

PREVALENCES OF HTLV, HIV AND HBV IN PATIENTS RECEIVING BLOOD TRANSFUSIONS IN SOUTH AFRICA.

Willemse RJ¹, Grobler CJ², Murphy EL³, Roubinian N³, Coleman C¹, Machaba S¹ and Vermeulen M¹.

¹South African National Blood Service (SANBS), ²Vaal University of Technology (VUT) and ³University of California San Francisco (UCSF).

BACKGROUND: South Africa has a high prevalence of HIV, chronic Hepatitis B and lower prevalence of HTLV-1 in the general population. These infections are transmissible by blood transfusion and contemporary data on their prevalence in transfused patients are important for public health and transfusion safety decisions.

METHODS: Patients crossmatched for blood transfusion were randomly sampled proportionally to the number of crossmatches performed at each hospital annually by the South African National Blood Service. Plasma was tested for HTLV-1 and -2 antibody, HIV antibody and HBsAg using the ABBOTT Alinity S®. Repeatedly reactive samples were considered to be positive if also positive on the Roche Cobas® e801. Multivariable logistic regression was used to calculate odds ratios (ORs) and 95% confidence intervals (CIs) for demographic and geographic associations with HTLV, HIV and HBV infections.

RESULTS: We analyzed results from 6983 specimens collected from 634 hospitals. Prevalence of HTLV, HIV and HBsAg were 0.6%, 37.8% and 7.4%, respectively. HTLV prevalence was higher than the 0.16% prevalence previously reported in first-time blood donors and associated with female sex (OR = 2.05, 95% CI 1.02-4.59), but not with age, public versus private hospital (OR = 1.41, 95% CI 0.72-2.98) or province. HIV prevalence was two-fold higher than national estimates and significantly associated with female sex, public hospital and the KwaZulu Natal, Mpumalanga, Vaal and Eastern Cape provinces. HBV infection was also higher than previous population estimates and significantly associated with male sex, public hospital and the same provinces as noted for HIV.

CONCLUSION: This study confirmed an elevated prevalence of HTLV, HIV and HBV infection in hospitalized patients receiving blood transfusions compared to general population estimates, consistent with a bias related to hospitalization. These data are useful for public health and for risk-benefit studies of screening for transfusion transmitted viruses at the national blood service.

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