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RISK OF SEROCONVERSION ESTIMATED FROM A PERCUTANEOUS INJURY REPORTING SYSTEM

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Objectives Percutaneous injuries (PIs) in healthcare workers (HCWs) are associated with risk of seroconversion to several bloodborne pathogens, including hepatitis B and C viruses (HBV, HCV), and human immunodeficiency virus (HIV). This makes PI a major occupational hazard in HCSs. This study aims to estimate the risk of seroconversion among Taiwan HCWs based on the experience from a PI reporting system, the Chinese EPINet.

Methods Between 1 January 2003 and 30 September 2009, 84 hospitals participated in PI reporting system using Chinese EPINet. The item used, contamination, and serological status of the healthcare worker sustaining PI, and that of the source patient for each episode were recorded. The risk of seroconversion to HBV, HCV, and HIV were estimated for each PI event. Seroconversion risk for a susceptible HCW exposed to contaminated hollow-bored needle was estimated using seroconversion rate of 0.06 for HBV, 0.018 for HCV, and 0.003 for HIV. The estimated rates of seroconversion to HBV, HCV and HIV were calculated as a summation of risk associated with all PIs divided by the person-year followed-up.

Results A total of 6 large (≥ 1000 employees), 24 medium (300–999) and 33 small (50–299) sized hospitals as well as 21 clinics (< 50) reported their PIs. Among tested source patients, 15.2%, 17.7%, 1.0% were positive for HBsAg, anti-HCV, and HIV, respectively. The estimated seroconversion risks were 25.9 for HBV, 16.8 for HCV, and 0.11 for HIV per 100 000 FTE.

Conclusions The risk of seroconversion due to needlestick injuries is real, and cannot be overlooked among HCWs.