Identifying Predictors of Human Papillomavirus (HPV) Vaccine Acceptance in the Male Population of White County, Arkansas

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Background

Human Papillomavirus (HPV) infects men and women causing a majority of cervical cancer cases as well as conditions such as genital warts. The incidence of HPV-related cervical cancer in White County, Arkansas is substantially higher at 13.9 per 100,000 when compared to the national incidence of 8.3 per 100,000 individuals. This is the second highest ranked incidence observed in the state despite the current availability of HPV vaccines. HPV-associated conditions have an effect on men not only potentially causing disease but also by being asymptomatic transmitters of the virus contributing to disease in females.

In order to prevent HPV-related disease in males, and consequently reduce the risk of cervical cancer in females, a previous survey demonstrated that community leaders in White County, Arkansas understand the need for public awareness of HPV in the male population.

The purpose of the present survey study is to identify predictors of HPV vaccine acceptance in the male population.

Objectives

• Survey males of White County, Arkansas to assess the extent of their knowledge of HPV infections and transmission as well as awareness of HPV's prevalence in the county.
• Identify predictors of HPV vaccine acceptance in the male population.

Methods

To assess the extent of knowledge of HPV infections and transmission among the male population throughout the county, a Harding University College of Pharmacy student research group created surveys to target age appropriate males 19-26 years of age to complete. The surveys determined the level of awareness of HPV, available vaccine, genital warts, and cervical cancer as well as the underlying factors that trigger the increase in HPV infection incidence in White County.

Surveys assessed demographics such as average household income, level of education, and availability of insurance, age as well as ethnicity.

Data and Results

<table>
<thead>
<tr>
<th>Survey Demographics of 51 Males</th>
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<tbody>
<tr>
<td># Surveyed</td>
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<tr>
<td>------------</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>46</td>
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<tr>
<td>21</td>
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Predictors Contributing to HPV Vaccination Interest

<table>
<thead>
<tr>
<th>Predictor</th>
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<tbody>
<tr>
<td>Household income</td>
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<tr>
<td>Level of education</td>
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<tr>
<td>Insurance</td>
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<tr>
<td>Ethnicity</td>
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<tr>
<td>Age</td>
<td>0.55</td>
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Male Survey Data Analysis

• 94% were unaware that White County has the second highest incidence of cervical cancer in Arkansas.
• 82% recognize the HPV vaccine to be effective in preventing genital warts in men.
• 92% of participants believed that both men and women can be infected with HPV, demonstrating a good knowledge about the susceptibility of both genders to infection. Alternatively, 69% did not know that men could be asymptomatic carriers and pass HPV to their partner, indicating more need for education about transmission of HPV.
• Household income and vaccination cost affected participants' interest in receiving the HPV vaccine.
• Level of education, ethnicity or age range did not contribute significantly as a predictor of participant interest in HPV vaccination.

Household Income

Participants in the two lowest income categories were less interested in vaccination than higher income groups. However, when participants were asked about their interest in low or no cost HPV vaccination, participants in the two lowest income categories expressed significantly higher interest than when compared to their baseline response (Wald Chi-Square 6.4, p = 0.01).

Participants in the two highest income categories did not change responses when the HPV vaccine was offered for free, but were more interested in HPV vaccination than the lower two income groups (Figure 1).

Conclusion

The study indicates that males in White County lack knowledge related to HPV transmission and its link to genital warts. The majority of the males in White County perceive the HPV vaccine to be effective. The study also identifies that vaccine cost was the most significant predictor on willingness to be vaccinated among males that fell into a lower income category (income < $50,000). However, these men were significantly more agreeable to vaccination if offered at no cost.

Future Aims

• Develop targeted educational tools such as brochures to educate the male population of White County, Arkansas and place in point of care facilities as determined by the surveys.
• Develop television and radio commercials to raise awareness and benefits of HPV vaccination.
• Develop Continuing Education (CE) programs and deliver to healthcare professionals to encourage their patients to receive the HPV vaccine.
• Assess the effectiveness of education by annual comparison of vaccination rates to baseline rates obtained from the Arkansas Health Department.
• Conduct additional male surveys to substantiate findings.

References

• Smith, Gregory D. et al.; Getting to know human papillomavirus (HPV) and the HPV vaccines. JAOA (Supplement 2) 2011; 111:29-34.

Disclosure

Authors of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation.