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Pediatric Dental Resident Experience in Treating Patients with Down Syndrome



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Background

A conscientious approach should be taken toward promoting oral health for children with Down Syndrome (DS). Patients with DS had a 10-year life expectancy in 1930. Today, they have a life expectancy of more than 60 years.¹ Known morbidities linked with DS in children should be addressed through anticipatory guidance strategies. This will aid parents and caretakers of children with DS in understanding the common oral health sequelae of DS as well as prevention and treatment considerations.

Fortunately, literature suggests that patients with DS are less likely to develop dental caries than individuals without DS.² The number of cavities in patients who do develop caries is still significantly less than would be expected in a normal child. On the other hand, almost all children with DS suffer from periodontal disease, the most frequent location being the mandibular incisors. Even at the age of 3, gingival tissue may break down and early loss of primary incisors can occur. Poor oral hygiene alone may not be enough to explain the severe and widespread periodontal damage seen in patients with DS as this condition is also linked to immune system impairment.³

DS also has a consistent pattern of congenital cardiac anomalies, with septal defects being overrepresented and diseases like transposition of the great arteries or aortic coarctation being underrepresented.⁴ When undergoing dental procedures that involve the manipulation of gingival tissue or periapical regions of teeth, or the perforation of oral mucosa, antibiotic prophylaxis is recommended for some patients with cardiac conditions and impaired immunity. Consulting with the patient's physician is recommended for any patient who may be at risk due to immunological impairment, indwelling vascular catheters or shunts, or implanted devices.⁵

Individuals with DS have a 20-fold greater risk of leukemia, according to studies.⁶ The majority of this increased risk manifests itself in the first few decades of life, with the highest prevalence occurring in children under the age of 5.

Purpose

To survey current American Academy of Pediatric Dentistry (AAPD) residents regarding their experience with patients who have DS.

Methods

Participants received an email via the AAPD listserv advertising the study.

The email included a link to the questionnaire.

The email asked participants to provide informed consent by clicking the provided link and completing the questionnaire.

Data was collected via Google Forms. Participants' responses were collected anonymously and presented no risk to participant privacy.

Results

813 pediatric dental residents were emailed the survey. 71 responses (8.73%) were collected. 41 PGY-1 (57.7%) and 30 PGY-2 (42.3%) residents participated in the survey.

10 residents (14.1%) reported substantial patient treatment encounters (10 or more patients), 28 residents (39.4%) reported moderate patient treatment encounters (2 to 5 patients), 21 residents (29.6%) reported minimal patient treatment encounters (0 to 1 patients), and 12 residents (16.9%) reported no experience prior to residency.

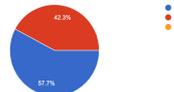
45 residents (63.4%) answered 'False' when asked if children with DS have a higher caries risk than children without DS. 26 residents (36.6%) answered 'True'.

The participants reported 'Case presentations' and 'Formal in-person lectures' as their program's main resources of preparing them for managing patients with DS.

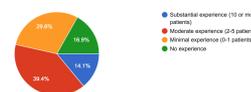
Residents' level of diagnostic experience in recognizing oral manifestations of patients with DS include 25 residents (35.2%) feel 'very familiar', 43 residents (60.6%) feel 'somewhat familiar', and 3 residents (4.2%) do not feel familiar.

6 residents (8.5%) 'strongly agree' they have acquired the necessary skills, background and education to provide dental treatment to patients with DS, 39 residents (54.9%) 'agree', 21 residents (29.6%) are 'neutral', 4 residents (5.6%) 'disagree' and 1 resident (1.4%) 'strongly disagrees'.

What year of residency are you in?
71 responses



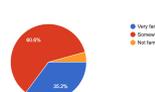
Prior to residency, what level of experience have you had in providing dental treatment to patients with Down Syndrome?
71 responses



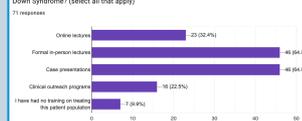
Children with Down Syndrome often have a higher caries risk.
71 responses



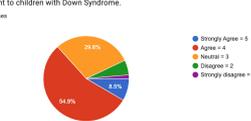
What is your level of diagnostic experience in recognizing the oral manifestations of patients with Down Syndrome?
71 responses



To what extent has your residency program prepared you in treating patients with Down Syndrome? (select all that apply)
71 responses



I have acquired the necessary skills, background and education to provide dental treatment to children with Down Syndrome.
71 responses



Conclusions

Overall, AAPD pediatric dental residents feel they have received adequate experience in the management of patients with Down Syndrome during residency.

Prior to residency, most residents had 2 to 5 patient treatment encounters with patients with DS.

Although there are some conflicting studies on the subject of DS and dental caries, the majority of sources state that prevalence of dental caries in individuals with DS is lower than individuals without DS, therefore the majority of residents correctly answered this True or False question in the survey.

Formal in-person lectures and case presentations appear to be the most effective training modalities for resident preparation in treating patients with DS rather than online lectures and clinical outreach programs.

The majority of residents surveyed feel somewhat familiar in their diagnostic experience in the recognition of oral manifestations associated with patients with DS.

Most residents agree that they have obtained the skills necessary to provide dental treatment to patients with DS during residency.

For future studies on this subject, a look into each program's resources on preparing residents for treating this patient population could serve as models for programs that may require improvements.

Acknowledgements

Thank you to Dr. James Stenger, DDS, my program director, for his time, support and guidance throughout the course of this project. Thank you to Dr. Eric Fuller, PhD for navigating the direction of this project. Thank you to Dr. Mary Calek, DDS for stepping in as the sponsor for this project. This project was made possible by funding provided by the Children's Hospital of Michigan Foundation.

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