

Association between participant self-report and biological outcomes used to measure sexual risk behavior in HIV-1- seropositive female sex workers in Mombasa, Kenya

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Abstract

Few studies have examined the association between self-reported sexual risk behaviors and biologic outcomes in human immunodeficiency virus (HIV)-1-seropositive African adults. **METHODS:** We conducted a prospective cohort study in 898 HIV-1-seropositive women who reported engaging in transactional sex in Mombasa, Kenya. Primary outcome measures included detection of sperm in genital secretions, pregnancy, and sexually transmitted infections. Because 3 outcomes were evaluated, data are presented with odds ratios [OR] and 96.7% confidence intervals [CI] to reflect that we would reject a null hypothesis if a P-value was ≤ 0.033 (Simes' methodology). **RESULTS:** During 2404 person-years of follow-up, self-reported unprotected intercourse was associated with significantly higher likelihood of detecting sperm in genital secretions (OR: 2.32, 96.7% CI: 1.93, 2.81), and pregnancy (OR: 2.78, 96.7% CI: 1.57, 4.92), but not with detection of sexually transmitted infections (OR: 1.20, 96.7% CI: 0.98, 1.48). At visits where women reported being sexually active, having >1 sex partner in the past week was associated with lower likelihood of detecting sperm in genital secretions (OR: 0.74, 96.7% CI: 0.56, 0.98). This association became nonsignificant after adjustment for reported condom use (adjusted OR: 0.81, 96.7% CI: 0.60, 1.08). **CONCLUSIONS:** Combining behavioral and biologic outcomes, which provide complementary information, is advantageous for understanding sexual risk behavior in populations at risk for transmitting HIV-1. The paradoxical relationship between higher numbers of sex partners and less frequent identification of sperm in genital secretions highlights the potential importance of context-specific behavior, such as condom use dependent on partner type, when evaluating sexual risk behavior.