



# Prevalence of Human Papillomavirus Infection and Cervical Intra-Epithelial Lesions in a Subset of Arab American Women in Southeast Michigan

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## Introduction

- When paired with human papillomavirus (HPV) testing, the Pap smear can detect high-risk, oncogenic HPV strains
- 80% of cases of cervical cancer occur in developing countries, and mortality rates for cervical cancer in the Middle East are disproportionately higher when compared to developed countries
- Our study aims to assess the seroprevalence of HPV and cervical cancer among a subset of Arab-American women in southeast Michigan

## Methods

- Study Design:** Cohort retrospective study
- Study Period:** 2003-2019
- Inclusion Criteria:** Women age 21-65 who presented for routine cancer screening as part of the Breast and Cervical Cancer Control Program (BCCCP) at the Arab-American Center for Economic and Social Services (ACCESS) clinic
- Data Collected:** age, monthly income, tobacco use, cervix-related gynecological examination performance, cervical cytology results, and HPV testing results
- Results of cervical cytology and details of high-risk HPV testing were collected
- Results of positive high-risk HPV testing were documented as HPV 16, 18, or other high risk strains (31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68), or unknown if serotype test results was not available

## Results

**Table 1. Patient characteristics and Pap smear outcomes**

Category	Result/Number (%)
Age, years (mean)	48.3
Mean monthly income (US dollars)	1317.07
Tobacco use, no. (%)	90/438 (20.5%)
Never had Pap smear, no. (%)	85/464 (18.6%)
- Unknown	65/464 (14%)
Prior abnormal Pap smear, no. (%)	13/464 (2.8%)
- Unknown	129/464 (27.8%)
Declined Pap smear – no. (%)	28/464 (6.0%)
<b>Cervical cytology results, no. (%)</b>	
Unsatisfactory	2/436 (<1%)
NIL	388/436 (88.9%)
ASC-US	31/436 (7.1%)
ASC-H	2/436 (<1%)
LSIL/CIN-1	7/436 (1.6%)
HSIL/CIN-2	1/436 (<1%)
HSIL/CIN-3	1/436 (<1%)
AGC	1/436 (<1%)
<b>High-risk HPV strains, no.</b>	
Type 16	4
Type 18	0
*Other	4
Unknown	3

[NIL: Negative for intraepithelial lesion; ASC-US: Atypical cells of undetermined significance; ASC-H: Atypical squamous cells cannot rule out high grade squamous intraepithelial lesion; LSIL: low grade squamous intraepithelial lesion; HSIL: high grade squamous intraepithelial lesion; AGC: atypical glandular cells. The Bethesda System, 2001]

[\*Other serotypes: 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, 68]

## Results

- A total of 464 charts from the BCCCP were reviewed
- All women included were uninsured and had immigrated from Middle Eastern countries, including Yemen and Lebanon
- Of the 436 women who did undergo Pap smear, 42 women (9.6%) had an abnormal Pap smear

## Conclusions

- Our study shows a trend toward HPV serotype 16 and other serotypes compared to HPV serotype 18 in Arab-American women who recently immigrated to the United States
- A larger cohort of patients should be studied to determine if these serotypes are more common among this ethnicity compared to the general population



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