



# MANAGEMENT STRATEGIES FOR PEDIATRIC OBSTRUCTIVE SLEEP APNEA

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## Background

- Obstructive sleep apnea (OSA) is a type of sleep disordered breathing (SDB) characterized by recurrent complete (apnea) or partial (hypopnea) collapse of the upper airway during sleep
- OSA leads to decreased oxygen saturation and sleep disruption.<sup>1</sup> OSA is associated with behavioral dysregulation, learning difficulties, impaired growth, and adverse cardiometabolic outcomes.<sup>2, 3</sup>
- Craniofacial characteristics such as mandibular retrognathia, increased mandibular plane angle, and reduced nasopharyngeal airway dimensions contribute to upper airway obstruction and fall within the diagnostic scope of dental providers.<sup>4-6</sup> Despite these associations, pediatric OSA remains under-recognized, and opportunities for early identification and referral are limited.
- Pediatric dentists routinely evaluate craniofacial growth and development and have frequent longitudinal contact with children, positioning them well to participate in early screening, referral, and management of pediatric OSA.
- Early identification and management is critical, as untreated OSA negatively impacts health, growth, and development. Despite its significant impact, pediatric OSA remains under diagnosed and inadequately addressed.
- This cross-sectional study aims to investigate current clinical approaches to pediatric OSA among pediatric dentists in the United States, including screening and referral practices and whether they were influenced by prior training.

## Purpose

- Early detection and management of pediatric obstructive sleep apnea (OSA) is critical given its impact on growth and development. Pediatric dentists can identify signs of OSA; however, little is known about management practices.

## Methods

### Study Design:

- This cross-sectional study and a 25-item anonymous electronic survey on training, referral patterns, and management strategies was approved by the IRB of Midwestern University in Illinois.

### Eligibility Criteria:

- Pediatric dentists who graduated from U.S. CODA-accredited advanced dental education programs in pediatric dentistry
- Active members of the American Academy of Pediatric Dentistry (AAPD)

### Study Procedure:

- An anonymous REDCap™ survey was distributed to eligible participants through AAPD member listserv
- 3-month study period from July 2025 to September 2025

### Survey Assessment Tool:



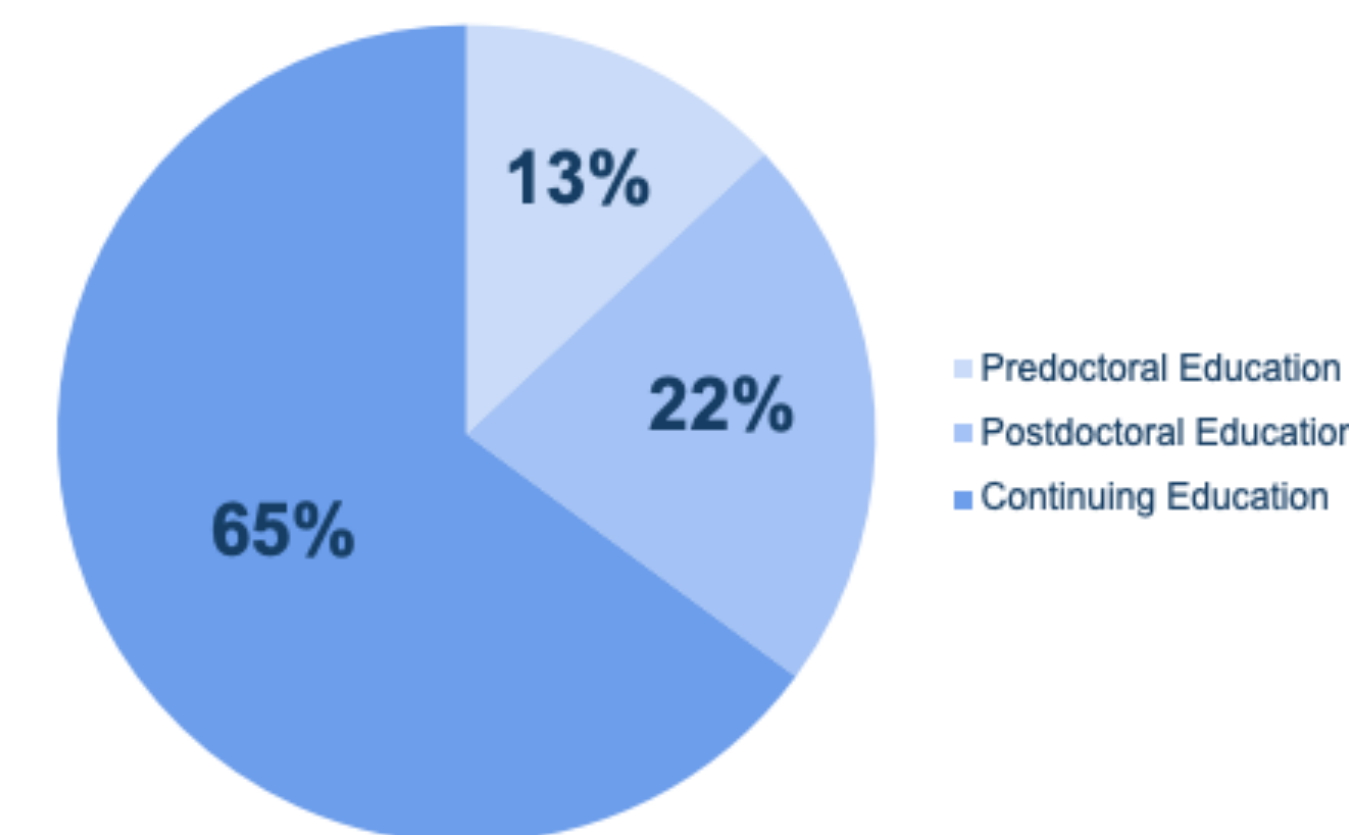
Demographics	Previous training	Screening and referral practice
Specialty training	Sleep medicine training	Confidence
Years practicing	Sleep rotation	Percentage screened
Practice settings	Recognition of common signs and symptoms	Challenges
		Referral and management practices

