RESEARCH ARTICLE

HEALTH PROVIDERS OPINIONS ON THE UTILITY OF THE HPV VACCINATION – ARE GUIDELINES BEING FOLLOWED?

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ABSTRACT

Background: For the first time in woman's health we are able to prevent cervical cancer caused by Human Papilloma Virus (HPV). However, the opinions of healthcare providers are easily translated into practice of distribution of the HPV vaccination. Here, we identify important areas of bias that have the potential to limit distribution to indicated populations.

Aims & Objective: We sought to evaluate medical provider's knowledge and personal beliefs regarding the indication for the HPV vaccination through an 8-question survey.

Material and Methods: The survey was distributed to women's healthcare providers at a series of continuing medical education (CME) conferences from 2011-2012. Each question was structured to reveal potential bias in the guideline-based distribution of the vaccination.

Results: We identified four patient populations that met the criteria for vaccination that had a low level of recommendation (50-82%). Overall, there were high levels of recommendation for populations that were before or at sexual debut (95-99%). Two groups identified as having a low level of recommendation included sexually active female patients with documented cervical dysplasia (76-82%). Other groups with low levels of recommendation included a married woman within the recommended 12-26 age range (60%) and a male patient with exposure to genital warts (50%).

Conclusion: There is clear evidence that healthcare providers have a significant impact on acceptance and motivation of patients receiving the HPV vaccination. This study shows biases and lack of knowledge of the guidelines for HPV vaccine use impact recommendations of healthcare providers providing the vaccine to their patients.

Key-Words: Human Papilloma Virus; Vaccination; Acceptance; Guidelines

Introduction

Human Papilloma Virus (HPV) is a sexually transmitted disease that has been recognized as the causative agent of cervical cancer across the globe.[1] Nobel laureate Harald zur Hausen identified HPV in cervical cancer specimens in 1983, this discovery and the ensuing research that followed led to the development of to the widely distributed vaccine available today.[2,3] Given the widely accepted etiologic role of HPV in cervical cancer, the development of the HPV vaccine has now made cervical cancer a largely preventable disease. Some of the barriers to accepting widespread vaccination include accurate health information and social factors by both the patient and provider. Social factors including preconceived notions and personal beliefs significantly affect not only patient acceptance, but also the way in which healthcare providers will offer care.

The American College of Obstetricians and Gynaecologists (ACOG) and the Centers for Disease Control (CDC) recommends routine vaccination as early as 9 years of age for females and as late as 26 years of age.[4-6] The World Health Origination (WHO) recommends that routine vaccination should take place between 9-13 years of age, before sexual debut.[7] However, despite these clear universal recommendations by national and international organizations, providers poorly follow the guidelines. Vadaparampil et al in 2011, demonstrated that healthcare providers recommended the HPV vaccination in 34.6% of 11-12 year olds and 52.7% in the 18-26 age group.[8] The recommendation or administration of vaccinations is dependent on many factors including the attitudes and beliefs that health care professionals hold.[9] Identifying specific clinical scenarios where providers are hesitant to recommend the vaccination will allow for focused education.

Materials and Methods

This study sought to evaluate medical provider's knowledge and personal beliefs regarding indications for the HPV vaccination. An 8-question survey was given to women's healthcare providers at a series of continuing medical education (CME) conferences in New York and New Jersey from 2011 to 2012. Demographic questions as well as questions regarding recommending the HPV vaccine were presented in a series of clinical vignettes. The demographic categories included gender, provider type (OB/GYN, primary care, other healthcare practitioners), and age. The questions regarding attitudes were asked as clinical scenarios with dichotomous answers: recommend or not recommend. The clinical scenarios focused on a 12-year old daughter of one of your long-time patients, a 18-year old at an annual exam who denies previous sexual activity, a 19-year old female college sophomore requesting birth control after initiating sexual activity, a 26-year old married patient at her annual exam, a 25-year old female patient with an ASC-US Pap smear and HPV positive result, a 23-year old female at high risk for sexually transmitted infections with a history of an "abnormal Pap" 3 years ago, a 19-year old man with a female partner with genital warts, and a 35-year old female patient who is getting divorced. Demographic information from the survey included age, gender, and medical specialty.

Results

A total of 154 clinicians completed the survey. The demographics of the responders are 27% were males, 57% were females and 15% were unknown. The type of practitioner was noted to be 35% Obstetrician Gynecologists (OB/GYN), 21% were unspecified type medical physician, 23% were health care practitioners, and 21% of the responders did not identify if they were a physician or other healthcare provider. Within the category of healthcare practitioner, this included OB/GYN Advanced Registered Nurse Practitioners and OB/GYN Physicians Assistants (PA). With regards to the age of the responders, 8% were less than 35 years old, 28% were between the ages of 30-50 years old, 41% were greater than 50 years old, and age was unknown for 23% of the responders. The demographics are detailed in Table 1.

Overall, a very high rate of HPV vaccine recommendation (95-99 percent) was associated with questions identifying low risk patients such as a 12 year old adolescent female (95%), a sexually inactive 18 year old female (99%), and a newly sexually active 19 year old female (97%). Interestingly, only 60% of providers would recommend vaccination to patients who fit within the age guidelines, but are married. Also it was found that 18-24% of healthcare professionals would not recommend the vaccination to patients if they believe that that the patient has had previous exposure to HPV. Approximately 50% of the providers would consider administering the vaccine to women who are outside the guidelines but are at a high risk for acquiring HPV. Table 2 demonstrates the rates of recommendations for each specific patient population and risk factors.

