

**Disease Progression Among HIV-1 Infected Women Using  
Hormonal and Non-Hormonal Contraceptive Methods in  
Kenya and Zimbabwe**

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## ABSTRACT

An estimated 18 million women of reproductive age are infected with HIV-1 worldwide with over 80% living in sub-Saharan Africa. Hormonal contraceptive (HC) use is common in women of reproductive age. However, its effect on HIV-1 disease progression is unknown. The overall objective of this study was to determine the effects of combined oral contraceptives (COC) and depot medroxyprogesterone (DMPA) on the rate of CD4 change, HIV-1 RNA levels and clinical progression in HIV-1 infected women in Kenya and Zimbabwe. A total of 498 subjects were enrolled. Of the 365 (81.3%) who used their contraceptive method consistently for a mean (range) follow up period of 2 (0-4) years, 135 (37.2%) used DMPA, 86 (23.6%) used COC and 144 (39.4%) used non-hormonal (non-HC) methods. DMPA and COC users had a similar change in CD4 cell count in comparison to women using non-HC methods (mean  $\log_{10}$  CD4 cells/mL change per 6-months = 0.011; 95% CI, - 0.019 to 0.042, and -0.001; 95% CI -0.034 to 0.031, respectively). Change in HIV-1 viral load was not significantly different for DMPA or COC users compared with non-HC users ( $\log_{10}$  HIV-1 RNA copies/mL change per 6- months = -0.013; 95% CI, -0.208 to 0.183 and -0.104; 95% CI -0.311 to 0.103, respectively). Time to WHO clinical stage III/IV was similar among DMPA (adjusted (A) HR = 0.94; 95% CI 0.46 to 1.90) and COC (AHR = 0.82; 95% CI 0.35 to 1.90) users compared with non-HC users. This is the first study that was designed to investigate effects of HC on the natural history of HIV-1 infected women in the general population in sub-Saharan Africa where women continue the use of these methods. In this investigation HC use was not associated with HIV-1 disease progression among women with CD4 above 350 cells/mL.