### Statistical Methods:

- Confidence levels in screening and referral (0-10 scale, with 10=highest confidence) and management frequency were compared across rates of screening and referral and analyzed with ANOVA with Bonferroni post-hoc comparisons
- Screening practices were analyzed according to prior training with chi-square analysis

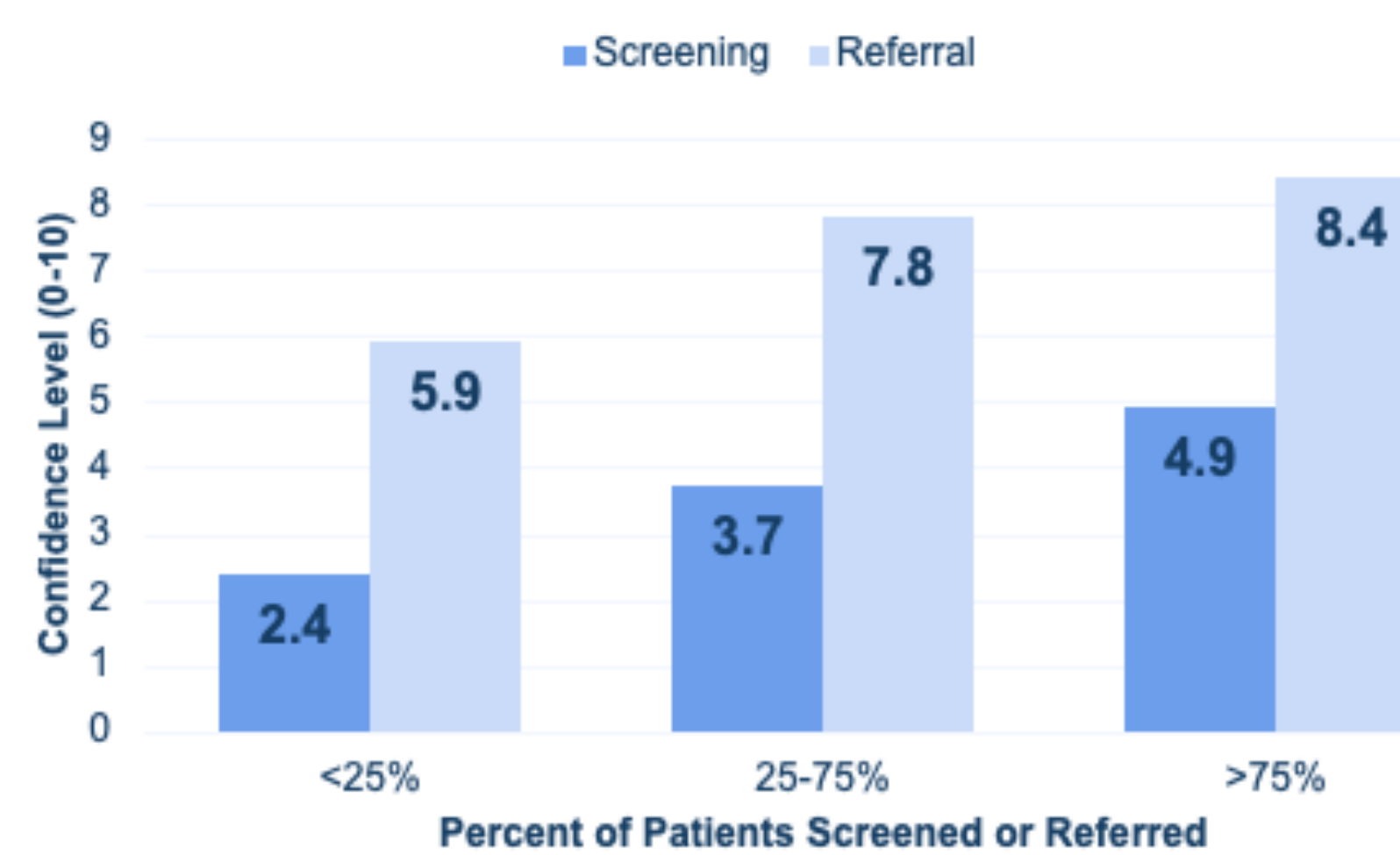
