

Point-of-Care Rapid Tests for HIV Antibodies

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This study summarises available data on the characteristics and performance of individual HIV rapid tests from independent evaluations, peer-reviewed journals, and conference abstracts. The uses of point-of-care rapid tests in voluntary counselling and testing (VCT) and prenatal screening are also described.

Abstract

Rapid test to detect HIV antibodies have been widely used over the past decade. Many simple, rapid HIV tests demonstrate sensitivities and specificities comparable to those of enzyme immunoassays (EIAs) without the need for sophisticated laboratory equipment and highly-trained technicians. Algorithms comprised of two or more rapid tests can also produce HIV test results as accurate as the EIA-Western blot combination. Rapid assays that can be used with whole blood or oral fluid specimens have now been developed and make point-of-care (POC) HIV testing feasible. POC tests can make HIV testing accessible in areas with limited laboratory facilities and greatly reduce the number of persons who do not learn their test results. POC testing can also provide immediate test results that are needed to make decisions about antiretroviral prophylaxis for pregnant women in labour and for health care workers who have had occupational exposures to blood or body fluids. This review summarises available data on the characteristics and performance of individual HIV rapid tests from independent evaluations, peer-reviewed journals, and conference abstracts and describes experiences with the POC use of rapid HIV tests for voluntary counseling and testing (VCT) and perinatal screening.

Results

Systematic evaluations of rapid HIV tests with non-B subtypes of HIV-1 group M, group O, and HIV-2 have established that most tests adequately detect all subtypes of group M.

(See paper for extensive table of performance characteristics of commercially available rapid point-of-care HIV tests)

Discussion

For many reasons the increasing use of POC rapid HIV antibody tests promises to play an important role in HIV prevention both in developed and developing countries:

- Antiretroviral therapy reduces vertical transmission when used intra- or post-partum
- Antiretroviral therapy reduces occupational HIV transmission when started as soon as possible after percutaneous exposure
- POC tests make it feasible to routinely offer HIV testing in health care settings so fewer cases are undiagnosed
- Several studies indicate that persons who are aware they are HIV-infected adopt behaviours that make their transmission of HIV infection less likely.

“A wide range of HIV antibody tests are available. The challenge today is to identify the most suitable assays for a given set of circumstances without compromising the reliability of test results.”