

Assessing HPV Education in Pediatric Dental Residency Programs: a Survey of Program Directors

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Introduction

Human papillomavirus (HPV) is the most common sexually transmitted infection (STI) in the United States, with 43 million HPV infections in 2018 and 13 million new infections each year.¹ There are over 200 different strains of HPV categorized into low and high-risk groups, spread through vaginal, oral, anal sex and any other intimate skin-to-skin contact. Low-risk HPV strains do not commonly cause disease but may cause warts around the genitals, anus, or oropharyngeal region; high-risk HPV strains can cause cancer. There are approximately 14 strains of high-risk HPV but HPV16 and HPV18 are responsible for most HPV-related cancers. Nearly every sexually active person will contract HPV at some point in their lives, with approximately half being a high-risk strain. Both women and men can become infected and develop HPV-related cancers with persistent infections.² While majority of people who become infected with HPV can clear the virus within 2 years, HPV infection is preventable with vaccination, protecting against many HPV-related warts and cancers.¹

Oropharyngeal cancers (OOPC) commonly develop in the tonsils and base of tongue as squamous cell carcinomas. Number of cases are increasing each year, and OOPC has become the most common HPV-related cancer in the US, with HPV accounting for over 70% of OOPC cases.² According to the American Cancer Society, about 53,000 people are diagnosed with OOPC each year, men twice as much as women. Other than HPV, risk factors include history of smoking, heavy alcohol use, history of head and neck cancer, and radiation therapy. Many OOPCs are caused by a combination of tobacco, alcohol and HPV.³ OOPC 5-year relative survival rate is approximately 70%.⁴

Recent literature has revealed that over half of surveyed U.S. adolescents 15-19 years old have engaged in some form of sexual activity with another partner.⁵ In a 2019 national survey of US high school students, 38% reported having sexual intercourse in the past, 27% in the past 3 months with 46% not using a condom the last time they had sex.⁶

HPV vaccines have been available since 2006, and the CDC has found a decrease in HPV infection prevalence by 88% among teenage girls with vaccine introduction.⁷ The CDC recommends a 2-dose schedule for children 9-14 years old, 6-12 months apart; for children 15 or older, a 3-dose series is recommended. Per the AAPD, reports of low compliance rates for vaccination seem to be due to "access, willingness of physicians to discuss with parents, and cost." The AAPD highlights that anticipatory guidance for adolescent patients should include HPV counseling, tobacco and nutritional counseling.⁸

In a 2017 survey directed at pediatric dental residency program directors, by Hosking et al., researchers concluded that there is a gap in education opportunity in residency programs. Majority of directors reported not feeling comfortable providing HPV counseling. The study cited lack of counseling education and weak recommendations as a barrier to counseling.⁹ A 2018 systematic review similarly revealed that while dental providers generally understood the risk of HPV and OOPC development, and vaccination availability, they were still not recommending HPV vaccination due to personal and perceived parental hesitance discussing sexual risk behaviors and believed patients to be low risk.¹⁰

Objectives

To 1) determine if current pediatric dental residency programs have included training on HPV and HPV vaccination counseling into their curriculum and 2) identify any barriers, if any, to incorporating HPV and HPV vaccination counseling into the program.

Subjects

The target population is pediatric dental residency program directors of all currently accredited pediatric dental residency programs within the U.S. There was no exclusion based on age, gender, race, ethnicity, region of practice, nor region of training.

Study Design and Methods

Using a cross-sectional study design, a 22-item survey instrument (excluding demographics) was developed by the researchers by adapting and modifying questions from previously tested and validated surveys.

