Screening and diagnosis of HIV-infection in Indonesia; one, two or three tests?

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Abstract

Background

The use of serial tests for diagnosing HIV, as recommended in Indonesian guidelines, will lower the risk of false-positive results, but may increase costs, and delay or reduce uptake of HIV- treatment.

Methods

We retrospectively examined the rate of false-positive results of initial HIV-tests for all subjects tested in the referral hospital for HIV in West-Java, Indonesia, between 2006 and 2008. We also calculated the positive and negative predictive value of single test results and dual-testing, based on sensitivity and specificity of commonly used methods and prevalence data from Indonesia.

Results

Among 3121 subjects, 803 tested positive (25.7%). The initial rapid HIV-tests did not show a single false positive result, and no discrepancy was found between the second and third supplemental tests. Based on their high accuracy, most rapid tests carry a low risk of false-positive results among risk groups. Dual testing algorithms almost eliminate the risk of false-positive HIV-results, and are probably as accurate as three tests, even in low prevalence settings.

Conclusion

Based on expected prevalence rates and the accuracy of methods used in Indonesia, one or two tests are usually accurate for HIV-diagnosis, especially for high risk populations. The possible implications and optimal conditions for more simple testing algorithms warrant further investigation.