

HPV: Changing the Statistics



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In the world of research, an “n of 1” is considered an insufficient sample size to make an inference about a population. While distinguishing significance in research is vital in the scientific world, this statistical view often feels invalid when the “n of 1” is you or someone you know. And when the statistic is a diagnosis of cancer, that “1” feels even more noteworthy.

We know that cancer is a devastating disease that results in an increasing number of diagnoses each day. Case in point, the American Cancer Society estimates that more than 4,700 new cancers will be diagnosed each *day* in 2018.¹ Most of us know that breast, colon, lung, and prostate cancer are the main contributors to those staggering numbers. But did you know that the incidence of oropharyngeal cancers (OPCs) is increasing? I didn’t.

It is estimated that 51,540 new cancer cases in 2018 will be of the oral cavity and pharynx and will cause approximately 10,000 deaths in the United States (US).¹ Included in this estimate is the increasing incidence of human papillomavirus-associated oropharyngeal cancers (HPV-OPCs). The “n of 1” that started this discussion? That was a colleague of mine, who received just such a diagnosis. And the causative factor was surprising to me.

Now, please don’t misunderstand me—I know that HPV, a group of more than 150 related viruses, is the most common sexually transmitted infection (STI) in the US.² I also know that HPV is implicated in genital warts and in cervical and anal cancers. The virus, which is transmitted through intimate skin-to-skin contact, is acquired by many during their adolescent and young adult years.² Currently, 84 million Americans have HPV, and 14 million new cases are diagnosed each year.³ And while many of these infections resolve on their own, others can cause serious health problems.

The most serious of those health problems, HPV-related cancers (which include cervical, vulvovaginal, anal, and oropharyngeal), are on the rise in the US.⁴

The prevalence of HPV in oropharyngeal tumors increased from 16.3% during the 1980s to 72.7% during the 2000s.⁵ Moreover, HPV has been implicated in 12% to 63% of all oropharyngeal cancers.⁶ Fifteen years ago, researchers concluded that HPV type 16 was the cause of 90% of cases of HPV-positive squamous cell carcinomas of the head and neck.^{7,8} At any given time, 7% of the population between ages 14 and 69 are infected by the virus within the oral mucosa.⁹

For my colleague—and many of us—the ship of prevention has sailed. But what disconcerts me most about this rise in HPV-related cancers is that, as of 2006, we have a vaccine that protects against infection with the two most prevalent cancer-causing HPV types. And yet, our vaccination rates continue to fall short of the Office of Disease Prevention and Health Promotion’s goal of having 80% of females ages 13 to 15 fully vaccinated against HPV.¹⁰

Research has shown that parents of young adolescents are often upset by the recommendation that their children receive the HPV vaccine.¹¹ Common beliefs are that the vaccine will give adolescents permission to become sexually active—or, conversely, that the adolescent isn’t sexually active, so the vaccine isn’t necessary. The reality of the situation: Adolescents don’t consider oral sex as having sexual relations, and oral sex is often the first sexual encounter for young people. Adolescents also regard oral sex as less risky than vaginal sex.¹² So, many have unknowingly put themselves at risk while thinking they are actually being “safe.”

There are ways to reduce cancer risk, but few interventions are more effective than HPV vaccination.¹³ Given the incidence of HPV-OPC, it’s time to debunk the misbeliefs about sexual activity and move on to a concerted effort to promote HPV vaccination. Recent advertising about the HPV vaccine has emphasized the consequence of cancer in its messages. I applaud this new

direction—it could be key to reversing the persistently low rate of HPV vaccination and changing that “n of 1” to zero. Share your trials and triumphs in promoting HPV vaccination with me at NPeditor@mdedge.com. **CR**

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