

Future Caries Occurrence in Children Previously Treated Under General Anesthesia

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INTRODUCTION

-Parents of children with gross dental decay may find comprehensive treatment under general anesthesia preferable to multiple visits.
-Non-carious teeth left untreated at the time of surgery have the potential to develop new decay as children may continue poor oral hygiene habits.¹
• The prevalence of dental caries in primary teeth in children in the world with a sample size of 80,405 was 46.2%.³
• New caries development after comprehensive dental treatments under GA has been reported to affect approximately 22% to 52% of children after 6 months.²
-Children who undergo comprehensive dental treatment under general anesthesia at an earlier age may experience future caries on untreated molars more frequently than children who are older at time of surgery.

PURPOSE

-The purpose of this study is to determine if age at the time of initial oral rehabilitation under general anesthesia is correlated to future caries experience on untreated primary molars.

METHODS

-A retrospective chart review was completed on patients who received complete oral rehabilitation under general anesthesia at a health center between July 1, 2016 and June 30, 2018.
-A total of 170 patients receiving dental rehab under general anesthesia met inclusion criteria.
-The charts were reviewed for initial treatment at time of visit under general anesthesia and compared to status when new decay is diagnosed.
-Data was de-identified and collected into ReDCap (Research Electronic Data Capture) software hosted by NYU-Langone Hospitals
-Statistical analysis was completed by statisticians at NYU-Langone Hospitals

