Pediatric Medicine Residents' Knowledge of Oral Health Recommendations

Emily Garvanovic, DMD; Farhad Yeroshalmi, DMD; Keith S. Margulis, DDS, MPH; Victor Badner, DMD, MPH

Jacobi Medical Center, Department of Pediatric Dentistry, Bronx, New York

ABSTRACT

Purpose: To assess pediatric medicine residents' knowledge of American Academy of Pediatric Dentistry (AAPD) Oral Health Policies and Recommendations, and how their knowledge, perceptions, and attitudes affect their practice.

Methods: A survey consisting of 33 questions was sent via SurveyMonkey to 229 pediatric medicine residents within NYC Health + Hospitals. The questions addressed oral health knowledge, attitudes, perceptions, and demographics. The study was approved by Albert Einstein College of Medicine's Institutional Review Board. The data was collected over a 10-week period and analyzed according to accepted statistical methodology.

Results: Of the 229 surveys sent, 104 (45%) were completed. Fifty-three percent (N=55) of respondents received no oral health training during residency. The knowledge section average score was 53% with no statistical significant difference between residents by year or hospital. Residents cited lack of time, education, and clinical skills as the top 3 reasons preventing them from oral health management during well-child visits. Despite this, most residents still performed oral-health risk assessments (Cronbach's $\alpha = 0.7831$) and referred patients (70%) to dentists at every well child visit. The majority also believed that pediatricians should be able to conduct basic oral health screenings as they felt it is within their scope of practice.

Conclusions: Despite the crucial link between oral health and overall well-being, pediatric residents still receive limited training in this area. While residents have low knowledge of oral health, they believe it is within their scope of practice. Therefore, residencies should provide more oral health educational opportunities to ensure residents are well-equipped to address oral conditions.

INTRODUCTION

Dental decay, the 10th most prevalent global medical condition, affects over 9% of the world's children[1] and is 5x more common than asthma.[2] Untreated dental decay leads to acute and chronic pain, infection, tooth loss, impaired development, difficulty eating and sleeping, an overall diminished quality of life, and even death.[1,3,4,5] Unmet oral health needs in children were significantly associated with poorer student performance and an increase in school absenteeism[3] and the American Dental Association (ADA) reported over 2.2 million emergency department visits for non-traumatic dental injuries in 2012.[1]

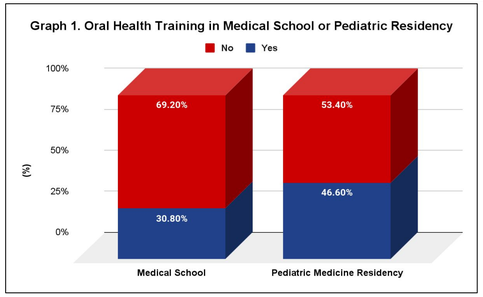
The importance of collaboration between dentists and physicians was clearly demonstrated in the 2000 Surgeon General's Report. According to both the AAPD and the American Academy of Pediatrics (AAP), the responsibility for establishing dental homes and providing anticipatory guidance[6] is shared between dental providers and other healthcare providers.[5,7] While both the AAPD and AAP recommend a dental visit by a child's first birthday, most toddlers have approximately 11-13 well-child visits with their physicians before ever seeing a dentist.[8,9] Thus, pediatricians are in the unique position to be the champions of oral health alongside the dental professional community.

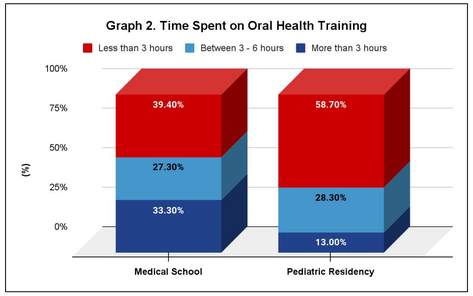
In 2008, the American Association of Medical Colleges recommended that medical schools increase oral health education[10] and yet, over half of a random sample of 600 recently trained pediatric physicians felt their training in oral health was inadequate[11] and according to residency program directors, only 38% of residents have received more than 3 hours of training during their residency.[12]

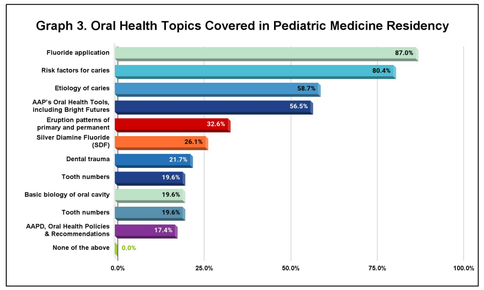
The NYC Health + Hospitals serves over 1.4 million people annually, including more than 475,000 uninsured patients.[13] As the largest municipal healthcare system in the United States of America which serves a population at the highest risk for dental caries and trauma, it is crucial to examine if the oral health education and training of NYC Health + Hospitals' pediatric medicine residents aligns with the needs of the city's children.

