

## COMPARISON OF ELISA AND RAPID SCREENING TESTS FOR THE DIAGNOSIS OF HIV IN HIGH RISK INDIVIDUALS

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### ABSTRACT

**Background:** Human Immunodeficiency Virus infection is the fourth leading cause of death world-wide and thus, remains a major public health and socio-economic concern globally. Testing for HIV is a very important component of HIV/AIDS prevention strategies due to the fact that an alarming number of the People living with HIV/AIDS (PLWHA) remain unaware of their infection, hence, spreading the infection in the community.

**Objectives:** This study was to determine significant difference, if any, in the prevalence of HIV infection among high risk group if tested with more than one method of screening for HIV infection.

**Materials and Methods:** Spouses of HIV reactive patients at Ladoke Akintola University Teaching Hospital were counselled and made to undergo voluntary testing for HIV. This was done by testing for HIV p24 core antigen (ELISA) in their blood, and also with the rapid screening for HIV antibodies with the parallel use of Determine strips plus Uni gold kits and Stat pack as a tie breaker. Data analysis was done with the use of SPSS version 16. Level of significance was set at a P value of < 0.05.

**Results:** Of the 356 participants studied, 216 (60.7%) were non-reactive and 140 (39.3%) were reactive with the use of rapid screening methods. Whereas, with the use of ELISA screening method, 178 (50.0%) of the same recruited population tested reactive and the remaining 178 (50.0%) were non-reactive. In this study, rapid screening methods for HIV antibodies was found to be less sensitive compared with the use of ELISA for HIV P24 core antigen, p value = 0.001. The true sensitivity of rapid screening method when compared with ELISA method was found to be 69.7% but with 91.0% specificity. The positive predictive value was 88.6% and a negative predictive value of 75.0%.

**Conclusions:** Identifying new interventions for the prevention of HIV infection must remain a research priority. Most rapid screening methods still have sensitivity and specificity below the WHO recommendation. Until rapid screening improves, ELISA for P24 core antigen will be a preferred screening method for the high risk group. In the alternative, combination of two rapid screening with at least one having a specificity of 100% and the other having a sensitivity of 100% should be used to meet WHO recommendations.

**KEYWORDS:** ELISA, HIV High Risk Group, HIV Screening, PLWHA