

Appointment Adherence Following General Anesthesia in High-Risk Pediatric Dental Patients

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INTRODUCTION

- Though largely preventable, early childhood caries (ECC) is one of the most prevalent chronic diseases amongst children. Young children often require care under general anesthesia (GA) due to age, cooperation, and extent of treatment.¹
- Children who receive dental care under GA for ECC have historically high rates of caries recurrence and irregular care, while disproportionately affecting certain populations.²
- The Fisher-Owens' conceptual model describes complex interactions among social determinants of health (SDH) and risk factors at the individual, family, community, and systems levels.³
- Children characterized by this model as "high-risk" are particularly vulnerable to disease relapse making a dental home and opportunities for education/prevention highly important.³

HYPOTHESIS/ OBJECTIVES

Objectives:

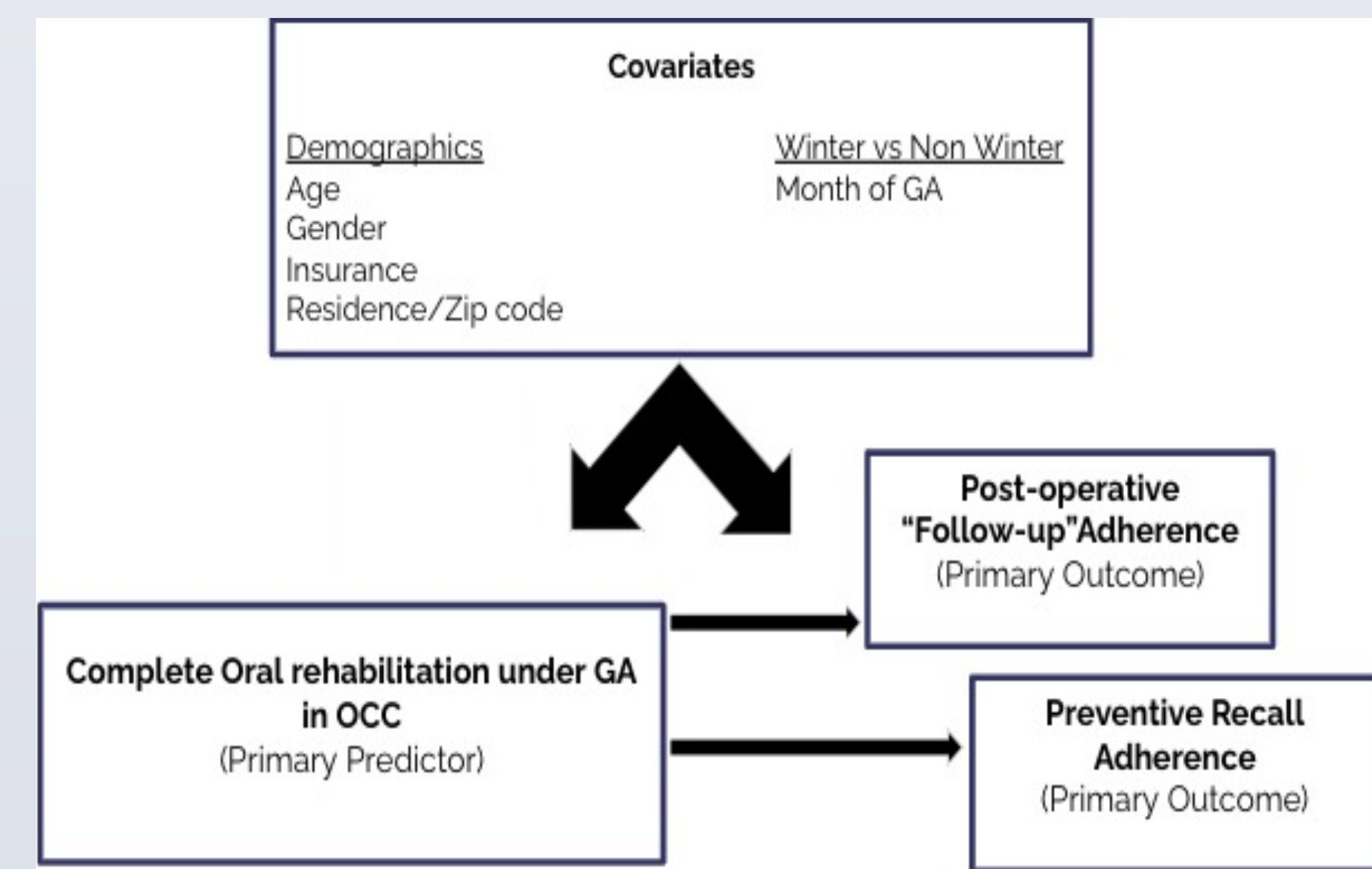
- To evaluate post-operative GA follow-up appointment adherence and its association with returning for preventive recall visits within 12 months of GA.
- To describe demographic and treatment factors that may be associated with higher post-operative GA follow-up and preventive recall adherence rates.
- To describe the rate of caries recurrence and frequency/type of dental emergencies in patients who have GA.

