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Oral Contraceptive Use and HIV Infection

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Oral contraceptive use and HIV infection

Sir: There are reasons to suspect that oral contraceptive use may affect the transmission of human immunodeficiency virus (HIV), either by changes in immune function or changes in the microflora and microanatomy of the genital tract. Plummer and his colleagues reported that oral contraceptive use increased the risk of HIV infection several-fold among prostitutes in Nairobi (Plummer F, Cameron W, Simonsen N *et al.* Co-factors in male-female transmission of HIV. Abstract 4554, IV International Conference on AIDS, Stockholm, Sweden, 12-16 June 1988). Their study has caused great concern in the family planning community. We report the results of a cross-sectional study on the relationship between oral contraceptive use and HIV infection in Lusaka, Zambia.

From July to November 1987, 652 women had HIV tests at the AIDS clinic attached to the Dermato-Venereology Clinic at the University Teaching Hospital (UTH) in Lusaka. This AIDS referral clinic receives patients from primary health care centres, private practitioners, and other departments at the UTH, based on clinical suspicion of immune suppression or exposure to an infected partner.

Seventy-eight women (12.8%) were using oral contraceptives (OCs) at the time of the visit. 363 women (55.7%) were HIV seropositive by Recombigen® EIA test (Cambridge BioScience Corporation). HIV data were missing for 38 (5.8%) women, HIV results were indeterminate for 5 (0.8%) women, and OC use was not ascertained for one woman. We analysed joint OC-HIV data on 608 women (91.7% of all women tested).

Table 1.

	OC users (%)	Non-users (%)
Age (years) (mean \pm SD)	29.3 \pm 7.4	33.5 \pm 13.2
Married	61.5	57.4
Single	25.7	38.5
Divorced/widowed	12.8	4.1
Professional	34.6	11.3
Non-professional	12.8	10.5
Housewife	37.2	44.3
Student	2.6	8.1
Unemployed	12.8	25.8
Mean number of lifetime sex partners \pm SD	7.6 \pm 9.5	11.0 \pm 10.4
HIV seropositive	64.1	59.1

Table 1 describes several key characteristics of the women. OC users were slightly younger, and a higher proportion were employed and were professionals, than non-users. OC users reported fewer sexual partners than did non-users. Self-reported histories of blood transfusion and sexually transmitted disease were rare in both groups (not shown). Among OC users, 64.1% were HIV seropositive, and 59.1% of the non-users were HIV seropositive.

There was a high seroprevalence of HIV infection in the UTH referral clinic population. These women generally reported more than one lifetime sexual partner. Unfortunately, we had no data on the number of partners in the last year and last 5 years, nor did we have information on the HIV serostatus of the women's current regular partners. Few of the women were known to be, or admitted to being,

The relationship between OC use and HIV infection is unclear. Plummer *et al.* reported that OC use increased the incidence of HIV infection among Nairobi prostitutes, but the study was not designed to look for a contraceptive-HIV association, and condom and OC use could not be verified.

Other researchers found no association between OC use and HIV infection in a cross-sectional study of Kinshasa prostitutes (Nzila N, Laga M, Bomboko B, Behets F, Hassig SE, Ryder R. STD prevention program in a cohort of prostitutes, Kinshasa, Zaire. Third International Conference on AIDS and Associated Cancers in Africa, Arusha, Tanzania, 14-16 September, 1988). In a case-control study, Carael *et al.*¹ compared Rwandan couples that included at least one seropositive partner with couples in which both partners were seronegative. OC use was associated with seropositivity in the crude analysis, but the association did not persist after controlling for sexual behaviour and STD history. In another study of couples in which the man is HIV-seropositive, no significant difference in contraceptive use was found comparing seropositive and seronegative women².

In our study of women attending the UTH clinic, the prevalence rates of HIV infection were roughly equivalent in the comparison groups. Two characteristics of OC users in this study (higher socioeconomic status; fewer sexual partners) are correlated with lower risk of HIV infection. Another feature of OC users here (younger age) is correlated with higher risk of infection. We performed no additional analyses or statistical adjustments, however, to assess the overall effect of these differences in our cross-sectional data. Studies designed to elucidate the relationship between use of oral contraceptives and HIV infection, if any exists, are urgently needed.

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- 2 European Study Group. Risk factors for male to female transmission of HIV. *BMJ* 1989;298:411-5

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