

Evaluation of the 4th-generation AlereTM HIV Combo rapid point-of-care test, HIV prevalence and socio-demographic factors associated with HIV infection in women attending health care centers in Maputo city, Mozambique

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Statement of the problem: Mozambique is a high-prevalence country for HIV and early detection of new HIV-infections is crucial for control of the epidemic. We aimed to i) evaluate the accuracy of the 4th-generation rapid diagnostic test (RDT) AlereTM HIV Combo in detecting acute and seroconverted HIV-infection, and ii) investigate the HIV prevalence, number of acute HIV-infections and demographic factors associated with HIV-infections among sexually-active women attending three clinical health centers in Maputo, Mozambique. Women aged 15-49 years (n=920) seeking care at the Mavalane Health Area, Maputo (February 2018-January 2019) were included, and blood specimens sampled. Sociodemographic and sexual behavior data were collected. Point-of-care HIV testing was performed using the national standard sequential algorithm, including Alere DetermineTM HIV-1/2 and Uni-GoldTM HIV-1/2. Indeterminate cases were tested using Enzygnost® HIV Integral 4 or returned for retesting after three months. Furthermore, Innostest® HIV Antigen mAb, Enzygnost® HIV Integral 4 (Ag/Ab), and HIV RNA quantification acted as gold standard assays for detection of HIV antigens (in clinical samples and three HIV-1 seroconversion panels). Logistic regression models estimated associations between HIV prevalence and sociodemographic variables

Findings: The HIV prevalence was 17.8% and several sociodemographic factors were associated with HIV-infection, i.e., place of residence (rural versus urban, AOR 3.536, 95% CI 1.021-12.252), marital status (widowed versus single, AOR 3.976, 95% CI 1.202-13.148), and educational level (secondary/higher versus no education, AOR 0.212, 95% CI 0.064-0.706 and AOR 0.147, 95% CI 0.043-0.507, respectively). The 4th-generation RDT AlereTM HIV Combo demonstrated 100% sensitivity and specificity for antibody detection in clinical specimens, but low sensitivity for HIV p24 antigen detection using the seroconversion panels

Conclusion: widows, rural and low-educated women were the most affected by HIV-infection. The 4th-generation RDT AlereTM HIV Combo showed similar sensitivity to the 3rd-generation RDTs to detect established HIV-infections. However, the sensitivity for diagnosing acute HIV-infections, before seroconversion.

Biography

Alice Manjate, She is a doctoral candidate in Medical Sciences at the Örebro University, Sweden. Since 2000, she has been working as a researcher and professor of Microbiology at the Faculty of Medicine of Eduardo Mondlane University in Maputo, Mozambique. Alice develops scientific research in infectious diseases and antibiotic resistance. She currently works in the area of sexually transmitted infections, including HIV.