Hypotheses:

- There is an association between adherence with post-operative follow-up appointments, select demographic variables, and recall adherence.
- Failure to adhere with the post-operative GA "follow-up" appointment is associated with certain demographic variables and an increased likelihood to return for a preventive recall visit.

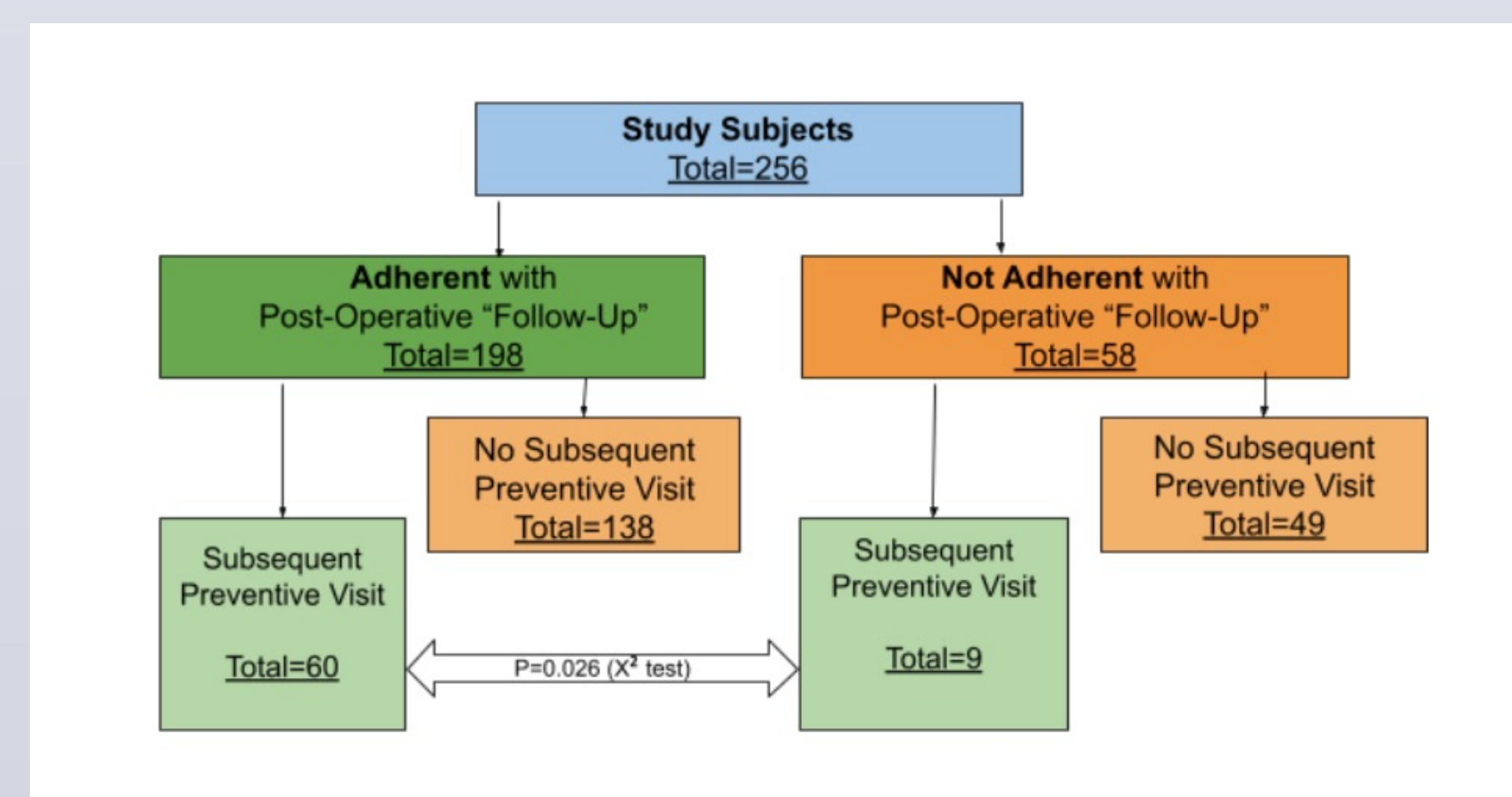
MATERIALS & METHODS

- A retrospective chart review which included all children < 18 years (ASA I or II) who had GA completed September 2020-February 2021 in the UIC Pediatric Dentistry Outpatient Care Center (OCC) was performed.
- Demographics, post-operative follow-up adherence (defined as a visit within 30 days of GA) and subsequent dental care received from the UIC Pediatric Post-Graduate Clinic within 12 months following GA was collected.
- If patients returned for recall, data were collected on caries recurrence and whether visits were preventive vs. emergency.
- Descriptive statistics and bivariate analysis (Chi-Squares/ind. T-tests) were used.



