



# Research Week 2023

## The association between regular cannabis smoking and oral human papillomavirus infection in young adults: a cross-sectional study using NHANES data, 2011-2016

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### Keywords

Cannabis, Oral Human Papillomavirus Infection, Young Adults

### Abstract

Human papillomavirus (HPV) infection is the most common sexually transmitted infection in the U.S., and the incidence rates of HPV-related oropharyngeal cancers in the U.S. have doubled in the last 20 years. While cigarette smoking is a known risk factor for oral HPV infection, it is unknown if smoking cannabis is associated with greater occurrence of oral HPV infections. The objective of this study was to estimate the association between cannabis smoking status and oral HPV infection in U.S. young adults ages 18-30 years and examine whether this association differs by HPV vaccination status.

This cross-sectional study used data from the National Health and Nutrition Examination Survey (NHANES) 2011-2016 cycles. Multivariable logistic regression models, stratified by HPV vaccination status, were used to test the association between cannabis smoking status and oral HPV infection.

The final analytic sample (N=2,696) had a mean age of 24.4 (standard error: 0.1) years and most participants were female (50.9%), Non-Hispanic White (59.2%) and unvaccinated against HPV (74.7%). The overall unadjusted prevalence of oral HPV infection was 5.2% (95% CI: 4.1%, 6.5%). Among unvaccinated young adults, and compared to those who do not smoke cannabis, those who regularly smoke cannabis had 3.2 times the odds of oral HPV infection (AOR: 3.2; 95% CI: 1.6, 6.3) and those who irregularly smoke cannabis had 1.5 times the odds of oral HPV infection (AOR: 1.5; 95% CI: 0.8, 3.2).

Unvaccinated young adults who regularly smoke cannabis have higher odds of oral HPV infection compared to unvaccinated young adults who do not smoke cannabis. These findings suggest that smoking cannabis should be further examined in prospective studies as a risk factor for oral HPV infection.