

## LETTER TO THE EDITOR

### BLOOD BANK SCREENING FOR HIV INFECTION: EPIDEMIOLOGICAL ANALYSES IN A LOW PREVALENCE AREA<sup>1</sup>

The prevalence of HIV infection in populations at no known risk has been estimated based on data obtained in the screening of blood donors<sup>5, 6</sup>.

Central Brazil is a region of low prevalence of HIV infection and to date 219 cases of AIDS have been reported. A cumulative incidence rate of 24.7 cases per 1,000,000 inhabitants has been estimated which is more than 7 times lower than that estimated for the State of São Paulo<sup>4</sup>. In Goiânia City (1,000,000 inhabitants) an overall seroprevalence of 0.07% of HIV infection has been reported in 58,111 blood donations in the first two years of HIV screening (1985-1987)<sup>1</sup>.

To monitor trends of HIV infection we are carrying out a cross-sectional survey among blood donors which has involved a serological screening and interviewing 6,184 unpaid voluntary donors. They corresponded to 50% of all blood donors attending 6 out of 8 blood banks in Goiânia during a mean of 106 working days per blood bank.

Preliminary analysis has shown an overall seroprevalence of HIV infection based on 2 independent ELISA tests (Hoeschst) of 0.26% being 0.20% for first-time donors and 0.28% for regular donors (Table 1). Although this difference was not statistically significant it seems rather unusual that regular donors had a higher HIV prevalence than first-time donors<sup>3</sup>. We think this could be attributable to the recent introduction of HIV in this particular population. In such situation seroprevalence among regular donors would be similar to that among first-time donors because the probability of finding a HIV infected subject is likely to be the same in both groups. In some countries, however, regular donors usually have lower prevalence of HIV infection than first-time donors<sup>2</sup>.

TABLE 1  
Prevalence of HIV infection among first-time and regular blood donors, Goiânia-Brazil, 1989.

Donors	All donors		Male donors	
	pos/total	prevalence (%)	pos/total	prevalence (%)
First-time	3/1503	(0.20)*	3/1308	(0.23)
Regular	13/4681	(0.28)*	13/4540	(0.29)
Total	16/6184	(0.26)**	16/5848	(0.27)**

pos/total = Number of HIV positive donors/total number of donors

\* (first-time vs. regular donors,  $p > 0.05$ )

\*\* (all donors vs. male donors,  $p > 0.05$ )

Females accounted for 13% of first-time donors and 3% of regular donors, and none of them had a serological positive test. Considering that males are at higher risk of infection than females we compared the two blood donor groups after excluding female donors. The overall seroprevalence rate for males was 0.27%, 0.23% for first-time and 0.29% for regular blood donors, which did not differ from the rates estimated before excluding females.

Considering that no important change occurred in the screening policy, donor population, nor in the laboratory techniques in blood banks, the results of the 1985-1987 and 1989 surveys suggest an increase of almost 4 fold in the prevalence of HIV infection in the city.

We are aware that despite its high sensitivity and specificity ELISA tests for HIV infection have a low positive predictive value in areas of low prevalence. Therefore, a proper confirmation of the positive samples is required to obtain truthful results.

Nevertheless, we believe that data from blood bank screening could be a useful tool for

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ecological studies and for monitoring trends in HIV infection. Age, sex and history of donation specific rates are required for the comparison of blood bank data from different populations and time periods.

Monitoring seroprevalence of HIV infection among blood donors is particularly important in areas of low prevalence of infection where population-based studies are not feasible due to their high costs.

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