RESULTS

Figure 1. Summary of Appointment Adherence



- 256 patients had GA during the study period.
- 198 attended their GA follow-up.
- 138/198 (70%) who attended follow-up never returned for a recall, while 49/58 (85%) who did not attend the follow-up never returned for a recall.

RESULTS

Table 1. Study Demographics and GA Factors

Demographics	Total Sample	Attended GA Follow-Up		P-Value
		Yes	No	
Patient's Gender	N (%)	N	N	
Male	140 (54.7)	104	36	P=0.19 (Chi-Squared)
Female	116 (45.3)	94	22	
Home County	N (%)	N	N	
Cook County	81 (31.6)	61	14	P=0.59 (Chi-Squared)
Out of Cook County	175 (68.4)	137	24	
Insurance Type	N (%)	N	N	
Public/Government	256 (100)	198	58	
Private/Other	0 (0.0)	0	0	
General Anesthesia Information				
Age at time of GA [Mean(SD)]	4.82 (1.33)	4.82 (1.36)	4.81 (1.26)	P=0.95 (ind. T-test)
Age at time of GA	N (%)	N	N	
3	38 (14.8)	28	10	P=0.76 (Chi-Squared)
4	75 (29.3)	61	14	
5	77 (30.1)	60	17	
6	43 (16.8)	30	13	
7 to 11	23 (9.0)	19	4	
Season of GA	N (%)	N	N	
Winter (Dec/Jan/Feb)	182 (71.1)	144	38	P=0.29 (Chi-Squared)
Other*	74 (28.9)	54	20	

- The sample was mean age 4.8 years (SD=1.3), 51% male, 100% Medicaid, and two-thirds (N=175) lived out of Cook County.
- Neither patient gender, age, home zip code, or season were associated with GA follow-up adherence.

Table 2. Post-Operative "Follow-Up" and Subsequent Appointment Type

Recall Adherence	Total Sample N (%)	Attended GA Follow-Up		P-Value
		Yes	No	
Had Subsequent Preventive Visit	69 (27.0)	60	9	P=.026 (Chi-Squared)
Did not Have Subsequent Preventive Visit	187 (73.0)	138	49	

- Adherence for the "one-week" follow-up visit was shown to have a statistically significant association with an increased likelihood to present for preventive dental services (P=.026).

Table 3. Associated between Study Demographics, General Anesthesia factors and Recall Adherence

	Had recall within 12 months of surgery?		
	Yes	No	p-value
Demographics			
Patient's Gender (N)	N	N	
Male (140)	32	198	P=0.11 (Chi-Squared)
Female (116)	37	79	
Home County	N	N	
Cook County (81)	22	59	P=0.96 (Chi-Squared)
Out of Cook County (175)	47	128	
General Anesthesia Information			
Age at time of GA [Mean(SD)]	4.65 (1.24)	4.88 (1.37)	P=0.22 (ind. T-test)
Age at time of GA	N (%)	N (%)	
3 (38)	13 (18.8)	25 (13.4)	P=0.72 (Chi-Squared)
4 (75)	19 (27.5)	56 (29.9)	
5 (77)	23 (33.3)	54 (28.9)	
6 (43)	9 (13.0)	34 (18.2)	
7 through 11 (23)	5 (7.2)	18 (9.6)	
Recall and Emergency Information			
Emergency	N	N	
Had Emergency (11)	5	6	P=0.092 (Chi-Squared)
No Emergency (245)	64	181	

- Neither patient gender, age, home zip code, or season were associated with recall adherence.
- Eleven patients had an emergency appointment within 12 months of GA.

Table 4. Emergency Type and Caries Status

Emergency Type	N (%)
Swelling/Abscess	1 (11.1)
New Caries	0 (0.0)
Trauma	1 (11.1)
Other Pain	4 (33.4)
Lost/Broken Filling or Crown	2 (22.2)
Space Maintainer Problem	2 (22.2)
Other	1 (11.1)
Caries Status at Recall	
No Caries	54 (78.3)
Caries Diagnosed	15 (21.7)

- Of the 69 patients that returned for a subsequent visit, 11 were emergencies and 58 were for preventive care.
- Twenty-one percent of patients presenting for a preventive recall were diagnosed with at least 1 new carious lesion.

CONCLUSIONS

- Most patients adhered with the post-operative GA follow-up appt., but most did not return within 12 months for a recall/preventive care, and very few had emergencies.
- Adherence with the "one-week" follow-up was significantly associated with a subsequent preventive recall. Specifically, patients who attended their "one-week" follow-up show an increased likelihood to return for a preventive recall visit within 12 months of their GA procedure, and caries recurrence was high.
- Families may deem GA as curative and undervalue the need for subsequent preventive care, or they may utilize GA for tertiary care and return to a community provider.
- Additional research should explore multilevel factors that contribute to ECC (facilitators and barriers to care) with an aim to reduce oral health disparities through targeted interventions.

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ACKNOWLEDGEMENTS

UIC Institutional Review Board: 2021-1250