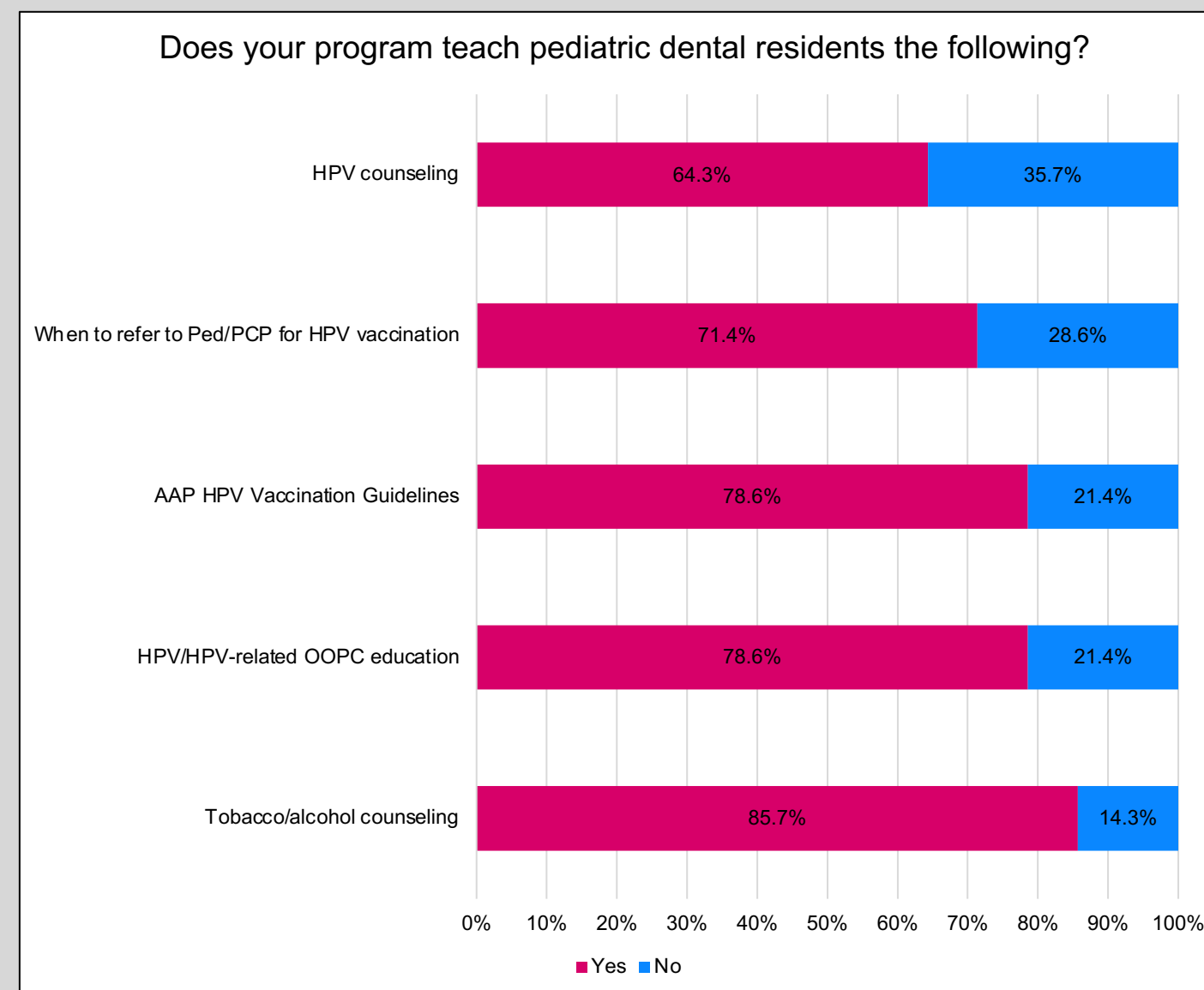
Following approval from the Institutional Review Board of Montefiore Medical Center, the contact email addresses of program directors of currently active CODA accredited pediatric dental residencies (n=86) were collected from the public domain and a database created. A survey through an online platform was created and sent to pediatric dental program directors via email invite, with 2 additional reminders at two-week intervals. Data collection began February 2023 and ended April 2023 (3 months).

All compiled information was anonymous and no identifying information was collected from participants. There was minimal risk to participants in this study.

Data management and analysis was performed using Excel software. To achieve the objectives, descriptive statistics were conducted by running frequencies and percentages of relevant survey questions.

