

ABSTRACT

Objective: The objective of this study is to determine the risk and cofactors for HIV acquisition during pregnancy and postpartum.

Design: A prospective cohort study

Methods: Pregnant women in western Kenya were enrolled if HIV seronegative at that visit or within 3 months. Serial HIV nucleic acid amplification tests (NAATs) were conducted at 1 to 3-month intervals to 9 months postpartum. Genital swabs were collected for detection of chlamydia and gonorrhoea at baseline, and for trichomonas, bacterial vaginosis and yeast at baseline and follow-up.

Results: Among 1304 pregnant women, median age was 22 years, 78% were married for a median of 4 years, 66% reported knowing partner HIV status and 8% reported using condoms. Study retention was 98%. During 1235 person-years of follow-up, HIV incidence was 2.31/100 person-years [95% confidence interval (95% CI) 0.71-6.41]. Incident HIV was associated with syphilis (hazard ratio 9.18, 95% CI 2.15-39.3), chlamydia (hazard ratio 4.49, 95% CI 1.34-15.0), bacterial vaginosis (hazard ratio 2.91, 95% CI 1.25-6.76), yeast (hazard ratio 3.46, 95% CI 1.46-8.19), sexually transmitted infection (STI) history (hazard ratio 3.48, 95% CI 1.31-9.27), lifetime number of sex partners (hazard ratio 1.19, 95% CI 1.03-1.37), partner age discordance (hazard ratio 1.07 per year, 95% CI 1.02-1.13) and shorter marriage (hazard ratio 1.19 per year, 95% CI 1.03-1.38). No women with incident HIV reported an HIV-infected partner. In multivariate analyses, chlamydia, older partners and yeast infection remained significant; however, power was limited.

Conclusion: Pregnant and lactating women may not perceive HIV risk and rarely used condoms. Prevention and treatment of genital infections and risk stratification to identify women for pre-exposure prophylaxis (PrEP) could decrease HIV acquisition in pregnant/lactating women.