

Study finds high HPV prevalence in subset of Peruvian men

October 5 2015



Penicillin injection for syphilis. Credit: Daniel A. Anderson

A decade ago, a clinical trial of human papillomavirus (HPV) vaccine in

brothel-based female sex workers took Brandon Brown of the University of California, Riverside to Peru, a country where HIV prevalence is high, the epidemic concentrated in men who have sex with men (MSM).

"While licensed female sex workers in Peru are highly exposed to HPV, they are not as likely as MSM to have HIV," said Brown, an assistant professor in the School of Medicine at UC Riverside. "Since HPV prevalence and HPV-related cancer outcomes are higher among those with HIV, we decided recently to study MSM and HPV to make an argument for HPV [vaccine](#)."

To get going with the study, Brown assembled a team of researchers in the School of Public Health and Administration at Universidad Peruana Cayetano Heredia in Lima, Peru. The result of their work is the first study in that country to report HPV infection in MSM in multiple anatomical sites - anus, penis, mouth/throat - and suggesting benefit of the HPV vaccine in this population.

"We expect the high potential for protection with HPV vaccine in Peruvian MSM is mirrored here in the United States," said Brown, the lead researcher of the study and a member of the Center for Healthy Communities at UCR. "Still, little effort is being expended to reach MSM either in Peru or in the U.S. with HPV vaccine. Interventions to reach high risk groups like this are needed, particularly since some studies suggest that MSM are 30-40 times more likely to get anal cancer compared to the general population."

The study, appearing online today in *PLOS ONE*, is the first to look at HPV epidemiology and concordance at multiple anatomical sites in Peruvian MSM.

For the project, Brown and his colleagues conducted a cross-sectional study between March and September 2011 of HPV prevalence among

200 MSM over 18 years of age. They recruited participants using "respondent driven sampling" - a way to recruit potential participants with referral by current participants. All participants provided anal, genital, and oral samples for HPV DNA testing, and blood for HIV and HPV antibody testing.

"These samples allowed us to compare the prevalence of HPV types, as well as HPV antibody to examine previous HPV exposure," Brown said," Brown said.

The researchers found that HIV prevalence among the MSM participants recruited was about 50 percent (the prevalence of HIV in MSM in Peru is reported, however, at around 10 percent). They found, too, that HIV positivity was associated with a higher prevalence of HPV of any type at external genital sites, anal canal and oral cavity. At external genital sites, high-risk HPV prevalence was 27.9 percent for HIV-negative MSM and 38.5 percent for HIV-positive MSM; at the anal canal the HPV prevalence of high-risk HPV types was 55.6 percent for HIV-negative MSM and 86 percent for HIV-positive MSM; at the oral cavity, the HPV prevalence of high-risk HPV types was 14 percent for HIV-negative MSM and 25 percent for HIV-positive MSM. This higher HPV prevalence in immunocompromised individuals is expected, implying that HIV-negative MSM will receive more protection with vaccine.



Vacutainers used to collect blood for HIV testing, HPV testing, and a number of other STD tests. Credit: Daniel A. Anderson.

The researchers also found HPV seroprevalence (virus present in blood serum) was higher than HPV DNA prevalence in their participants, but the prevalence of infection with all vaccine [genotypes](#) (HPV 6,11,16,18 or HPV4) was zero, suggesting that all participants, even those HIV infected, would receive protection with vaccine. (HPV seroprevalence indicates if a person was ever infected at any time in life at any anatomical site; HPV DNA indicates whether the virus was detected at the time of testing.)

"These epidemiological findings show us that HPV vaccine can be a very useful tool for the prevention of chronic infection and likely subsequent

HPV-related cancers among those who are sexually experienced in addition to children," said Brown, who recently wrote an [op-ed piece](#) to encourage HPV vaccine use. "There is no reason to exclude high risk groups from vaccination, and in some cases, they should be specifically targeted. If we can reach adolescent MSM, for example, the vaccine would likely provide significant benefit."

Brown is concerned that HPV vaccine uptake rates in the general population of children (11-12 years of age) in the U.S. is low, and lower still for older children and groups more exposed to HPV through sexual means. Alarming, the rates are even lower in resource poor countries; in some cases HPV vaccine is simply unavailable or financially prohibitive.

"People believe that HPV vaccine is only useful if given before sexual debut, but it can still be useful for preventing chronic infection against HPV vaccine genotypes to which they are not already exposed," he said.

HPV is the most common sexually transmitted infection worldwide. Anyone who is sexually active in his/her lifetime will be infected with HPV, but not everyone will get HPV-related disease. More than 100 types of HPV exist, not all of which cause health problems. Only a few are associated with cancers.

Numerous studies on HPV prevalence and infection among men and women in the general population in the U.S., Peru, and elsewhere have been conducted. Little research has focused on health disparities among MSM, however, likely because this is a harder-to-reach population and due to stigma.

"We argue in our paper that this group should also be included in the HPV vaccine schedule," Brown said. "HPV vaccine, it must be stressed, is a useful intervention even among sexually experienced populations,

which includes MSM. Scientists often automatically assume that high-risk groups have been exposed to all the HPV genotypes, but this is incorrect. Ours is the first study in Peru to report HPV DNA and antibody against the HPV types included in the vaccine."

The study was funded by an Investigator Initiated Study grant to Brown from Merck & Co., Inc. The pharmaceutical company had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Next, Brown and his team plan to conduct a study in Peru to reach high risk groups like MSM and female sex workers with the HPV vaccine.

"Though these groups are more highly exposed to HPV than sexually naïve children, they can and will still receive protection from the vaccine against genital warts and cervical, anal, penile, and oral cancers," Brown said.

Some Latin American countries, including Peru, now provide the first dose of HPV vaccine to girls in school.

"New national guidelines in Peru focus on vaccinating girls in the 5th and 6th grades with HPV vaccine," Brown said. "While this is to be commended, it misses whole cohorts of older people, such as MSM, who deserve protection with vaccine."

Provided by University of California - Riverside

Citation: Study finds high HPV prevalence in subset of Peruvian men (2015, October 5)
retrieved 24 April 2024 from

<https://medicalxpress.com/news/2015-10-high-hpv-prevalence-subset-peruvian.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.