Tropical Medicine and International Health doi:10.1111/j.1365-3156.2010.02655.x

VOLUME 15 NO 12 PP 1491–1498 DECEMBER 2010

Human immunodeficiency virus, hepatitis B and hepatitis C in an Indonesian prison: prevalence, risk factors and implications of HIV screening

Erni J. Nelwan[1,2], Reinout van Crevel[3], Bachti Alisjahbana[2,4], Agnes K. Indrati[2,5], Reiva F. Dwiyana[2,6], Nisaa Nuralam[7], Herdiman T. Pohan[1], Ilham Jaya[7], Andre Meheus[8] and Andre van der Ven[3]

1 *Division of Tropical and Infectious Disease, Department of Internal Medicine, University of Indonesia, Jakarta, Indonesia*
2 *Health Research Unit, Medical Faculty, Padjadjaran University/Hasan Sadikin Hospital, Bandung, Indonesia*
3 *Department of Internal Medicine, Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands*
4 *Department of Internal Medicine, Medical Faculty, Padjajaran University/Hasan Sadikin Hospital, Bandung, Indonesia*
5 *Department of Clinical Pathology, Medical Faculty, Padjajaran University/Hasan Sadikin Hospital, Bandung, Indonesia*
6 *Department of Dermatovenerology, Medical Faculty, Padjajaran University/Hasan Sadikin Hospital, Bandung, Indonesia*
7 *Banceuy Narcotic Prison, Bandung, Indonesia*
8 *Department of Epidemiology and Social Medicine University of Antwerp, Antwerp, Belgium*

Summary

OBJECTIVE To determine the prevalence and behavioural correlates of HIV, HBV and HCV infections among Indonesian prisoners and to examine the impact of voluntary counselling and testing for all incoming prisoners on access to antiretroviral treatment (ART).

METHODS In a non-anonymous survey in an Indonesian prison for drug-related offences, all incoming prisoners and symptomatic resident prisoners were counselled and offered testing for HIV, hepatitis B and C.

RESULTS Screening was performed in 679 incoming prisoners, of whom 639 (94.1%) agreed to be tested, revealing a seroprevalence of 7.2% (95% CI 5.2–9.2) for HIV, 5.8% (95% CI 3.9–7.6) for HBsAg and 18.6% (95% CI 15.5–21.6) for HCV. Of 57 resident prisoners tested, 29.8% were HIV-positive. HIV infection was strongly associated with injecting drug use (IDU; $P < 0.001$), but not with a history of unsafe sex. Screening of incoming prisoners was responsible for diagnosing and treating HIV in 73.0%, respectively, and 68.0% of HIV-positive individuals.

CONCLUSIONS HIV and HCV are highly prevalent among incoming Indonesian prisoners and almost entirely explained by IDU. Our study is the first to show that voluntary HIV counselling and testing during the intake process in prison may greatly improve access to ART in a developing country.

keywords prisons, HIV infections, epidemiology, therapy, hepatitis, viral, human, substance abuse, intravenous, Indonesia

Introduction

The prevalence of HIV and other bloodborne infections is generally higher among prisoners than in the general community because of the over-representation of injecting drug users (IDUs) in prisons (Dolan *et al.* 2007). In high-income countries, prisons are therefore an important site to screen for HIV infection and initiate antiretroviral treatment (ART), as a way to increase access to HIV care (Springer *et al.* 2007; Zaller *et al.* 2007). Data regarding HIV and IDU from low-income and medium-income countries are less clear. For instance, studies on HIV prevalence rates among IDU prisoners are scarce and usually anonymous (Dolan *et al.* 2007), while reports of HIV/AIDS treatment programmes in prisons are limited to the outcomes of pilot projects (Spaulding *et al.* 2002; Springer *et al.* 2007) or include only patients with symptoms (Wilson *et al.* 2007).

This study was carried out in Indonesia, which has one of the fastest growing HIV epidemics in Asia (Pisani *et al.* 2003; AIDS Alert 2005). IDU is the main factor driving the epidemic in Indonesia, and patients are generally diagnosed at a very late stage of disease (Celentano *et al.* 2001; Pisani *et al.* 2003; Solomon *et al.* 2009). Prevalence rates above 50% have been reported among IDUs, while the HIV prevalence in the general population is fortunately still low (0.2%) (Mathers *et al.* 2008; Ministry of Health of Indonesia 2008). Other bloodborne infections such as hepatitis B

© 2010 Blackwell Publishing Ltd