

## **Factors influencing the uptake of the human papillomavirus (HPV) vaccine to prevent cervical cancer (CC)**

Jennifer Y. Lai, Anna V. Tinker, Winson Y. Cheung  
*Division of Medical Oncology, British Columbia Cancer Agency*

**Background:** Despite its ability to prevent CC, research indicates that public acceptance of the HPV vaccine may be suboptimal, but the potential reasons for this poor uptake are as yet unclear. Our aims were to 1) evaluate the willingness of women to use the HPV vaccine, 2) examine their current understanding of HPV infection and its association with CC, and 3) determine the impact of knowledge level and sociodemographic factors on attitudes toward using the HPV vaccine.

**Methods:** Women aged  $\geq 18$  years were identified from the population-based Health Information National Trends Survey. We developed a 6-point composite scoring system based on individual survey responses to specific knowledge related questions to characterize the quality of personal understanding about HPV risks and complications (where a score of 0 = poor and 6 = excellent awareness). Logistic regression and interaction analyses were conducted to explore the influence of this knowledge level and other clinical factors on the decision to apply the HPV vaccine.

**Results:** There were 804 female respondents: mean age was 44.9 (SD = 2.53) years and 73% were white. In total, 75% of women indicated they would immunize their daughters against HPV. Mean knowledge score was 5.6 (SD = 0.30), but understanding about (a) the route of HPV transmission and (b) the causal relationship between HPV infection and CC were weakest. Individuals who were white, educated, high income earners as well as those with a family history of any cancers were more knowledgeable about HPV (all  $p < 0.05$ ). In multivariate models and interaction analyses, white race correlated with a higher likelihood of using the HPV vaccine (OR = 1.86,  $p = 0.04$ ), but knowledge level did not (OR = 0.47,  $p = 0.22$ ).

**Conclusions:** In this population-based sample of women, knowledge level was generally high, but it was not associated with the use of the HPV vaccine. Factors that are commonly associated with racial differences in cancer care, such as inferior access to the healthcare system and prohibitive treatment-related costs, may be more significant barriers to vaccine use. Interventions focused on alleviating these racial disparities might better modify the uptake of the HPV vaccine.

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