

Evaluation of Dry Blood Spot (DBS) for detection of HIV antibodies by using Enzyme Linked Immunosorbent Assay and Rapid tests

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The aim of this study was to evaluate the ability to detect human immunodeficiency virus HIV antibodies from DBS stored at 37°C, 45°C, and 50°C. To evaluate the uses of DBS for detection of HIV antibodies with rapid test, 50 HIV positive and 45 HIV negative DBS were tested with two rapid test (ACON[®] One Step Test Device), and (ACCURATE[®] test device), and to evaluate the effect of storage temperature and time on sensitivity and specificity, DBS were tested after 2 weeks, 4 weeks, and 8 weeks. Sensitivity was ranged from 96-84%, and specificity was 100%. To detect the specificity and sensitivity of DBS stored for 12 weeks at 37°C, 45°C, and 50°C, for HIV antibodies detection with ELISA kit, all 191 DBS were tested with (Anti-HIV 1 and 2 ELISA Diagnostic Kit, BIOREX DIAGNOSTICS[®]), From 97 HIV-positive DBS, 96 gave positive result, while only one was negative with sensitivity of 98.96 %. All 94 HIV negative DBS were negative at all temperature (Specificity 100 %).

Key words: HIV, DBS, ICT, ELISA, IgG, Sudan.

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