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RESEARCH

Utah pharmacists' knowledge, attitudes, and barriers regarding human papillomavirus vaccine recommendation

Victoria Tolentino, PharmD, Elizabeth Unni*, Jaime Montuoro, Diane Bezzant-Ogborn, Deanna Kepka

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ABSTRACT

Objectives: To evaluate Utah community pharmacists' knowledge and attitudes toward recommendation of human papillomavirus (HPV) vaccine, to determine whether the knowledge and attitude of pharmacists regarding the HPV vaccine influence their recommendation behaviors, and to capture any self-identified barriers to recommending the HPV vaccine.
Design: A cross-sectional anonymous 73-item survey was developed and administered to community, outpatient, and ambulatory care pharmacists.
Setting: Utah.
Participants: Utah community pharmacists.
Main outcome measures: Recommendation of the HPV vaccine by the pharmacist, knowledge and attitude of pharmacists regarding HPV vaccine, and barriers to vaccine receipt.
Results: The mean HPV vaccine knowledge score was 7.45 ± 2.15 (out of 13), and scores were higher when pharmacists had 4 to 6 technicians per day in the pharmacy and when they were residency trained. The mean attitude score was 24.26 ± 3.16 (out of 30). Positive attitudes were found if they had more than 1 pharmacist and 4 to 6 pharmacy technicians working at any given time in the pharmacy. Those who identified with "other Christianity" had a more positive attitude than Latter Day Saints. Although positive attitude toward the HPV vaccine was a predictor for recommending the vaccine to both boys and girls, higher knowledge was a significant predictor only in recommending the HPV vaccine for boys. Female pharmacists were more likely to recommend the HPV vaccine. The top 3 reported barriers included lack of parental knowledge, parental concerns and opposition, and lack of educational materials to provide parents.
Conclusion: Although the majority of respondents perceived HPV vaccination as useful for preventing certain types of cancer, and more than one-half of respondents reported being comfortable in recommending the vaccine, only one-third actually recommended the vaccine for girls and for boys. The results indicate the need for improving knowledge about the HPV vaccine for pharmacists, patients, and parents.

Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States.[1] The CDC reports that nearly 80 million people in the United States are currently infected by HPV, equating to about 1 in 4 individuals.[2] Each year, nearly 14 million people become infected, teens included.[2] Although most infections involving HPV resolve within about 2 years, with most people never developing symptoms, some infections involving high-risk strains can linger and lead to genital warts and cervical, vulvar, vaginal, penile, anal, and oropharyngeal cancers.[2,3] A safe and effective vaccine is available that can help protect men and women against HPV-related cancers and infections, which can prevent nearly 28,000 of the 30,700 HPV-related cancers that occur in the United States.[2]

The Healthy People 2020 goal for HPV vaccine series completion in male and female adolescents is 80% by age 15.[4]

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* **Correspondence**: Elizabeth Unni, PhD, Roseman University of Health Sciences, 10920 S. River Front Pkwy., South Jordan, UT 94095 84095.
E-mail address: eunni@roseman.edu (E. Unni).

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Key Points

Background:

- Human papillomavirus (HPV) is the most common sexually transmitted infection and currently affects nearly 80 million people in the United States.
- A safe and effective vaccine is available that can protect male and female adolescents against HPV.
- HPV vaccination rates in Utah are significantly lower than the national rates. Community pharmacists are well positioned to recommend and administer vaccines.

Findings:

- Pharmacist knowledge regarding HPV and the vaccine was higher when they were residency trained and when they reported having more auxiliary technician help versus less.
- Pharmacist attitude regarding HPV and the vaccine was better when they reported having more auxiliary pharmacist and technician help.
- Female pharmacists were more likely than male pharmacists to recommend the HPV vaccine.
- The most common perceived barriers to patients receiving the vaccine were lack of parental knowledge, parental concerns/opposition, and lack of educational materials to provide to parents.
- Feedback and recommendations provided by respondents emphasized educational interventions targeting patients, prescribers, and pharmacists as well.
- Utah community pharmacists perceived HPV vaccination as useful for preventing certain types of cancers and reported being comfortable in recommending the HPV vaccine; however, these facilitators did not translate into actual HPV vaccine recommendation.

