

Utilization of Sedation Services in Dental Patients with and without Autism

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Abstract

Purpose: This retrospective cohort study evaluated the percentage of pediatric dental patients with and without autism at the Eastman Institute for Oral Health (EIOH) who required oral sedation or general anesthesia to complete dental treatment. The study compared sedation utilization between patients with autism and peers without an autism diagnosis to identify potential differences between the two groups. This information will promote advocacy for increased access to sedation services in the Rochester area for pediatric dental patients with autism.

Methods: Patient records from EIOH's department of pediatric dentistry, spanning from January 1, 2013, to December 31, 2023, were reviewed. Patients aged 3 to 17 years were categorized as having a positive diagnosis for autism or not based on collected electronic medical history forms. Sedation referrals were identified using procedural codes for non-intravenous conscious sedation and hospital call. Demographic data, including sex, age range, and insurance type, were also collected to more fully understand the patient populations being studied. Statistical analyses, including chi-squared tests and logistic regression, were conducted to compare sedation utilization between groups and adjust for confounding variables such as age and gender.

Results: The result of the chi-squared test comparing the rates of sedation utilization between patients with and without autism was found to be statistically significant. The rate of utilization for the autism cohort was 34% and 15% for the non-autism group. The *P-value* was <.0001. The majority of patients with autism who required oral sedation or general anesthesia were male (80%). The majority of patients within the autism cohort utilized Medicaid insurance (82%). Most patients within the autism cohort were within the age range of 3-6 years of age (44%), as compared to the age range of 7-11 years (34% and 12-17 years (21%))

Conclusions: Patients with autism required advanced behavior guidance techniques through pharmacologic agents more frequently as compared to patients without a history of autism. Most patients within the autism cohort were male. The most commonly utilized insurance type was government issued. Most patients within the autism cohort were 3-6 years old.

Background

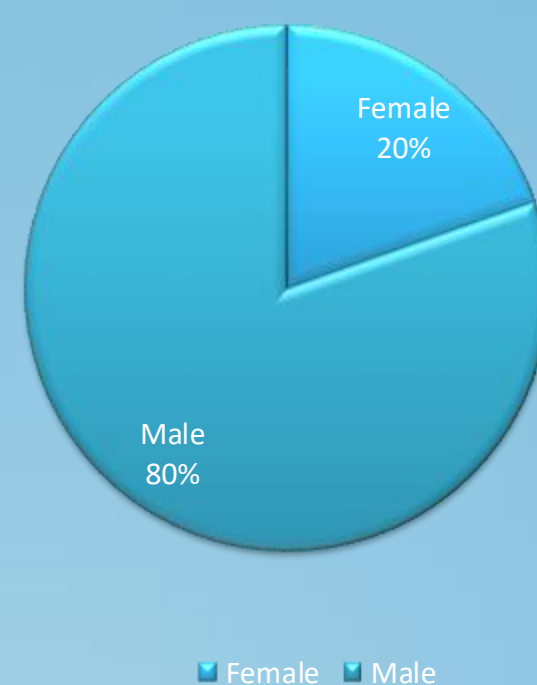
The provision of invasive dental services for young pediatric patients can be confounded by lack of cooperation for dental rehabilitation procedures and even routine procedures like recall examinations and radiographs (1). Pediatric patients with autism often require more advanced behavior guidance techniques to safely render dental care compared to neurotypical pediatric patients (2). Sedation or general anesthesia is often utilized for treatment in patients who cannot tolerate dental care in the traditional setting, however long wait times for sedation services can lead to dental emergencies and pain in the interim. Sedation services like oral midazolam or the provision of treatment under general anesthesia can greatly aid in full mouth rehabilitation in uncooperative patients (3.). As of now, there is little evidence concerning the frequency and effectiveness of sedation methods for the provision of dental care in pediatric patients with Autism (4). Comprehensive dental care under general anesthesia or sedation comprises an integral part of pediatric and specialty care dentistry and is frequently conducted in both private practices and public health settings (5). While sedation options are frequently recommended for both patients with and without autism, patients with autism may require oral sedation/general anesthesia more frequently than their peers without autism per capita. (6.).

A retrospective cohort study was designed to evaluate the percentage of pediatric dental patients with autism at Eastman Institute of Oral Health (EIOH) who require oral sedation or general anesthesia to complete treatment. This information will allow us to discern if there is a meaningful difference in the percentage of patients with autism who require sedation for dental treatment as compared to patients without autism. Understanding the severity of need for advanced behavior guidance techniques through pharmacologic agents will help inform clinical decision making to determine the most appropriate behavior guidance techniques for successful treatment of dental needs in patients with autism.

Results

Patient Demographics

Gender



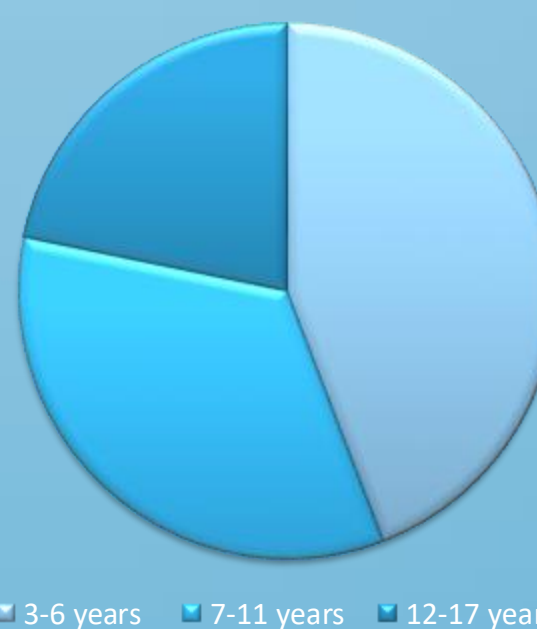
Female 20% Male 80%

Insurance Type



Self Pay Medicaid Private

Age Ranges



3-6 years 7-11 years 12-17 years

Frequency		Table of Autism by oral_sedation_OR			
Row Pct		Autism	oral_sedation_OR		
			0	1	Total
		0	36778	6372	43150
			85.23	14.77	
		1	1139	582	1721
			66.18	33.82	
		Total	37917	6954	44871
Statistic	DF	Value	Prob		
Chi-Square	1	458.638	<.0001		

Table 1: Rates of sedation utilization between patients with autism and without autism

Conclusions

- There is a statistically significant difference between the number of patients with autism who require advanced behavior guidance through pharmacologic agents as compared to patients without a history of autism.
- The most common dental insurance utilized within the autism cohort was government issued Medicaid insurance.
- The majority of patients with autism who required oral sedation or general anesthesia were found to be male.
- Most patients who required advanced pharmacologic behavior guidance were within the age range of 3-6 years old.

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