

Letters to the Editor

Lack of homosexual exposure among hospital-based, HIV-infected patients in Lima, Peru

Sir: The epidemiology of HIV-1/AIDS in Latin America varies widely¹, with an incidence from 1.68 per million in Bolivia to 265.15 per million in Puerto Rico². Risk factors differ between countries, for example, homosexual sex accounts for only 13.6% of the total cumulative AIDS cases in Central America, while in Mexico it accounts for as much as 54.5%². Peru is reported to have an incidence of 36.75 per million², with a prevalence of 0.3%³. Homosexual transmission in the Andean area to which Peru belongs accounts for 48.3% of the total cases, heterosexual transmission for 47.5%, perinatal infection for 2.5%, blood transfusion for 0.3%, and injection drug use for 0.2%². In 1990 the male:female ratio of cases in Peru was 11:1, which decreased to 3:1 in the year 2000³. The decline in male:female ratio is consistent with the hypothesis that the virus was initially transmitted in homosexual men and has now spread into the heterosexual community. This letter investigates these changing transmission dynamics in Lima, Peru.

To determine HIV-1 prevalence and risk factors in patients seeking HIV counselling and testing at an urban hospital and its HIV/STD clinic in Lima, Peru, we conducted a retrospective cohort study of 26,277 patients tested for HIV-1 from January to December, 2001 (STD patients, pregnant women, blood donors, ward inpatients and people asking for voluntary HIV testing). Patients received pre- and post-test counselling by trained counsellors, and those with two consecutive positive enzyme-linked immunosorbent assay tests (Cobas-Core[®], Roche Diagnostics) were considered positive. A subgroup of 1036 patients who attended the hospital's HIV/STD clinic underwent a more thorough risk assessment from March to December 2001. Three infants of HIV-positive mothers were excluded from the analysis.

Of 26,277 hospital patients tested for HIV, 402 (1.5%, 95% confidence interval [CI]±0.15%) were positive. Men accounted for 54% of the cases and women for 46%. Of the male HIV-positive patients, 65% reported exclusively heterosexual activity, 22% reported homosexual activity, and 13% reported bisexual activity.

Of 1036 patients tested from the HIV/STD clinic population, 172 (16.6%, 95% CI±1.2%) were positive. The prevalence in men was 16.6% and in women was 16.7%. Among HIV-positive men, 72% reported exclusively heterosexual activity (*vs* 97% in HIV-negative men, $P < 0.001$), 38% engaged in

sex with casual partners or sex in exchange for money or goods (*vs* 35% of HIV-negative men, $P = 0.63$), and 31% were regular partners of people with HIV (*vs* 7% of HIV-negative men, $P < 0.001$). Of the HIV-positive men, 28% reported homosexual activity *vs* 3% of HIV-negative men (odds ratio 13.2, 95% CI 6.6-26.4), which gives a population attributable risk⁴ of only 46% for homosexual activity. Among HIV-positive women, 44% were regular partners of people with HIV (*vs* 5% in HIV-negative, $P < 0.001$) and 26% engaged in sex with casual partners or sex in exchange for money or goods (*vs* 19% in HIV-negative, $P = 0.19$). Only three HIV-positive patients reported a history of drug use, one reported a blood transfusion, and one reported being the victim of rape.

We conclude that though male homosexual behaviour was strongly associated with HIV transmission in Peru, the majority of newly diagnosed cases are not caused by homosexual contact. It appears that now heterosexual behaviour could play a major role in the incidence of new infections in males and females, though other modes of transmission, such as infections with contaminated needles in health care facilities⁵, cannot be ruled out. Broader surveillance studies of risk factors associated with seroconversion are important to understand the changing dynamics of HIV in Peru⁶.

G A Miller¹,

J D Klausner MD MPH¹
and A Vivar MD²

¹Department of Internal Medicine,
University of California, San Francisco,
CA 94117, USA and

²Program to Control STD/HIV,
Hospital Loayza, Lima, Peru

Correspondence to: Gregg Miller, 553 Frederick #202,
San Francisco, CA 94117, USA

E-mail: gmille1@itsa.ucsf.edu

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