In Utah, a state where pharmacists have the authority, under a statewide protocol, to vaccinate all ages according to the current guidelines approved by the Advisory Committee on Immunization Practices (ACIP), HPV vaccine series completion rates are significantly lower than the national rates. As of 2015 only 25% of female and 20% of male adolescents 13 to 17 years of age completed the HPV vaccine series.[5] Many factors contribute to general vaccine noncompliance in adolescents and children, including concern of side effects, fear of autism, objection to large numbers of vaccines, lack of access or cost, lack of information, and religious or moral grounds. Of all these factors, religious or moral grounds tends to be a common factor in terms of objecting to the HPV vaccine.[6] Coadministration of HPV, Tdap (tetanus–diphtheria–acellular pertussis), and meningococcal vaccines are recommended. Nationally, 8 out of 10 teen boys and girls are receiving the Tdap and meningococcal vaccines, but only 6 out of 10 teen girls and 5 out of 10 teen boys have begun the HPV vaccine series.[7] This difference in vaccine uptake could be indicative of a lack of vaccine recommendation leading to missed opportunities to provide the initial or subsequent doses of the HPV vaccine series. A Denver Health study described how presenting the recommended adolescent vaccines in a standard "bundle," among other strategies, contributed to their success in achieving higher than national rates.[8]

To achieve higher HPV vaccination rates, a consistent and strong recommendation is needed from the entire health care team, including primary care providers, pharmacists, and dentists. Pharmacists continue to be among the most trusted professionals, and community pharmacists remain the most accessible health professionals.[9] The role of the community pharmacist continues to evolve from a medication dispensing–centered focus to a more comprehensive patient-centered care approach. Part of this evolution includes contributing to enhanced public health by means of recommendation and administration of appropriate vaccines to all ages, in addition to providing many other preventative health services. The American Public Health Association released a position statement in November 2006, and the section dedicated to pharmacists and prevention states that "primary prevention is the essence of public health" and pharmacists play a key role in prevention and increasing access to care.[10]

While pharmacies are among the most accessible sites for obtaining vaccines, especially for adults, they are still underutilized in providing adolescent vaccines, most notably the HPV vaccine.[11] A report from the American Pharmacist Association's annual pharmacy-based influenza/adult immunization survey reported that approximately 34% of surveyed pharmacists are administering the HPV vaccine. Compared with other vaccinations, such as Tdap, for which the self-reported vaccination rate by pharmacists is 68%, the vaccination rate for HPV is still quite low by pharmacists.[11,12] Therefore, studies are needed to understand the reasons for this low recommendation of the HPV vaccine by pharmacists. Although other studies have examined prescribers' and parents' perceptions of HPV vaccination, few have examined the pharmacists.[13–15] A recent study by Hastings et al. examined Alabama pharmacists' perceptions and barriers toward HPV vaccination because of a high incidence of cervical cancer and low vaccine uptake.[16] That study reported positive perceptions from pharmacists toward HPV vaccination as well as various barriers in recommending HPV vaccination, including system barriers, such as lack of insurance, and barriers from parents, such as inadequate understanding of HPV infection. However, the study did not measure pharmacists' knowledge about HPV vaccination or their comfort level in recommending it.[16] Understanding pharmacists' knowledge, attitude, and barriers regarding the HPV vaccine would be significant.

Utah is known to be a conservative state with strict moral and religious attitudes, which can influence parents' decisions in vaccinating children against HPV.[15,17] It is unclear whether the lack of vaccine uptake in the state is directly correlated with the conservative nature of its residents or with lack of preparedness of the health care providers, including pharmacists. Nonetheless, with low rates of vaccine uptake despite having a statewide protocol that allows pharmacists to vaccinate children of all ages, it is important to examine Utah pharmacists' preparedness and immunization practices concerning HPV vaccine recommendation. The aim of the present study was to evaluate Utah pharmacists' knowledge and