

i, microbial flora, and risk of human immunodeficiency virus type 1 and sexually transmitted disease acquisition

Martin, HL; Richardson, BA; Nyange, PM; Lavreys, L; Hillier, SL; Chohan, B; Mandaliya, K; Ndinya-Achola, JO; Bwayo, JJ; Kreiss, J

Abstract:

A prospective cohort study was conducted to examine the relationship between vaginal colonization with lactobacilli, bacterial vaginosis (BV), and acquisition of human immunodeficiency virus type 1 (HIV-1) and sexually transmitted diseases in a population of sex workers in Mombasa, Kenya. In total, 657 HIV-1-seronegative women were enrolled and followed at monthly intervals. At baseline, only 26% of women were colonized with *Lactobacillus* species. During follow-up, absence of vaginal lactobacilli on culture was associated with an increased risk of acquiring HIV-1 infection (hazard ratio [HR], 2.0; 95% confidence interval [CI], 1.2-3.5) and gonorrhea (HR, 1.7; 95% CI, 1.1-2.6), after controlling for other identified risk factors in separate multivariate models. Presence of abnormal vaginal flora on Gram's stain was associated with increased risk of both HIV-1 acquisition (HR, 1.9; 95% CI, 1.1-3.1) and *Trichomonas* infection (HR, 1.8; 95% CI, 1.3-2.4). Treatment of BV and promotion of vaginal colonization with lactobacilli should be evaluated as potential interventions to reduce a woman's risk of acquiring HIV-1, gonorrhea, and trichomoniasis