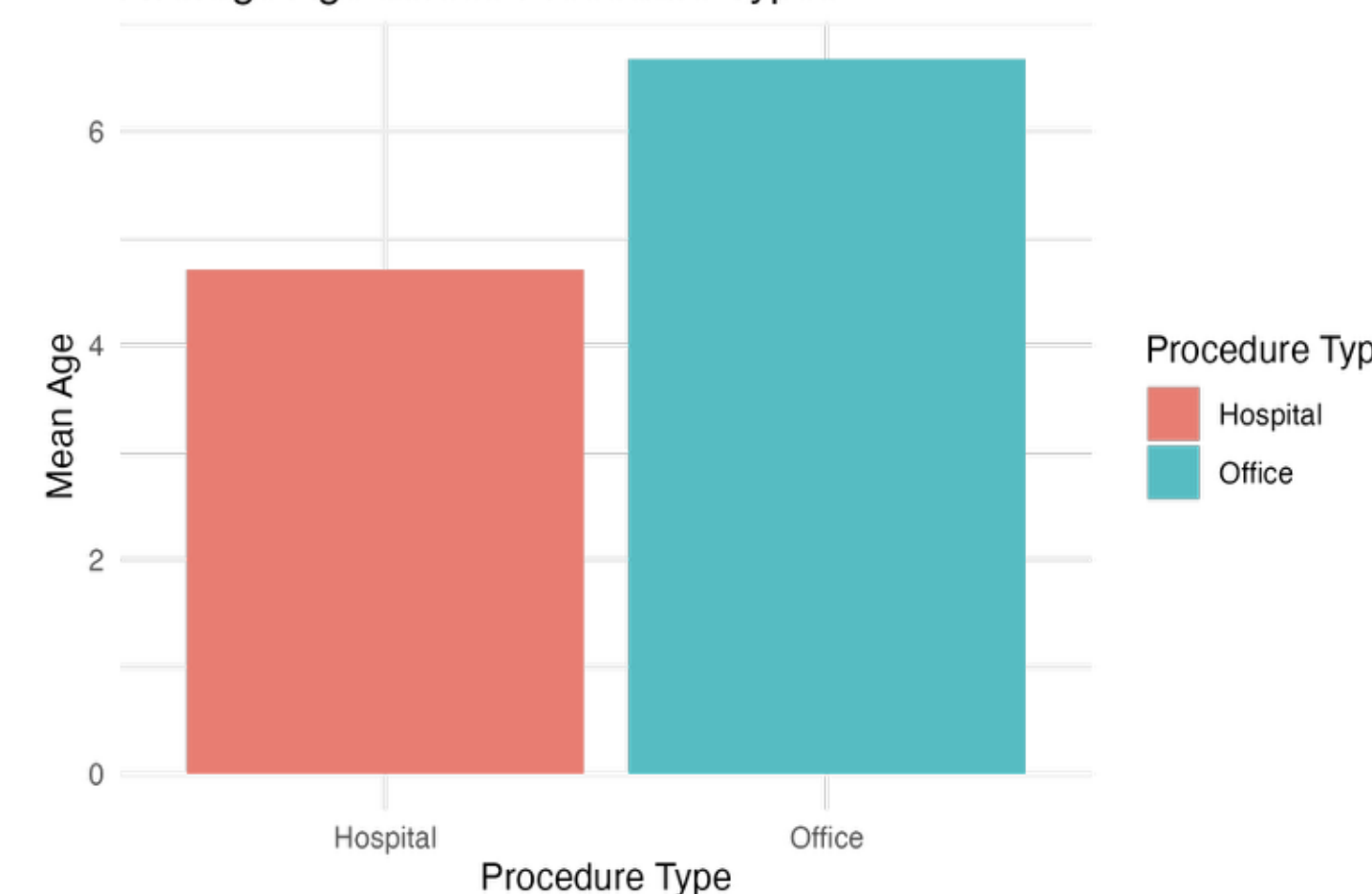
1.1. Gender vs Procedure Type

Gender Distribution across Procedure Types



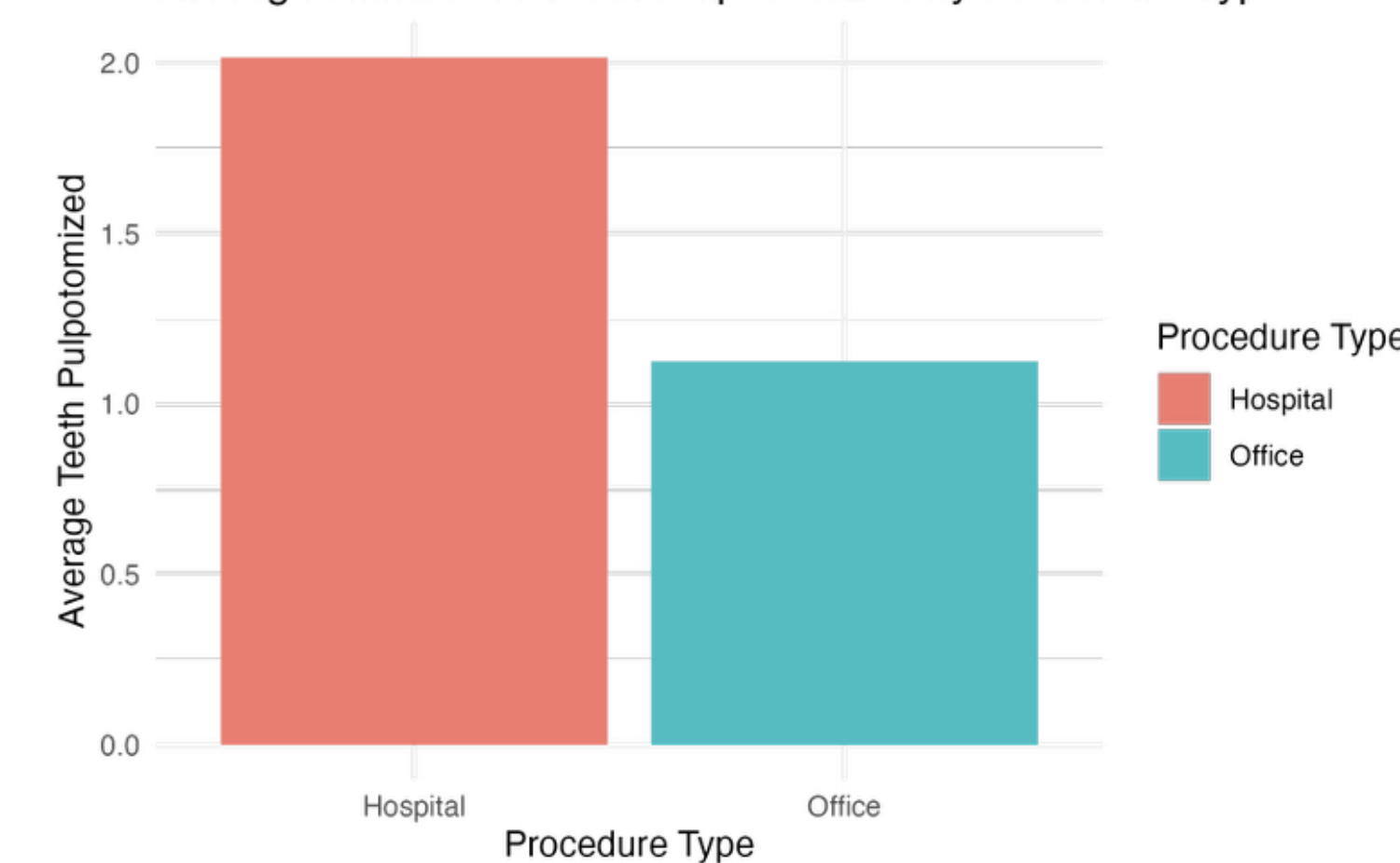
1.2. Mean Age vs Procedure Type

Average Age across Procedure Types



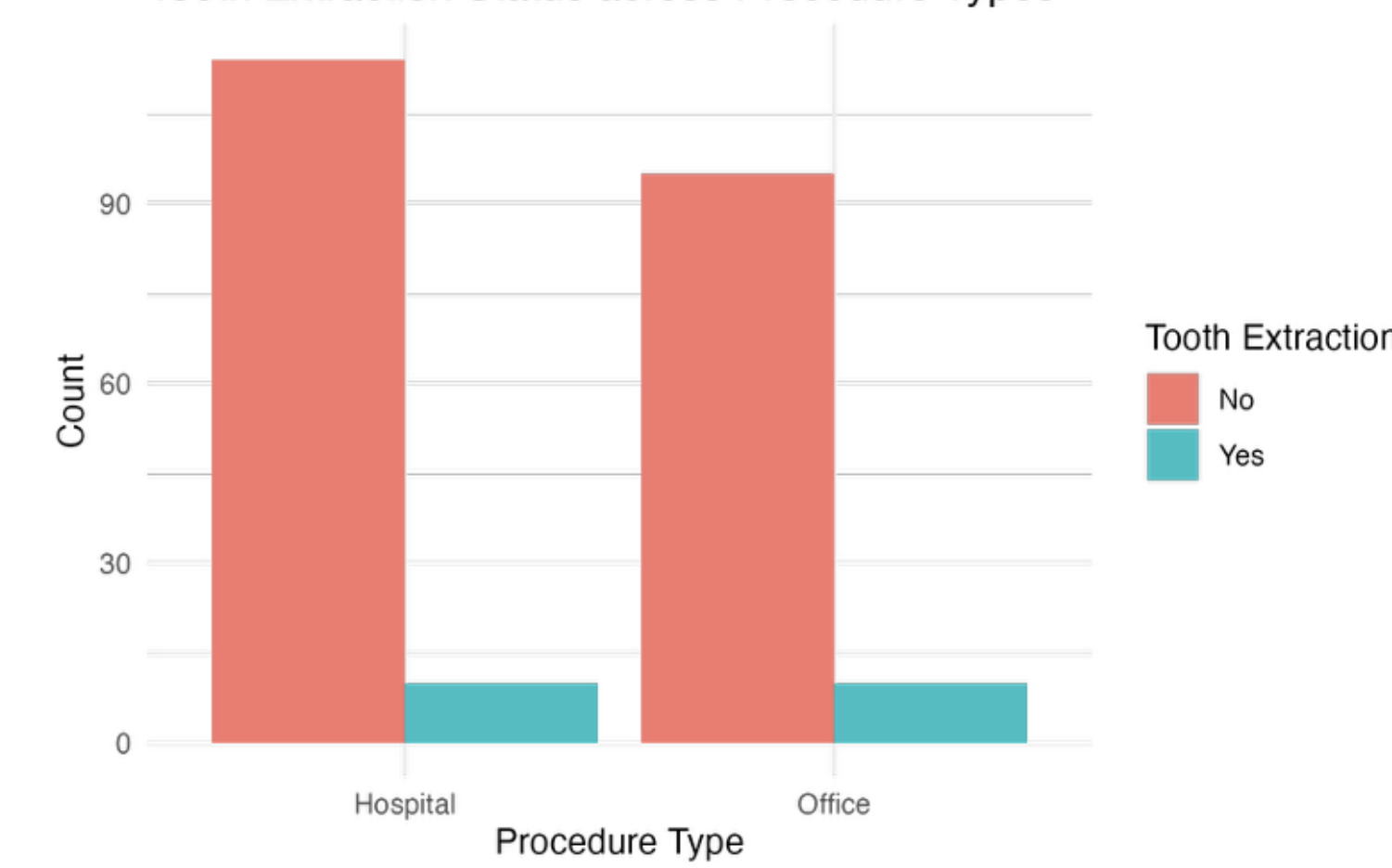
1.3. Average Teeth Pulpotomized vs Procedure Type

Average Number of Teeth Pulpotomized by Procedure Type



1.4. Tooth Extraction vs Procedure Type

Tooth Extraction Status across Procedure Types



RESULTS

-229 patients [Age-Mean(SD)=5.64(1.86); Female=45%] were seen at Compass Health for a pulpotomy in 2022.

-There were 124 pulpotomies done under GA (53%), and 108 done in the office (47%). In the following 3 years, 20 teeth were extracted.

-Of the pulpotomies done under GA, 10 teeth were extracted (8.1% of teeth treated; p-value 0.8). Of the pulpotomies done without GA, 10 teeth were extracted (9.3% of teeth treated; p-value 0.7).

CONCLUSIONS

-There is no significant difference between the success rates of pulpotomies done under GA with those done in the office.

-Success of pulpotomy is multifactorial and relies on more than just whether the treatment was done under GA or not.

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