## Results

Figure 1. Source of Training in Sleep Medicine (n = 459)



- Among 459 respondents (70% private practice, 4% academia, and 26% both settings), most reported training in sleep medicine through continuing education, compared to predoctoral education and postdoctoral education (Figure 1).

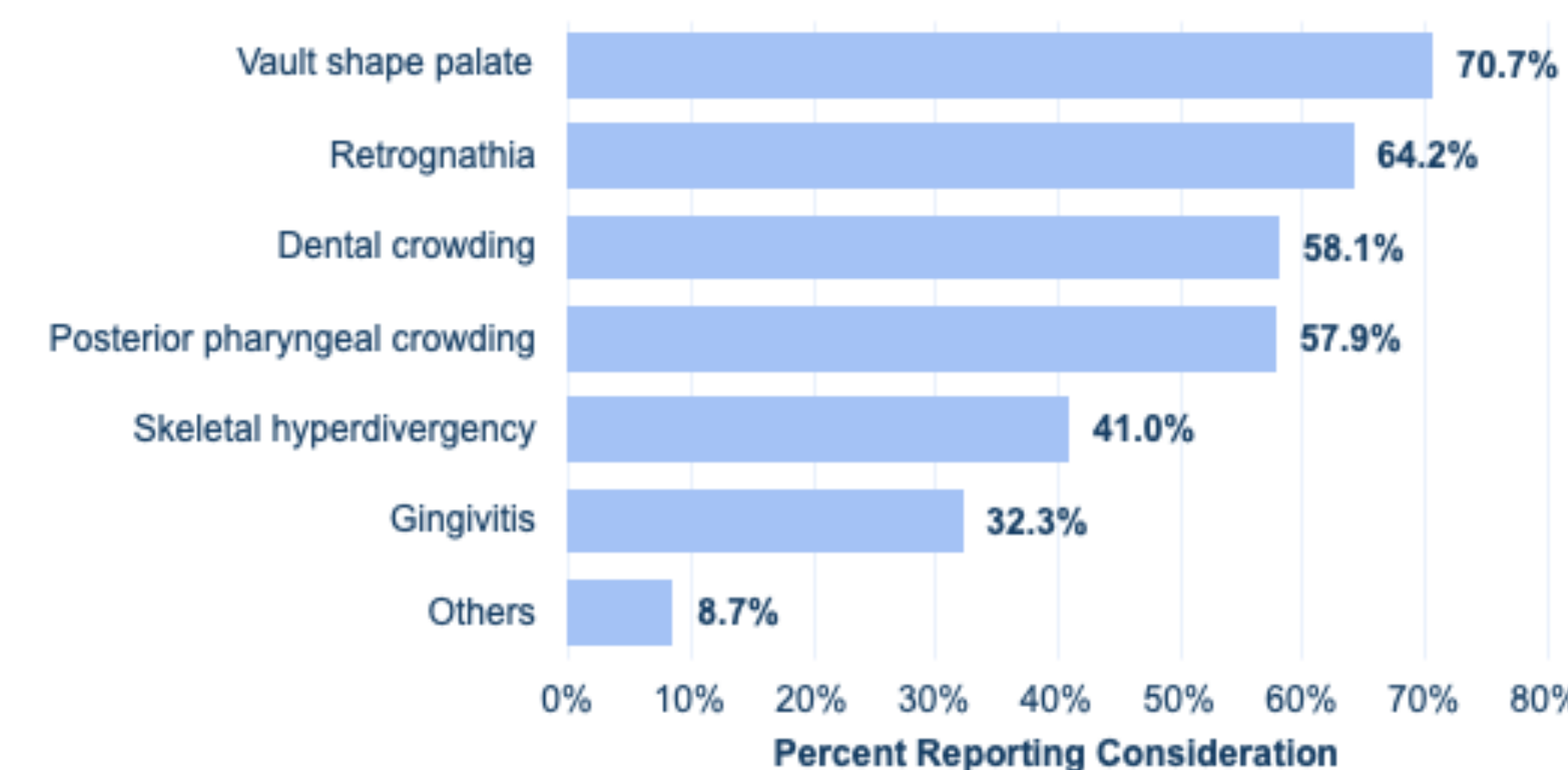
Figure 2. Confidence Levels in Screening and Referral (n = 459)



