

ABSTRACT

With two million new HIV infections annually, ongoing investigations of risk factors for HIV acquisition is critical to guide ongoing HIV prevention efforts. We conducted a prospective cohort analysis of HIV uninfected female sex workers enrolled at an HIV prevention clinic in Nairobi (n = 1640). In the initially HIV uninfected cohort (70 %), we observed 34 HIV infections during 1514 person-years of follow-up, i.e. an annual incidence of 2.2 % (95 % CI 1.6-3.1 %). In multivariable Cox Proportional Hazard analysis, HIV acquisition was associated with a shorter baseline duration of sex work (aHR 0.76, 95 % CI 0.63-0.91), minimum charge/sex act (aHR 2.74, 0.82-9.15, for low vs. intermediate; aHR 5.70, 1.96-16.59, for high vs. intermediate), N. gonorrhoeae infection (aAHR 5.89, 95 % CI 2.03-17.08), sex with casual clients during menses (aHR 6.19, 95 % CI 2.58-14.84), Depo Provera use (aHR 5.12, 95 % CI 1.98-13.22), and estimated number of annual unprotected regular partner contacts (aHR 1.004, 95 % CI 1.001-1.006). Risk profiling based on baseline predictors suggested that substantial heterogeneity in HIV risk is evident, even within a key population. These data highlight several risk factors for HIV acquisition that could help to re-focus HIV prevention messages.