Table 1. Patient Demographics

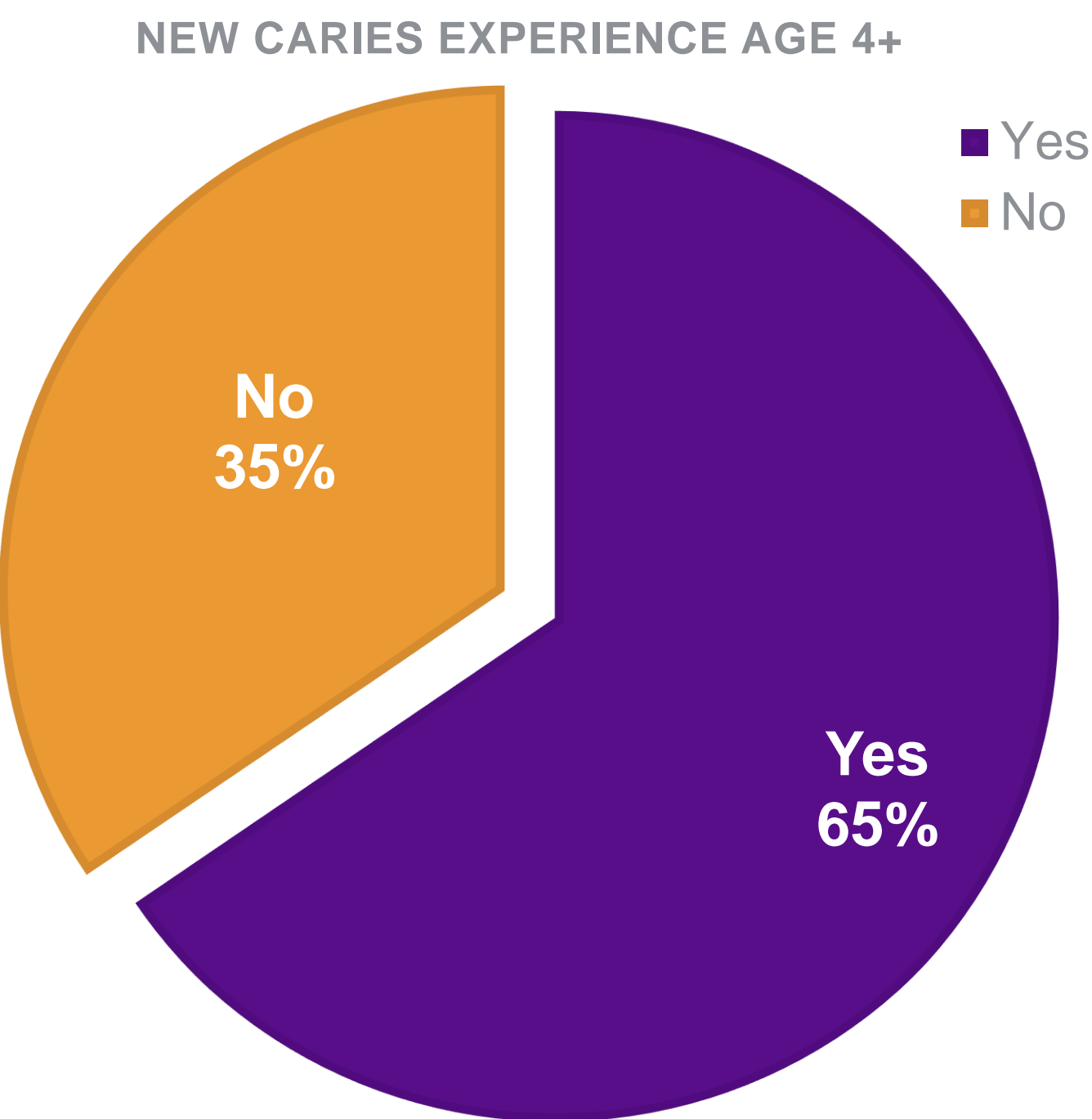
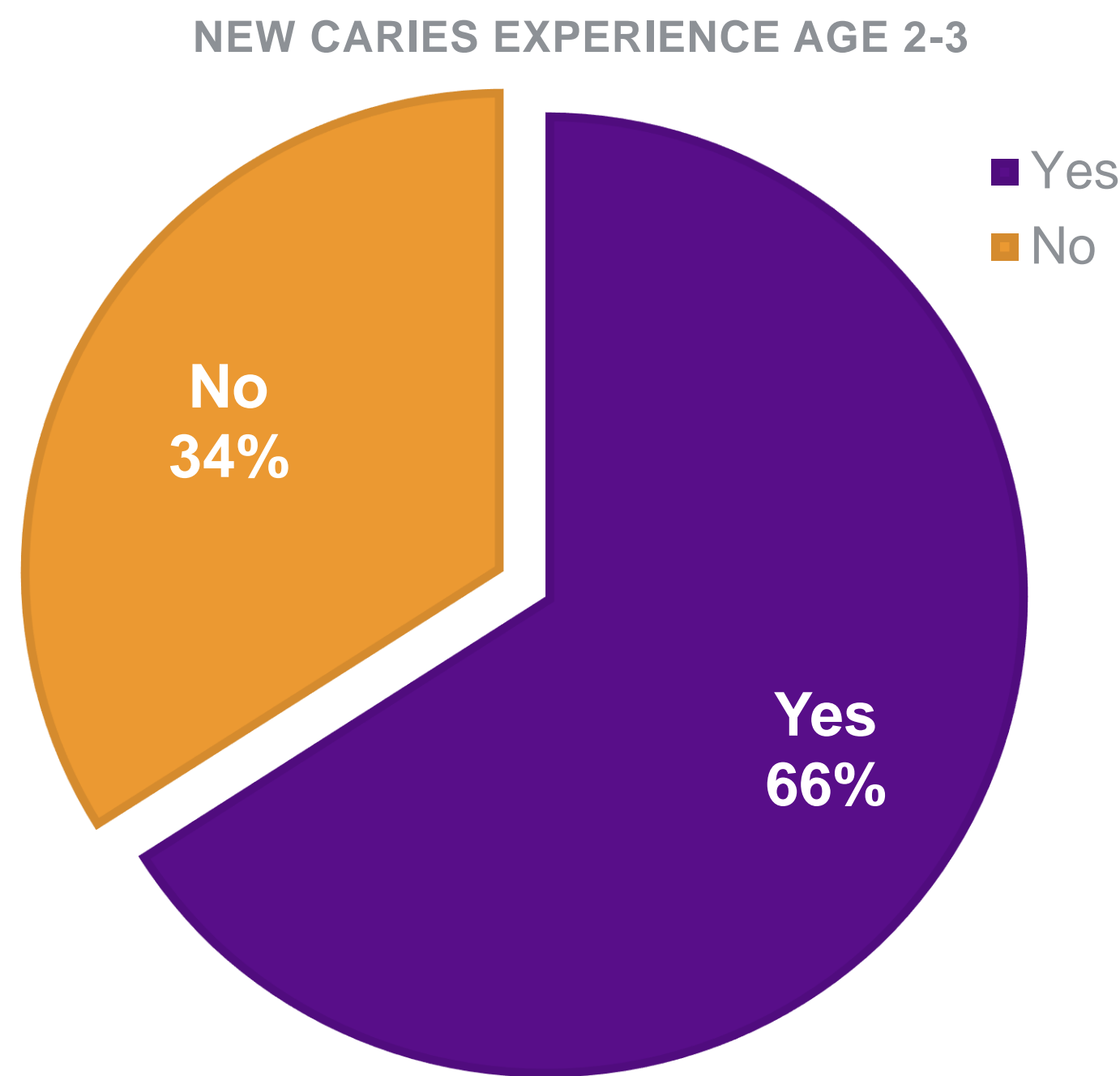
Gender	N(%)
Female	90 (53.3)
Male	79 (46.7)
Ages	N(%)
2-3 yrs	103 (65.2)
4 + yrs	55 (34.8)

Table 2. New Caries Experience

New Caries	N(%)
Yes	108 (63.9)
No	61 (36.1)

Table 3. Gender and New Caries

Gender	Yes	No
Male	54 (68.4)	25 (31.6)
Female	54 (60.0)	36(40.0)



RESULTS

-Groups of patients based on demographics are approximately equal
-A total of **104 (61%)** patients have caries on initially untreated primary molars following initial general anesthesia experience.
-There is no statistical significance between age and new caries (**p=1.00**)
-There is no statistical significance between gender and new caries (**p=0.33**)

CONCLUSIONS

-Although there was no statistically significant correlation between age at the time of initial oral rehabilitation under general anesthesia and future caries experience on untreated primary molars, we believe that this study should be expanded to determine if the same is true with other primary teeth.
-Overall, a high proportion (61%) of patients exhibit future decay on untreated molars in this population.
-Because the setting of this study is a federally-qualified health center which primarily treats low-income families, this finding is supported by past studies indicating that low socio-economic status and past caries history are strongly correlated with caries experience.
-These findings may also support the practice of prophylactically treating high risk primary molars in a general anesthesia setting.

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