- Overall confidence (0-10 scale, with 10=highest confidence) was moderate for both screening (6.0 ± 2.6) and referral (7.5 ± 2.2). Pediatric dentists screening and referring >75% of their patients reported significantly higher confidence in screening and referring compared to those screening and referring <25% and 25-50% (Figure 2).

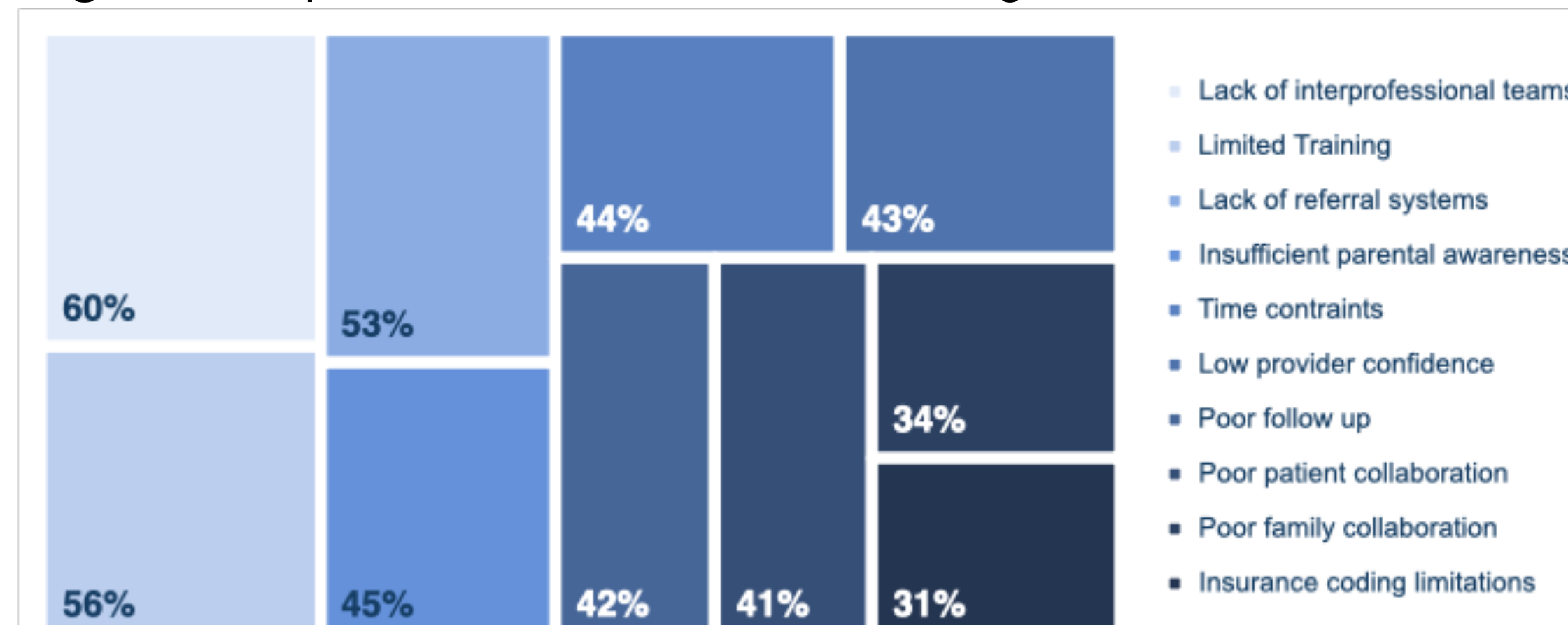
- Screening was significantly more common among respondents whose residency provided screening for patients with sleep-related breathing disorders (p =.026) and those who attended continuing education (p <.001).
- Screening methods included history taking (80.8%), clinical examination (79.3%), and questionnaires (30.3%).
- <1% reported using commonly used questionnaires such as the Epworth Sleepiness Scale, the STOP-Bang Questionnaire, and the Pittsburgh Sleep Quality Index.

