

Pediatric Dentists Preferences and Rationale in Selection of In-Office Anesthesia Providers

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ABSTRACT

Purpose: To assess a possible shift in utilization of general anesthesia (GA) providers by pediatric dentists towards Dental Anesthesiologists (DA) versus Physician Anesthesiologists (PA) since DA became a recognized specialty in 2019.

Methods: A 16 item questionnaire was sent via Survey Monkey to practicing pediatric dentists (N=6,588) in the United States as obtained from the membership directory of the American Academy of Pediatric Dentistry. The questionnaire evaluated the type and rationale of anesthesia provider pediatric dentists are utilizing and additionally sought to determine if their attitudes or utilization had changed since 2019. The data was collected over a 3-month period and analyzed.

Results: Of the 6,588 surveys sent via survey monkey, 260 bounced (3.9%) and 520 total responses were collected (8.2%). When it comes to *who* pediatric dentists utilize to provide GA/deep sedation (DS), 46.5% (N=138) reported using a dental anesthesiologist (DA) while 45.1% (N=134) reported utilizing a Physician anesthesiologist (PA) , and within the PA group 45.5% (N=61) utilized a physician anesthesiologist who had additional pediatric fellowship training. Seventy Eight percent (N=233) of dentists felt "very comfortable" with physician anesthesiologists with pediatric fellowship, compared to 62% (N=184) for dental anesthesiologists. Of importance to the interest of this study, there was no statistically significant association ($P=.744$) between those who use DA and those who reported they utilize DA more since 2019.

Conclusion: While many report utilizing DA and stated they utilize them “more” since 2019, there was no statistically significant association ($P=.744$) between the two groups. While there is no significant change in which provider is being used, there are other factors and trends in selection of anesthesia providers that provide interesting insight.

INTRODUCTION

The number of pediatric patients requiring general anesthesia for comprehensive dental care and the demand for anesthesia providers to provide ambulatory anesthesia is increasing.¹ According to the American Academy of Pediatric Dentistry (AAPD), sedation or general anesthesia (GA) is indicated in patients who are unable to cooperate in a dental setting due to lack of psychological or emotional maturity and/or mental, physical, or medical conditions.² It also is indicated in patients whom local anesthesia is ineffective, who are extremely uncooperative, fearful, anxious, and to those who require extensive or immediate comprehensive care (due to trauma, infection, or pain).^{2,3,4}

Historically, patients requiring deep sedation (DS) or general anesthesia (GA) were treated in a hospital setting with an anesthesia provider selected by the institution or hospital.⁵ Recent trends show that increasing numbers of DS/GA cases being performed in the dentist’s own offices, utilizing a certified anesthesia provider of their choice.⁶

The AAPD policy for Selecting Anesthesia Providers for the Delivery of Office-Based Deep Sedation/General Anesthesia, states: “with the use of office-based DS/GA, the primary dental provider takes on the significant responsibility of creating a team of highly-qualified professionals to deliver care in an optimal and safe fashion”.⁶ In addition, the policy states that this includes a responsible dentist, support staff, and sates that “no other responsibility is more crucial than identifying a highly-skilled currently-licensed anesthesia providers”.⁶

There are limited existing studies in the literature which analyzed the preference as far as the credentials of anesthesia providers utilized by pediatric dentists. In addition to the amount of time that has passed since past surveys have been conducted, in 2019, the National Commission on Recognition of Dental Specialties and Certifying Boards voted in favor of the new specialty of dental anesthesiology.⁷

There is reason to believe that due to the recognition of dental anesthesia as a dental specialty, there likely has been a shift in the utilization of DA’s towards an in-office setting away from the hospital setting, and that of the pediatric dentists who offer in-office GA, there are a higher percentage of DA than PA than was previously found before DA became a recognized specialty.

MATERIALS AND METHODS

A survey consisting of 16 questions was sent via SurveyMonkey® to 6,588 members of American Academy of Pediatric Dentistry (AAPD) as obtained from their membership list. A cover letter was sent along with the survey indicating the purpose of the study. Participants were informed of the completion of the survey being voluntary, incurring no potential physical, psychological, or legal risks. There were no costs or expenses incurred to the participants associated with this research study. Prior to electronic distribution of the study, Institutional Review Board approval was obtained from Albert Einstein College of Medicine protocol #2024-15960. The survey investigated the utilization preferences and rationales in selection of in-office anesthesia providers, and any possible change in attitude since Dental Anesthesia became a recognized specialty in 2019. Five periodic reminders were sent via email and data was collected over a 3-month period.

RESULTS

➤ Of 6,588 surveys sent, 3.9% 260 (N=260) bounced, and 8.2% (N=520) responses were collected. Among respondents, 51% (N=222) were male, 48.3% (N=210) were female, and 0.7% (N=3) did not disclose their gender. Most respondents (92.4%, N=402) specialized exclusively in pediatric dentistry, while 7.6% (N=33) had additional training (i.e. GPR, AEGD, Special Needs Fellowship, Orthodontics, Endodontics, and Dental Anesthesiology).

