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RISK FACTORS FOR HIV IN BRAZILIAN BLOOD DONORS – A PRELIMINARY ANALYSIS

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Background: Although risk factors for HIV infection are known, it is important for blood centers to understand local epidemiology and disease transmission patterns in order to reduce the risk of transmission. We analyzed through appropriate testing and donor selection. Multicenter studies of HIV risk factors in Brazilian blood donors have not been reported.

Aims: To assess risk factors for HIV infection in blood donors in Brazil.

Methods: A case-control study was conducted at four large public blood centers in Brazil located in major cities (São Paulo, Rio de Janeiro, Recife, and Belo Horizonte) during the time period of March 2009–March 2011. Cases were persons whose donation was confirmed positive by dual serological assays followed by Western Blot. They completed the risk factor interview following return to the blood center for notification and counseling. Controls were asked to complete the interview after donation, and were excluded from the study if donation testing was positive for any mandatory screening test. Audio computer-assisted self-interview (ACASI) surveys using touch-screen computers with keyboards and earphones for privacy were completed by all cases and controls. Stepwise multivariable logistic regression was used to estimate odds ratios (ORs) for disclosed HIV risk factors and associated 95% confidence intervals (CIs). Candidate predictor variables were entered into the statistical model if P < 0.2 and retained if P < 0.05. In addition to behavioral risk factors sex, age, race, marital status, education level, first time or repeat, and community or replacement donor status were included as candidate predictors. The main effects estimates are reported.

Results: Three hundred and forty-one cases and 791 controls completed all study procedures. Eighty-three percent of cases vs 70% of controls were male, and 51% of cases vs 25% of controls were first time donors. Being male was associated with a higher risk of infection (OR = 2.0, 95% CI 1.3–3.1). After controlling for donor demographic characteristics, the behavioral risk factors associated with HIV infection (shown in table) were being a sex partner of a man who has sex with other men (MSM) (OR = 20.6, 95% CI 9.4–45.2), having sex with an HIV positive partner (OR = 9.4, 95% CI 3.5–24.8), having unprotected sex with a new or unknown partner (OR = 8.8, 95% CI 2.8–27.8), defining one’s sexual orientation as bisexual compared to heterosexual (OR = 6.0, 95% CI 2.1–16.9), or reporting an IVDU or being a sex partner of an IVDU (OR = 4.1, 95% CI 1.6–10.3). Note that defining one’s sexual orientation as gay/homosexual compared to heterosexual was not significantly associated with HIV infection. Overall, 7% of cases did not disclose any potential risk factor.

Summary/Conclusions: The primary risk factors for HIV infection in blood donors in Brazil are having male-male sexual contact, having sex partners who are known to be HIV+ and having unprotected sex or multiple sexual partners. IVDU was also a risk factor. Of the identified risk factors suggest that donor selection procedures at the participating blood centers may need to be re-evaluated to understand why potentially deferrable behaviors are not being reported by persons who present to donate.

Table 1: Risk behaviors associated with HIV in blood donors in Brazil

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Risk Factor</th>
<th>OR (95% CI)</th>
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<tbody>
<tr>
<td>Male gender, lower education, first time donor, and being single, never married also significantly associated with HIV infection</td>
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