



HIV INCIDENCE ESTIMATION USING THE IMMUNOGLOBULIN G-CAPTURE BED-ENZYME IMMUNOASSAY (IGG-CAPTURE BED-EIA) IN MAY 2010 OF ROYAL THAI ARMY CONSCRIPTS

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Abstract

Background: Recruitment of Royal Thai Army (RTA) male conscripts (mostly 21 years old) occurs in April every year with placement taking place twice a year in May and November. Since November 1989, the AIP and the AFRIMS have conducted HIV-1 screening among RTA conscripts in order to assess the prevalence of HIV-1 infection. However, detection newly HIV-1 infection has gained much attention for extending the usefulness of HIV testing and surveillance in providing information about HIV incidence. Measurement of Human Immunodeficiency Virus 1 (HIV-1) incidence is important in identifying specific populations for young Thai men and to assess changes in infection patterns for preventive and therapeutic interventions. Incidence is usually calculated prospectively from cohort studies. However, this strategy is difficult due to potential loss to follow-up during the study. Moreover cohort studies are expensive and time consuming.

Objectives: To estimate the incidence of HIV-1 infection among RTA conscripts.

Methods: Each year, over 50,000 young men age 21 or older are conscripted to serve in the RTA. The conscripts are selected by lottery yearly throughout Thailand. Since May 2000, males age 18-20 are permitted to volunteer for Army service. All enlistees are routinely screened for HIV-1 by enzyme-linked immunosorbent assay (ELISA) with Western Blot confirmation. In 2010, the HIV-1 seropositive subjects were tested by the Calypte® HIV BED-EIA, a quantitative assay in which specimens are evaluated against a Calibrator to generate an ODn (Normalized optical density) value. An ODn of ≤ 0.8 is considered a recent (≤ 155 days) seroconversion.

Results: The prevalence of HIV-1 infection in May 2010 was 0.5%. Forty-four sera were positive by BED-EIA for recent seroconversion. Thus estimation of HIV-1 incidence was 0.28% per year (95% CI: 0.20-0.37).

Conclusions: This study showed that HIV-1 prevalence from 2005 to 2009 remained stable. However, increasing trends of estimated HIV-1 incidence was observed. This finding implicated the HIV prevention program in young Thai men is critical.

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