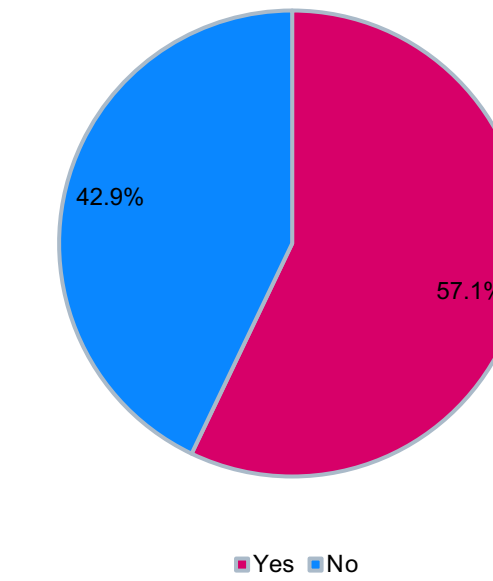
Results

There was a 16% response rate (14/86; 2 were undeliverable).

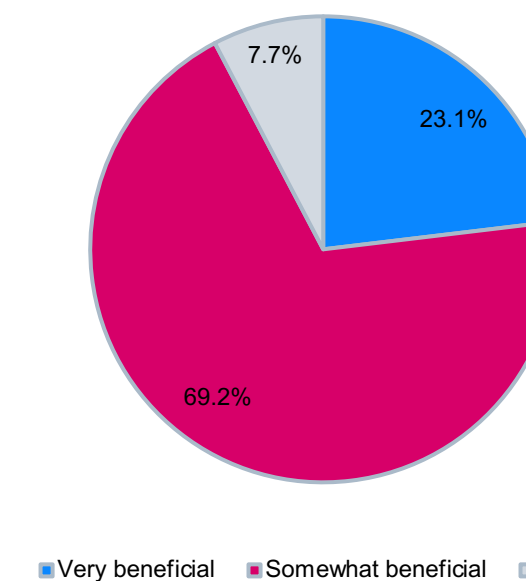


Results

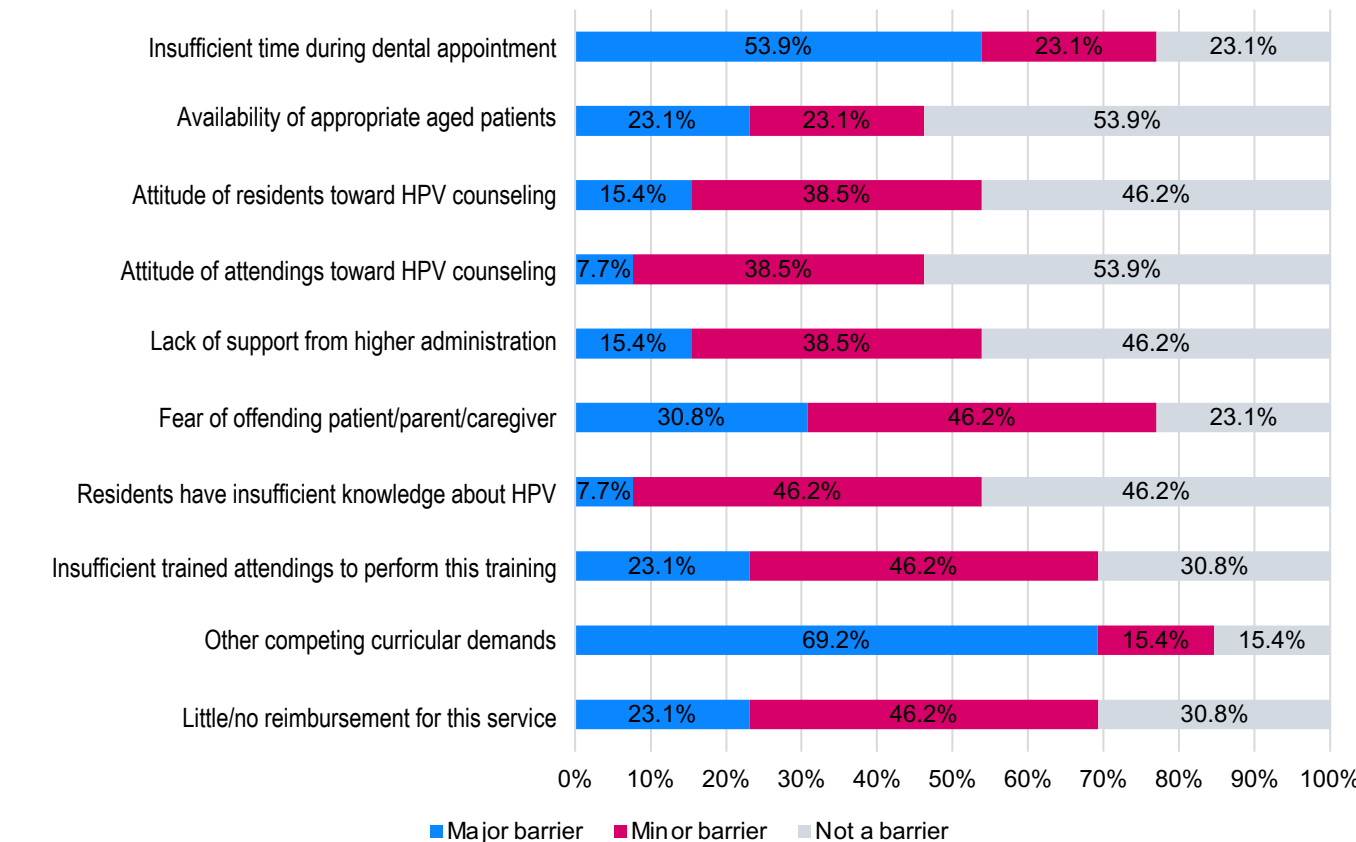
Do you instruct residents to counsel parents/caregivers on HPV, HPV-related OOPC and HPV vaccination?



