

## Abstract

**OBJECTIVES:** To identify risk factors for human papillomavirus (HPV) infection and squamous intraepithelial lesions (SIL) of the cervix, and to measure the impact of concurrent HIV-1 infection. **METHODS:** Women were studied at a family planning clinic in Nairobi, Kenya. Demographic and historical information was obtained using a semi-structured questionnaire and specimens were collected for sexually transmitted diseases (STDs), HPV, cervical cytology, and HIV-1 testing. **RESULTS:** HPV was detected in 87 of 513 women (17%), including 81 (93%) oncogenic types (16, 18, 31, 33 and others) and six (7%) non-oncogenic types (6 and 11). HIV-1 prevalence was 10%. HPV detection was associated with HIV-1 infection [adjusted odds ratio (aOR) 3.9, 95% confidence interval (CI), 2.0-7.7], sexual behavior indicators including the number of sex partners and inflammatory STDs, as well as the number of pregnancies (0 or 1 vs.  $\geq 3$ , aOR 0.4; 95% CI, 0.2-0.9). SIL was detected in 61 women (11.9%), including 28 (46%) with low-grade lesions (LSIL) and 33 (54%) with high-grade lesions (HSIL). HPV infection was strongly associated with HSIL (OR 14.9; 95% CI, 6.8-32.8). In a multivariate model predictors of HSIL included HIV-1 seropositivity (aOR 4.8; 95% CI, 1.8-12.4), the number of lifetime sex partners (0-1 vs.  $\geq 4$ ; aOR 3.8; 95% CI, 1.1-13.5), and older age ( $< 26$  vs.  $> 30$ ; OR 3.9; 95% CI, 1.1-13.6). An analysis stratified by HIV-1 showed a stronger association between HPV and HSIL in HIV-1 negative women (OR 17.0; 95% CI, 6.4-46.3) than in HIV-1 positive women (OR 4.5; 95% CI, 0.8-27.4). **CONCLUSION:** Our results indicate that HSIL and even invasive cancer are highly prevalent in this setting of women on reproductive age considered to be at low risk for STDs, suggesting that routine Pap smear screening may save lives.