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Prevalence of p24 antigen among a cohort of HIV antibody negative blood donors in Sokoto, North Western Nigeria: The question of safety of blood transfusion in Nigeria

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Background: Blood transfusions remain a substantial source of HIV in SSA particularly among children and pregnant women.

Aims and objectives: This aim of this retrospective study was to investigate the prevalence of p24 antigen among HIV antibody seronegative blood donors in Sokoto, North West Nigeria.

Materials and methods: A total of 15,061 HIV antibody negative blood donors with mean age and age range (29.2±8.18 and 18-50 years) were screened for p24 antigen between January 2010 to July 2013 using the Diapro Diagnostic immunoassay kit for P24 antigen (King Hawk Pharmaceuticals Beijing China).

Results: The overall prevalence of p24 antigen among the HIV antibody negative donors sample was 5.84%. The yearly prevalence was 9.79, 8.12, 2.7 and 2.84% respectively in 2010, 2011, 2012 and 2013. Of the total number of blood donor tested, 14,968 (99.38%) were males while 93 (0.62%) were females. The prevalence of p24 antigen was significantly higher among male blood donors 873 (5.8%) compared to females 7 (0.05%), ($p=0.001$). p24 positivity was significantly higher among blood group O blood donors compared to A, B and AB donors [494 (3.29%) compared to 184 (1.89%), 196 (1.30%) and 6 (0.04%)] respectively, $p=0.001$. The prevalence of p24 antigen was significantly higher among Rhesus positive blood donors compared to Rhesus negative (807 (5.36%) versus 73 (0.48%), $p=0.001$).

Conclusion: Blood transfusion in Nigeria is associated with increased risk of HIV transmission. There is the urgent need to optimize the screening of blood donors in Nigeria by the inclusion of p24 antigen testing into the blood donor screening menu. The Nigerian government urgently need to adopt the WHO blood safety strategies to reduce the risk of transmission of HIV through blood transfusion.