

## **A comparison of genital HIV-1 shedding and sexual risk behavior among Kenyan women based on eligibility for initiation of HAART according to WHO guidelines**

### **Abstract:**

**BACKGROUND:** Guidelines for initiating antiretrovirals are based on markers of advanced disease and are not directly linked to markers of HIV-1 transmission such as viral shedding. **METHODS:** We evaluated genital HIV-1 shedding and risk behavior among 650 antiretroviral-naïve women stratified by WHO criteria for initiating antiretrovirals based on CD4 count and symptoms. **RESULTS:** Genital HIV-1 concentrations increased in stepwise fashion with declining CD4 counts and the presence of symptoms. Compared with the reference group (asymptomatic with CD4 >350 cells/microL), those with advanced immunosuppression (CD4 <200 cells/microL) had significantly higher cervical HIV-1 RNA concentrations (2.4 log<sub>10</sub> copies/swab vs. 3.8 log<sub>10</sub> copies/swab,  $P < 0.001$ ). However, women with CD4 counts <200 cells/microL were also less likely than the reference group to report intercourse during the past week (58% vs. 26%,  $P < 0.001$ ). **CONCLUSIONS:** Antiretroviral guidelines focusing on individuals with the most advanced immunosuppression will target those with the highest genital HIV-1 concentrations. However, individuals with less advanced immunosuppression also have high levels of genital HIV-1 and may be more sexually active. The effect of increased antiretroviral availability on the spread of HIV-1 might be enhanced by extending treatment, in addition to other risk reduction services, to those with less advanced disease