

Abstract

Hormonal contraceptives are used widely but their effects on HIV-1 risk are unclear. We aimed to assess the association between hormonal contraceptive use and risk of HIV-1 acquisition by women and HIV-1 transmission from HIV-1-infected women to their male partners. **METHODS:** In this prospective study, we followed up 3790 heterosexual HIV-1-serodiscordant couples participating in two longitudinal studies of HIV-1 incidence in seven African countries. Among injectable and oral hormonal contraceptive users and non-users, we compared rates of HIV-1 acquisition by women and HIV-1 transmission from women to men. The primary outcome measure was HIV-1 seroconversion. We used Cox proportional hazards regression and marginal structural modelling to assess the effect of contraceptive use on HIV-1 risk. **FINDINGS:** Among 1314 couples in which the HIV-1-seronegative partner was female (median follow-up 18·0 [IQR 12·6-24·2] months), rates of HIV-1 acquisition were 6·61 per 100 person-years in women who used hormonal contraception and 3·78 per 100 person-years in those who did not (adjusted hazard ratio 1·98, 95% CI 1·06-3·68, $p=0·03$). Among 2476 couples in which the HIV-1-seronegative partner was male (median follow-up 18·7 [IQR 12·8-24·2] months), rates of HIV-1 transmission from women to men were 2·61 per 100 person-years in couples in which women used hormonal contraception and 1·51 per 100 person-years in couples in which women did not use hormonal contraception (adjusted hazard ratio 1·97, 95% CI 1·12-3·45, $p=0·02$). Marginal structural model analyses generated much the same results to the Cox proportional hazards regression. **INTERPRETATION:** Women should be counselled about potentially increased risk of HIV-1 acquisition and transmission with hormonal contraception, especially injectable methods, and about the importance of dual protection with condoms to decrease HIV-1 risk. Non-hormonal or low-dose hormonal contraceptive methods should be considered for women with or at-risk for HIV-1. **FUNDING:**