

Study finds 'alarming' rates of HPV prevalence among American Indian women

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A just-released study found that American Indian and Alaska Native (AIAN) women are at greater risk of HPV and cervical cancer than their white counterparts.

Naomi Lee, an assistant professor of chemistry and biochemistry at Northern Arizona University, was a co-author on the study, "Human Papillomavirus Prevalence Among American Indian Women of the Great Plains," published in the *Journal of Infectious Diseases* of the

Oxford University Press, the largest university press worldwide. The study was predicated on previous findings that incidence of [cervical cancer](#) and mortality among AIAN [women](#) from the Great Plains was twice as high as incidence and mortality among white women. HPV is a contributor to cervical cancer, but prior to this study there was little information about its prevalence in this community and other AIAN communities throughout the United States.

The study used data from a self-collected vaginal swab of women throughout a Native American reservation along with a self-administered, culturally tailored survey, asking about general health and sexual history, education and living situation, among other demographic questions. The researchers found almost 35 percent of the respondents had one of the 14 high-risk HPV genotypes assessed, compared to almost 21 percent of women in same age range (14-59) in the [general population](#).

The prevalence of HPV infections among women age 21 to 24 years old was comparable to the general population. Approximately 90 percent of infected individuals cleared the infection in two years; therefore, the prevalence of infection typically declines as the population aged.

However, in this AIAN community, the prevalence remained elevated among women older than 30 years.

"Prior studies that included AIAN women from the Great Plains region showed that AIAN women had a higher prevalence than white women from the same area," Lee said. "What we found both surprising and alarming was the increased prevalence, particularly among women aged 30 years and older. In the general population, HPV prevalence rapidly declines across age groups, but in this community the prevalence remained elevated by three- to fourfold compared to other studies."

Specifically, the rate of high-risk HPV among women 50-65 years old was almost four times higher than participants in the same age group in the general population.

"We suggest that the higher prevalence of hrHPV observed in our sample might account for the cervical cancer disparities noted in the Great Plains region of the Indian Health Service," the paper reads. "Although the elevated prevalence of hrHPV and cervical cancer among older American Indian women remains unexplained, findings from low-resource regions around the world suggest that both age-related immune senescence and low rates of screening could be contributing factors."

The researchers also found that prevalence wasn't the same for every community; American Indian women in Arizona had lower prevalence of infection than similar groups in South Dakota.

In addition, according to data from the Indian Health Services, younger participants also were more likely to be vaccinated against HPV.

Lee said the next steps for AIAN communities is for health care workers and researchers to focus on increased cancer screenings, especially among older and higher-risk women. The research team also will evaluate risk factors associated with HPV prevalence and are seeking tribal approval to conduct viral genomic and vaginal microbiota analyses.

"Communities need to continually promote HPV vaccination among adolescents and should participate in clinical trials for next-generation vaccines," she said. "Also, HPV is a main contributing factor to cervical cancer, but future research is needed on contributing factors to HPV persistence and [cancer](#) progression."

They also plan to present these findings to the tribal community in the spring.

The project was supported by the National Cancer Institute of the National Institutes of Health (NIH) through the Partnerships for Native Health at Washington State University (WSU). Lee took part in the study as part of the Native Investigator Development Program, which is funded by the NIH and sponsored through the University of Colorado Anschutz Medical Campus and WSU. Her role in the project was conducting the primary data analyses and drafting the manuscript. Lee and her colleagues plan to conduct further analyses from the study.

Lee's research focuses on novel vaccine development using self-assembling peptides and virus-like particles to target various sexually transmitted infections. She also focuses her work on improving the health care of American Indian and Alaska Native populations through health disparities research, STEM education and mentoring.

More information: Naomi R Lee et al. Human Papillomavirus Prevalence Among American Indian Women of the Great Plains, *The Journal of Infectious Diseases* (2018). [DOI: 10.1093/infdis/jiy600](https://doi.org/10.1093/infdis/jiy600)

Provided by Northern Arizona University

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