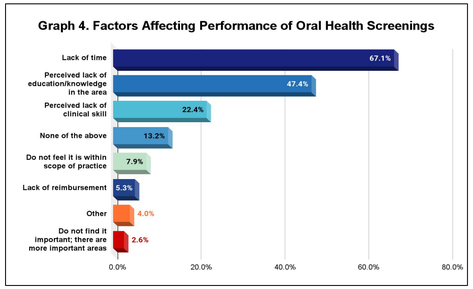
MATERIALS AND METHODS

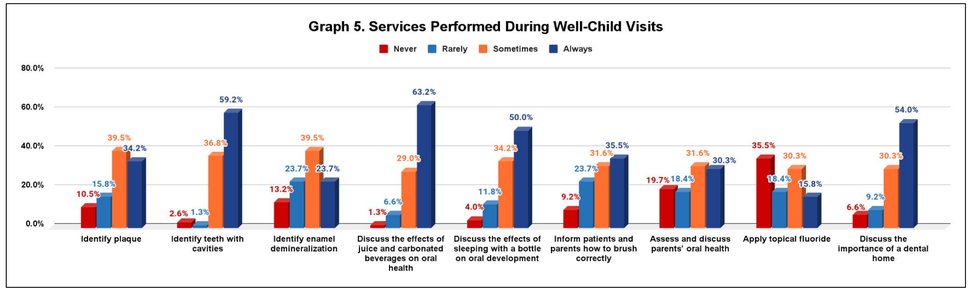
A survey consisting of 33 questions was sent via SurveyMonkey to 229 pediatric medicine residents. The target audience were those enrolled in the seven NYC Health + Hospitals with pediatric medicine residencies. The questionnaire asked participants questions pertaining to demographics, level of oral health education in medical schools and/or residency, time allocated to oral health learning if any, and how their attitudes and perceptions of AAPD oral health policies and recommendations affect their practice. The survey also included a section testing residents' knowledge of AAPD policies and recommendations and asked respondents to identify common oral conditions and appropriate treatment for those conditions. Periodic recurrent email reminders were sent and the data was collected over a 10-week period. All responses were anonymous, and the results were gathered in a cumulative manner solely for research purposes. This study was approved by the Albert Einstein College of Medicine's Institutional Review Board Protocol #2023-15071.











RESULTS

- One-hundred and four (45.4%) of the 229 surveys sent were completed. Of those who responded, 38.5% (N=40) were first year pediatric medicine residents, 30.8% (N=32) were second year residents, 29.8% (N=31) were third year residents, and 0.9% (N=1) were fellows.
- Approximately 69.2% (N=72) of respondents received no oral health training during medical school and about 53.4% (N=55) reported they received no oral health education during their pediatric medicine residencies.
- Residents who did receive oral health education in medical school: 39.4% (N=13) reported training for less than three hours, 27.3% (N=9) had between three and six hours, and 33.3% (N=11) indicated more than six hours of oral education.
- Residents who received oral health training during pediatric residency: 58.7% (N=27) reported less than three hours of training, 28.3% (N=13) between three and six hours, and only 13.0% (N=11) reported having received more than six hours training.
- Residents reported that fluoride application (87.0%, N=40), caries risk factors (80.4%, N=37), caries etiology (58.7%, N=27), and American Academy of Pediatrics' Oral Health Tools (56.5%, N=26) were most commonly included in their oral health training during residency. Only 17.4% (N=8) reported that their residencies made use of the AAPD's Reference Manual of Pediatric Dentistry. Please see Graph 3.
- The AAPD Oral Health Policies and Recommendations knowledge section average score was 53.0%. A Chi-score analysis was performed and no statistically significant difference was noted between the proportion of correct answers between residents' year of residency or residency location. *Chi-score = 0.527081, DF = 2, P = 0.768 (NOT significant), at P=0.05*
- About 74.0% (N=56) of respondents personally believed that a child should have their first dental appointment by one year, 9.0% (N=7) between two and three years, 9.0% (N=7) by the eruption of the first permanent molar, and 8.0% (N=6) reported other. Despite personal beliefs, approximately 90.8% (N=69) reportedly still recommend parents take their children for their first dental examination at the eruption of the first primary tooth or by one year of age; and about 69.7% (N=53) of residents referred patients to the dentist at every well child visit.
- Residents cited lack of time, education, and clinical skills as the top three reasons preventing them from oral health management during well-child visits. Please see Graph 4.
- There was strong agreement among respondents that pediatricians should be able to conduct basic oral health screenings as they felt it within their scope of practice (Cronbach's α=0.8840).
- A summary of the frequency at which residents performed oral health anticipatory guidelines and assessments at well-child visits can be seen in Graph 5.

CONCLUSIONS

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

1. Despite the crucial link between oral health and overall well-being, pediatric residents still receive limited training in this area.
2. While residents have low knowledge of oral health, they believe it is within their scope of practice.
3. Despite personal beliefs, most residents follow AAPD guidelines and timelines when referring patients to dentists and talking to parents about establishing a dental home.
4. Low knowledge base and perceived lack of skill indicate that pediatric medicine residencies should provide more oral health educational opportunities to ensure residents are well-equipped to address oral conditions affecting their pediatric patient population.

BIBLIOGRAPHY

References available may be viewed by scanning the QR code.