Table-1: Healthcare Provider Demographics

Demographics	N (%)
Male	43 (27)
Female	88 (57)
No Response to Gender	23 (15)
OB/GYN	53 (35)
Other Physician	33 (21)
Health Care Practitioner	35 (23)
No Response to Job Title	33 (21)
Less than 35 years old	12 (8)
Less than 30-50 years old	43 (28)
Greater than 50 years old	63 (41)
No Response to Age	36 (23)

Table-2: Clinical Vignettes in the Questionnaire

Vignette-1: Sexually inactive females age 18	99%
Vignette-2: A newly sexually active female at 19 years of age	97%
Vignette-3: Adolescent female 12 years of age	95%
Vignette-4: A 23- year old female with high risk behaviour and a history of abnormal pap smears	82%
Vignette-5: A 25-year old female patients with an ASC-US (atypical squamous cells of undetermined significance) Pap and positive HPV	76%
Vignette-6: Married female patients less than or equal to 26 with no history of abnormal Pap smears	60%
Vignette-7: A recently divorced woman in her mid 30's.	54%
Vignette-8: 19 year old male who has been exposed to genital warts	50%

Percentages to the right of the vignettes are the overall HPV vaccination recommendation rate for each patient from all pooled survey responders

Discussion

A four-fold acceptance of the HPV vaccination takes place when it is recommended by a

healthcare provider.[10] The International Federation of Gynaecology and Obstetrics (FIGO) cervical cancer strategy document reports that: "women's health professionals must play an integral role in advocacy".[11] ACOG has also created guidelines to ensure appropriate and effective distribution of the HPV vaccine.[5] A 2013 ACOG committee opinion has clarified that providing the opportunity for vaccination is an ethical obligation of physicians to their patients.[12] This study has identified areas where lack of provider recommendation will likely limit vaccination administration.

The ability to significantly decrease the incidence of HPV infections has been demonstrated to correlate with provider recommendations.[13] For the first time the reduction of cervical cancer deaths can be from prevented rather be diagnosed after disease has materialized through pap screening. Each question has attempted to identify a potential specific provider bias that may limit recommendation.

Two groups in this study had high levels of provider recommendation. These groups included a newly active 19 year old female and a sexually naïve 18 year old. In these group an average of 98 percent of providers would recommend vaccination. Almost universal agreement regarding vaccination represents appropriate management with one caveat. The age of both these groups is much higher than the optimum target population of between 9 to 13 years of age. Of note, the one adolescent patient whom was the 12 year old, did have a positive vaccination response of 95%.

The 23 and 25 year old patients both represent a patient group that will not likely have the full protection that the vaccine can provide secondary to their previous HPV exposure. As greater than 70% of females are reported to have started having sex by age of 18.[14] However both these clinical groups fit the age guideline and should be vaccinated. The previous HPV contact in this group is worth a discussion with a patient but should not change the clinician's recommendation. The group with high risk behaviour may be most important group to vaccinate. The vaccine will provide protection from future contacts and will provide protection after clearance of the current HPV infection.

Relationship status has been identified as a predictor of physician recommendation. Zimet et al. shows that clinicians were significantly more likely to recommend vaccination in single women than married or monogamous relationships despite no differentiation in guidelines between the two groups.[12] These results were also confirmed in our study as well. The only married patient in the questionnaire ended up with a 60% HPV vaccine recommendation rate. There is continued risk associated with sexual activity despite presumed monogamy. If under 26 these patients should be vaccinated.

One patient that falls outside the recommended guidelines is a recently divorced woman in her mid-30's. This patient does not fit the guidelines, however, may benefit from the vaccine. This patient is likely to re-initiate sexual activity and be exposed to HPV. Protecting against HPV in the unexposed is the ultimate goal. This patient, while outside the guideline, is a patient to have a discussion with regarding the risk benefit ratio of vaccination.

The Food and Drug Administration (FDA) recently approved vaccination of male patients to 26 years of age. There is indication that gender-neutral vaccination recommendation may in-fact encourage female vaccination.[15] However, this survey took place before the majority of providers were aware of the updates to the original guidelines and a low level (50%) of provider recommendation reflected this in regards to the 19 year old male in our survey.

Weaknesses in this study are universal to surveys. Self-selection that occurs with willing participants makes representative groups challenging. However, greater than 90% of the surveys were returned when distributed. Standardization of questions was beyond the scope of this information gathering survey. The purpose of the study was an evaluation of trends and identification of educational needs and has a limited scope beyond this.

The majority of clinicians state that they follow

ACOG guidelines. However, responses do not correlate with recommendations. The difference may be related to a combination of perceived risk and guidelines. The guidelines make no differentiation of risk status. There appears to be specific areas where clinicians are perhaps unaware of the vaccine's utility or the recommendations and thus further education is needed. These areas may include married adult women, high risk patients and males.

Other factors not addressed in the survey have already been investigated. According to a study of 273 paediatricians and OB/GYN generalists; those with high intrinsic religiosity and self-described conservatives are less likely to recommend vaccination to their own daughters or daughters of close friends.[14] Further education may be helpful in regard to the risks and benefits of vaccinating specific indicated populations. Some other provider characteristics may be difficult to modify such as the correlation of recommendation with early adapters of technology.[16,17] If people think that vaccination is a new technology, education may be lost on them. Continued education and emerging safety data should also be helpful for this group.

Conclusion

Recommendation of the HPV vaccination is essential in providing effective care to patients. The burden of cervical cancer can be virtually eliminated. Improved health both decreases the use of resources and allow for focus on new challenges in healthcare. With a solution in hand it is necessary to move forward.

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