➤ Regarding practice setting, 33.6% (N=146) worked in solo practice, 55.6% (N=242) in group practice, and the remaining 10.8% (N=58) in universities, teaching hospitals, community health clinics, or other settings.

➤ Comfort levels were highest for physician anesthesiologists with pediatric fellowship training, with 78% (N=233) of dentists feeling "very comfortable“ utilizing their services, compared to 62% (N=184) who felt the same level of comfort about dental anesthesiologists. Figure 1.

➤ When choosing an anesthesia provider, 46.5% (N=138) preferred a dental anesthesiologist (DA), while 45.1% (N=134) used a physician anesthesiologist. In addition, 8.4% (N=25) utilized nurse anesthetists while none reported utilizing oral and maxillofacial surgeons (OMFS) to provide anesthesia. Figure 2.

➤ Approximately 65% of dentists (N=338) reported utilizing general anesthesia (GA) or deep sedation (DS). Of these respondents, 89.9% (N=267) reported doing in-office sedation, 44.4% (N=132) at a hospital, 23.9% (N=71) at an ambulatory surgical center, and 1.4% (N=4) at other locations/academic center. Figure 3.

➤ Among the 134 dentists who used physician anesthesiologists, 45.5% (N=61) selected those with additional pediatric fellowship training.

➤ The top reasons for selecting the type of anesthesia provider were: training level (32.3%), availability/scheduling (25.9%), and overall performance/experience (25.3%). Figure 4.

➤ Perception, awareness, and comfort levels regarding dental anesthesiology remained similar after it became a recognized specialty in 2019, with mean scores ranging from 2.8 to 2.9 on a 5-point Likert scale (strongly disagree = 0 to strongly agree =5), and strong internal consistency (Cronbach’s Alpha = 0.89).

➤ Since 2019, 35.9% (N=156) of pediatric dentists have reported increased use of dental anesthesiologists, with 31.8% attributing this to the training level.

➤ Although DA usage may appear to have increased due to its recognition as a specialty, no statistically significant association ($P=.744$) was found between increased DA usage and the preference for DAs over physician anesthesiologists.

Figure 1. Comfort level of pediatric dentists with type of in-office anesthesia provider

