Papillomavirus Messenger RNA Testing in Physician- and Self-Collected Specimens for Cervical Lesion Detection in High-Risk Women, Kenya.

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Abstract

BACKGROUND:

Little is known about the performance of physician-versus self-collected specimens for high-risk human papillomavirus (hrHPV) messenger RNA (mRNA) testing or risk factors for hrHPV mRNA positivity in physician- versus self-collected specimens. We compared the performance of hrHPV mRNA testing of physician- and self-collected specimens for detecting cytological high-grade squamous intraepithelial lesions or more severe (ÓHSIL) and examined risk factors for hrHPV mRNA positivity in female sex workers in Nairobi.

METHODS:

From 2009 to 2011, 344 female sex workers participated in this cross-sectional study. Women self-collected a cervicovaginal specimen. A physician conducted a pelvic examination to obtain a cervical specimen. Physician- and self-collected specimens were tested for hrHPV mRNA and sexually transmitted infections using APTIMA nucleic acid amplification assays (Hologic/Gen-Probe Incorporated, San Diego, CA). Cervical cytology was conducted using physician-collected specimens and classified according to the Bethesda criteria.

RESULTS: Overall hrHPV mRNA prevalence was similar in physician- and self-collected specimens (30% vs. 29%). Prevalence of ÓHSIL was 4% (n = 15). Overall sensitivity of hrHPV testing for detecting ÓHSIL was similar in physician-collected (86%; 95% CI, 62%-98%; 13 cases detected) and self-collected specimens (79%; 95% CI, 55%-95%; 12 cases detected). Overall specificity of hrHPV mRNA for ÓHSIL was similar in both physician-collected (73%; 95% CI, 68%-79%) and self-collected (75%; 95% CI, 70%-79%) specimens. High-risk HPV mRNA positivity in both physician- and self-collected specimens seemed higher in women who were younger (<30 years), had Trichomonas vaginalis or Mycoplasma genitalium infections, or had more than 8 years of educational attainment.

CONCLUSIONS:

Self-collected specimens for hrHPV mRNA testing seemed to have similar sensitivity and specificity as physician-collected specimens for the detection of ÓHSIL among high-risk women.