Figure 3. SRBD-Related Parameters Considered During Clinical Exam



- Of the 79.3% reporting clinical examination as a screening method, different SRBD-related parameters were taken into consideration (Figure 3).

Figure 4. Reported Barriers to OSA Screening and Referral

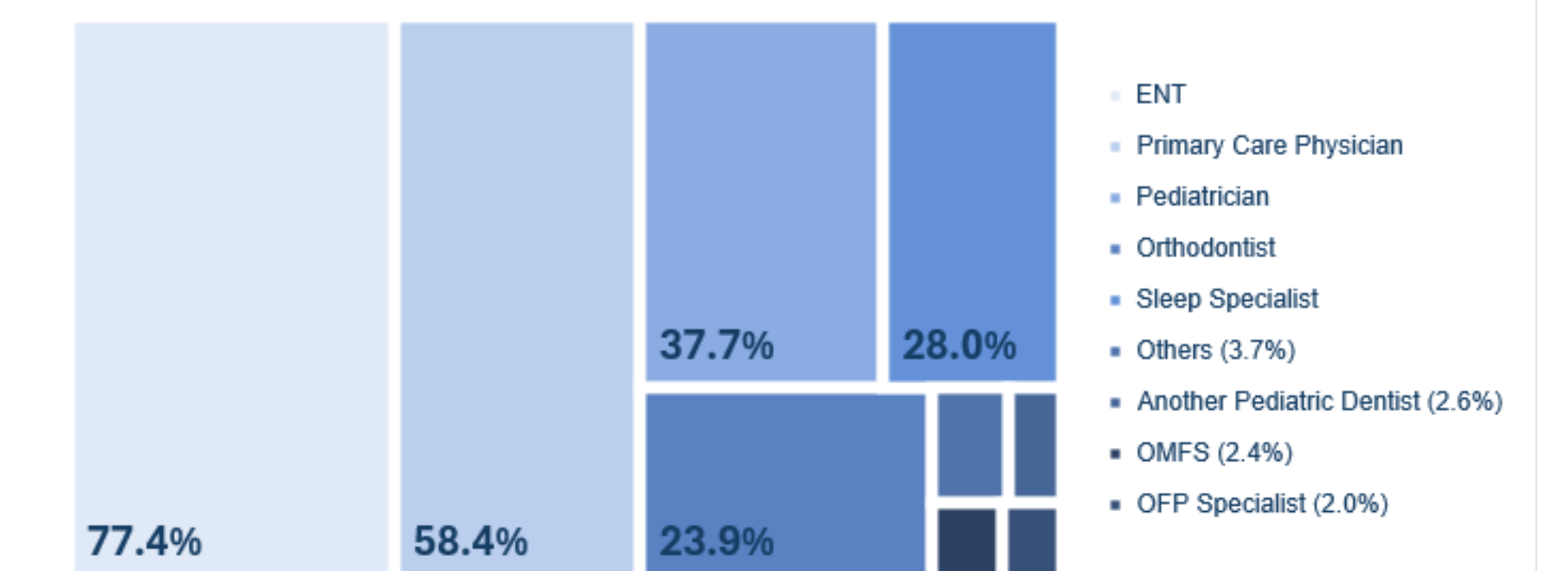


- Major barriers to screening and referral reported across private and academic settings are illustrated (Figure 4).

## Results (continued)

- Pediatric dentists reported overall low confidence in management of pediatric OSA (3.7±2.7).

Figure 5. Referral Preferences as Percent of Referrals Made



- Most pediatric dentists rely on referrals for management. Approximately 94% refer at-risk patients to specialists (Figure 5).
- Direct management was uncommon (14%) and more likely among pediatric dentists with longer experience (P<.001).
- Management practices varied by patient age group: 2-5 years were primarily treated with frenectomy (22%) and myofunctional therapy (17%); 6-11 years with rapid maxillary expander (RPE, 32%), frenectomy (18%), and myofunctional therapy (17%); 12-15 years with frenectomy (13%), RPE (12%), and myofunctional therapy (14%).

## Conclusions

- While most pediatric dentists report screening for OSA, practices and confidence levels vary widely and are strongly influenced by prior training.
- Pediatric dentists in the U.S. report low confidence and limited direct management of pediatric OSA.
- Most pediatric dentists rely on referrals to manage OSA.
- Most cite inadequate training and lack of referral systems as key barriers to early screening, referral, and management.
- Expanding formal education and fostering structured referral pathways and inter-professional collaboration may strengthen early recognition and intervention, as well as inter-professional collaboration in pediatric OSA care.

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