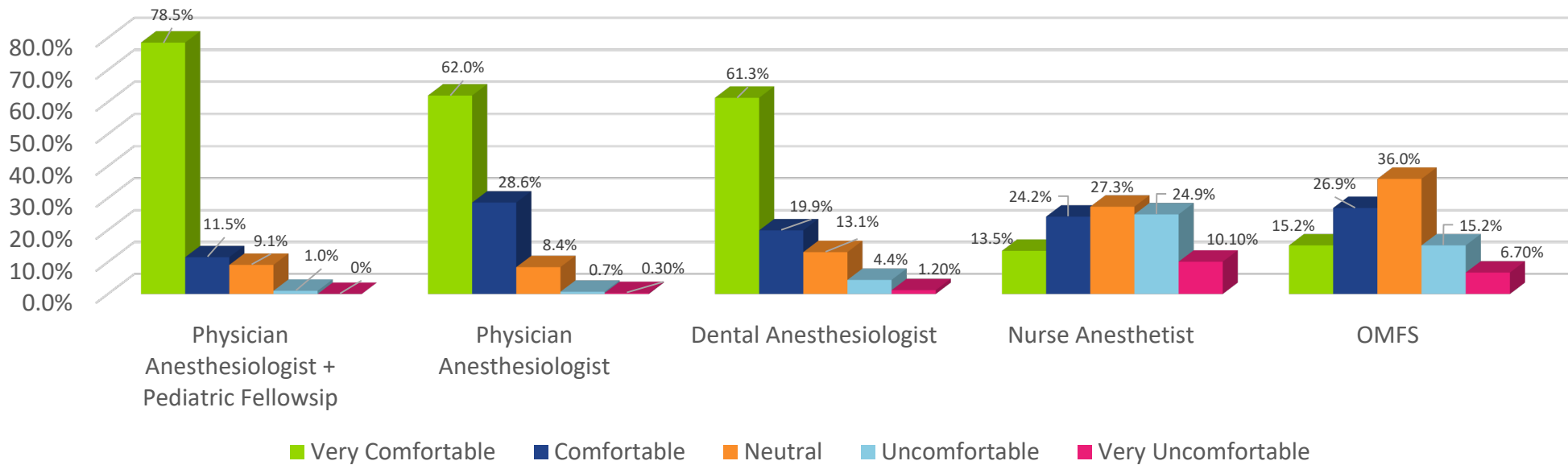


Figure 2. Primary providers of in-office anesthesia

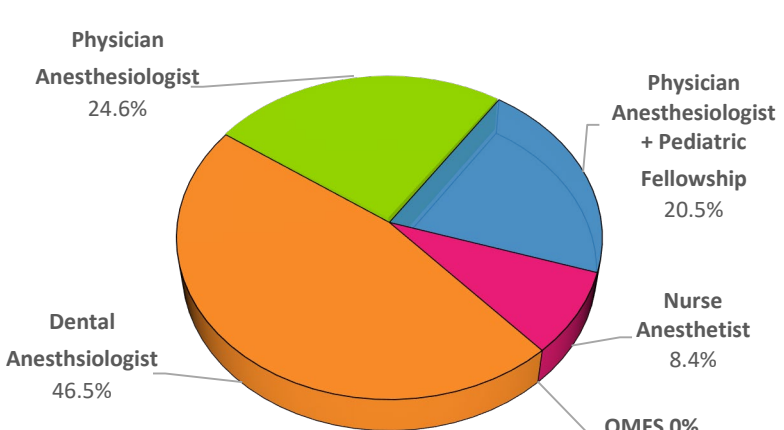


Figure 3. Setting for deep sedation/general anesthesia

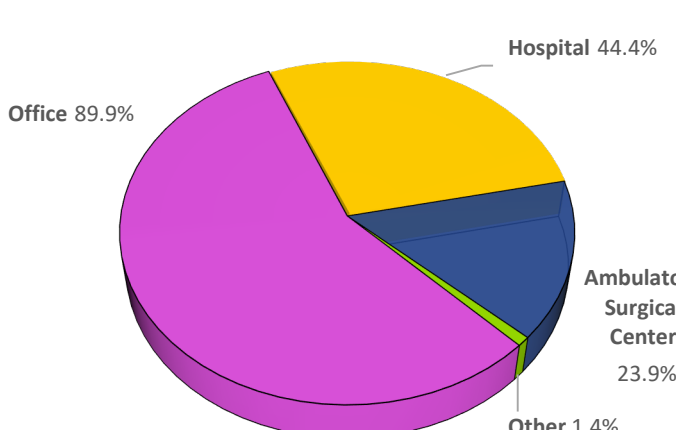
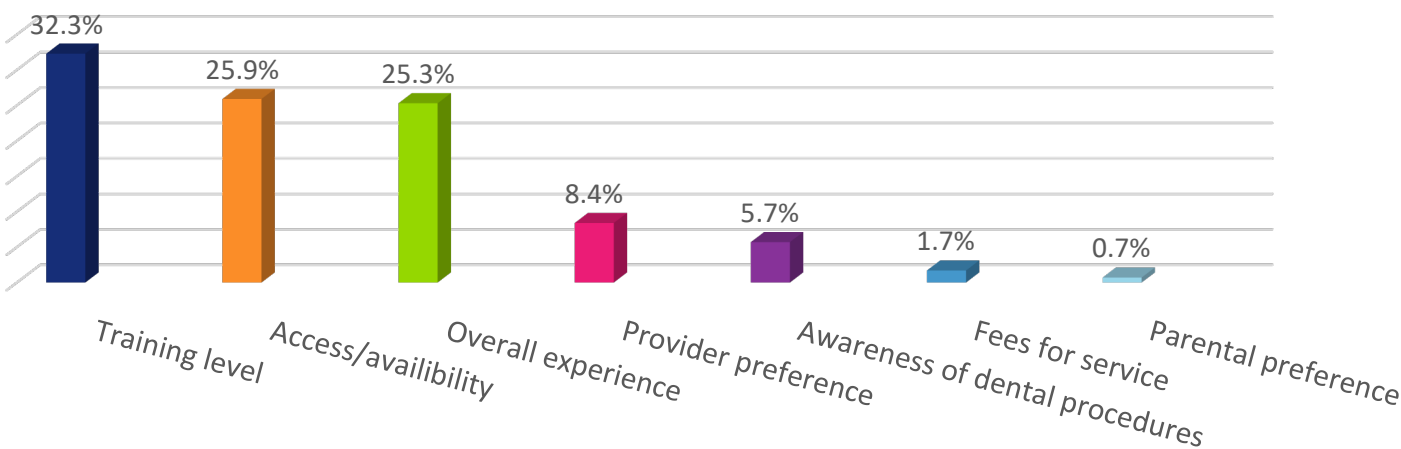


Figure 4. Primary rationale in anesthesia provider selection



CONCLUSIONS

Based on this study’s results, the following conclusions can be made:

- Pediatric dentists continue to utilize both dental and physician anesthesiologists for in-office general anesthesia (GA) and deep sedation (DS), with provider selection influenced primarily by training level, availability, and perceived experience (overall performance/experience).
- While the recognition of dental anesthesiology as a specialty in 2019 has increased awareness, it has not led to a statistically significant shift in provider preference, suggesting that other practical factors play a greater role in decision-making.
- Comfort levels were highest when working with physician anesthesiologists with pediatric fellowship training, though a significant portion of respondents also reported comfort with dental anesthesiologists, indicating an evolving perception of provider qualifications.
- The use of GA/DS in office-based settings remains prevalent, with many pediatric dentists favoring in-office anesthesia over hospital-based alternatives due to accessibility, scheduling flexibility, and cost considerations.
- Future research should explore the barriers and facilitators influencing anesthesia provider selection, particularly in different practice settings, to better inform policies and collaborations aimed at optimizing pediatric dental anesthesia care.

BIBLIOGRAPHY

References available upon request