How beneficial is it to integrate contents related to HPV and HPV vaccination counseling in the treatment of pediatric populations?



Indicate the degree to which you perceive each as a barrier to offering HPV counseling at your program:



Discussion and Conclusions

Majority of directors reported educating residents on HPV (HPV OOPC), and HPV vaccination counseling via lectures with 92% of respondents agreeing there are benefits to incorporating this education into treatment. Only 57% reported instructing residents to counsel patients, parents or caregivers on HPV vaccination. Of the 57%, residents can offer verbal discussion (100%), PCP/pediatrician referral (43%), and handouts (29%). Residents are instructed to counsel at either initial visit, recall appointments, or as needed. One respondent reported that it was recently incorporated into the EHR (electronic health record).

The most frequently reported barriers were:

1. Other competing curricular demands
2. Insufficient time during dental appointment and fear of offending patient/parent/caregiver
3. Little or no reimbursement and insufficient trained attendings

92% of respondents reported not training attendings on HPV counseling. Considering that insufficient trained attendings was a frequently reported barrier, education of attendings may be an important means to educating residents, as well.

The results suggest that although majority of pediatric dental residency program directors report teaching residents about HPV, HPV-OOPC and vaccination, more specifically counseling strategies (64%) are less frequently taught, especially when compared to alcohol and tobacco counseling (86%). Considering that OOPC has become the most common HPV-related cancer in the US, with HPV accounting for 70% of OOPC cases, it is imperative that pediatric dentists agree we are at the forefront of HPV counseling of our pediatric populations. Incorporating questions on HPV vaccination into the EHR, as reported by one residency program director, may be an effective means of ensuring that the patient and parent/caregiver have some level of awareness of the vaccine availability and benefits.

We recommend the American Academy of Pediatric Dentistry and American Board of Pediatric Dentistry advise residency programs on appropriate content and methods for HPV counseling training for residents.

Major study limitations were small sample size and distribution of respondents. Respondents were from the Northeastern (majority), Northcentral or Southeastern regions, with no representation from Western or Southwestern regions. Other limitations include unanswered questions. Considering the lack of representation of all regions, the survey results may not accurately describe current HPV counseling trends in U.S. pediatric dental residency programs.

Future research should consider surveying recent graduates of pediatric dental residency programs to better assess any recent changes in the curricula, and their level of readiness to perform HPV counseling.

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