Systematic Review of HIV Drug Resistance in Southeast Asia

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Supplementary methodology

Search strategy

We performed a systematic review of the literature to identify reports published in English between January 2000 and August 2011, which documented transmitted, pretreatment, and acquired HIV drug resistance (HIVDR) in the World Health Organization Southeast Asia Region (SEAR) countries. The following databases were used: PubMed, GlobalHealthLibrary (WHO database), National Library of Medicine Gateway, and EMBASE. In addition, abstracts presented at the International AIDS Society (IAS) Conference on HIV Pathogenesis, Treatment and Prevention from 2001-2011, Conference of Retroviruses and Opportunistic Infections (CROI) from 2002-2011 and the International AIDS Conference (AIDS) from 2002-2010 were included.

The following search terms were used: “HIV” OR “AIDS” OR “human immunodeficiency virus” OR “acquired immunodeficiency syndrome” AND “resistance” OR “drug resistance” OR “genotype” AND “India” OR “Maldives” OR “Sri Lanka” OR “Nepal” OR “Bangladesh” OR “Bhutan” OR “Myanmar” OR “Thailand” OR “Indonesia” OR “Timor-Leste” OR “Korea” OR “Asia” or “Southeast Asia”. All 11 SEAR countries were included in the literature search1. In cases where HIVDR was evaluated in SEAR countries as part of a multicenter international study, country level data were abstracted and evaluated independently. Bibliographies were reviewed to supplement the literature search. When two cohorts are described in the same study, such as a pretreatment cohort and cohort on antiretroviral therapy (ART), each cohort is reported separately in the pretreatment section and acquired HIVDR section. Thus, two cohorts in different HIVDR sections may represent the same study.

All relevant articles in English were reviewed independently by two authors (Trotter and Jordan). Studies were included in the analysis if they reported on acquired or transmitted HIVDR or described HIVDR in pretreatment populations. Studies were excluded if they evaluated patients with histories of mono- or dual-nucleoside reverse transcriptase inhibitor (NRTI) therapy, protease inhibitor (PI) monotherapy, had major epidemiological or design flaws, documented prevention of mother-to-child transmission (PMTCT) exposures, only reported HIVDR to a single ARV, described HIVDR in a SEAR country as part of a larger multinational study without reporting individual country data, or acknowledged partial reporting of detected HIVDR mutations. To ensure comparability across reports, re-analysis of data using the 2009 WHO Surveillance Drug Resistance Mutations (SDRM) list was performed if study authors had used different mutation lists20. A flow diagram illustrating the inclusion and exclusion of publications and abstracts is presented in figure 2. Due to marked heterogeneity of study designs, a meta-analysis was not performed.