

Research paper

The changing epidemiology of prevalent diagnosed HIV infections in Taiwan, 1984–2005

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Abstract

By the end of 2005, there were 10,158 reported cases of HIV infections in Taiwan, of them, 2,403 had developed full blown AIDS, and 1,333 had died. It represented an average annual increase of 15% in HIV diagnoses before 2003. The most common route of transmission is through men having sex with men followed by heterosexual contact, while infections through injecting drug use (IDUs) remained low. However, the number of newly reported HIV infections has been rising sharply since 2003, mainly among IDUs. The consequences of this HIV/IDU epidemic include a rapid increase in female HIV/AIDS patients and a decreased mean age of HIV/AIDS cases. Only 2% of patients in the IDU group have been diagnosed with AIDS, suggesting that most IDU cases are in the early stage of HIV infections.

HIV/AIDS patients are provided with free medical care by the government in Taiwan, including anti-retroviral treatment. The case fatality rate of AIDS cases declined gradually from 64% in 1996 to 8.9% in 2005. Patients in the IDU group seek medical care less frequently than patients in the sexual contact group. Statistics show that 61.4% of patients in the IDU group did not seek HIV-related medical care, significantly higher compared to the sexual contact group.

The Taiwanese government implemented a trial “Harm Reduction Programme,” which involved a needle-syringe programme (NSP) and substitution treatment, in August 2005. After 1 year’s pilot study, the HIV incidence in cities with NSP decreased from 13.9 to 13.3 per 100,000 persons compared to an incidence increase from 11.5 to 15.3 per 100,000 persons in cities without NSP. We scaled up the programme to cover the whole of Taiwan in July 2006 and are expecting to see the efficacy in the near future.

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Introduction

The first case of AIDS in Taiwan, a foreigner in transit, was reported in 1984 (Taiwan CDC, 2006). The following year the first non-alien case of AIDS was identified (Lin et al., 1987). Over a 21-year surveillance period, the number of diagnosed HIV infections increased gradually. It represented an average annual increase of 15% in diagnoses before 2003 (Twe, Huang, Lai, Ming, & Su, 2004). The estimated HIV prevalence rate among adults aged 15–49 in Taiwan was 0.07% in 2003 (calculated using tools provided by UNAIDS

(Huang et al., 2005). Relatively speaking, Taiwan remained at a low prevalence stage of the epidemic. The majority of HIV/AIDS cases were transmitted sexually. Men who had sex with men (MSM) accounted for the largest proportion (48.2%), followed by people infected through heterosexual contact (39.9%) (Twu et al., 2004). The rates of identified mother-to-child transmission and infection through injecting drug use (IDU) were very low before 2003. However, the number of newly reported HIV infections has been rising sharply since 2003, mainly among IDUs. The epidemiologic trends have changed significantly. By the end of 2005, there were 10,158 reported cases of HIV infections (nationals only, excluding foreigners) in Taiwan, of them, 2,403 had developed full blown AIDS and 1,333 had died. This survey aims to present the epidemiology of prevalent diagnosed HIV infec-

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tions in Taiwan for the period 1984–2005, with a special focus on the differences before and after 2003, to see the impact of IDUs on the HIV/AIDS epidemic.

HIV/AIDS patients are provided with free medical care, including anti-retroviral treatment, by the government of Taiwan. Highly active anti-retroviral therapy (HAART) has been used to treat HIV/AIDS patients since 1997. Patients' CD4 and CD8 cell counts, viral load levels and HAART-related side effects are closely monitored during treatment. There are 31 designated hospitals providing HIV-related medical care for HIV-infected patients. We analysed the number of cases who had sought HIV-related care at these designated hospitals from 2002 to 2005. The total medical expenditure was also analysed. These data provide the only national measure of access to HIV-related care by individuals diagnosed with HIV in Taiwan.

Methods

Surveillance of HIV infection and AIDS

Both HIV infection and AIDS have been listed as reportable diseases in Taiwan since 1984. Cases of HIV infection detected by ELISA must be confirmed by Western blot tests and all physicians are asked to report identified HIV/AIDS cases to the Taiwan Centers for Disease Control within 24 h. Patient information, including name, identification number, date of birth, gender, home address, date of diagnosis, and risk factors, must be recorded and reported. Date of development of AIDS (according to the 1993 CDC revised criteria, CDC, 1992), and date of death are also registered. Indications for HIV testing include clinical suspicion and screening of contacts of HIV-infected patients.

The government has been conducting mandatory screening of blood and organ donors since 1988, military draftees since 1989, prison inmates since 1990 and foreigners

prior to employment in Taiwan since 1991. As to active surveillance, through the help of health care providers and non-governmental organisations, we provide free HIV testing and counselling services to high-risk groups such as sex workers, sexually transmitted disease (STD) patients, homosexuals, and IDUs. The total of active screening tests performed annually has been around 2.1–2.5 million from 1996 onwards. Persons under police custody due to violation of the Narcotics Control Act have also been included in mandatory HIV screening since late 2004. Inmates have been mandatorily tested for HIV-1 upon entry to correctional facilities since 1990, with the annual screening number being around 80,000 between 1995 and 2001, but increasing to 110,000 after 2002–2003. The number rose further to 180,000 in 2005 due to expanded screening in correctional facilities that year. The new case detection rate for HIV/AIDS in prison inmates increased suddenly after 2003, from 56.1 to 784 cases per 100,000 persons, but it remained stable in blood donor screening and military draftee screening (Fig. 1).

This survey is a descriptive case series study of all confirmed HIV-infected cases diagnosed from 1984 to 2005, using data from the national HIV/AIDS registry of Taiwan CDC. We divided the epidemic into three periods – before HAART (1984–1996), after HAART (1997–2003) and IDU epidemic (2004–2005) – then compared the demographic differences of the three periods. Epidemiological, demographic, and clinical information is collected on individuals, including probable routes of infection, sex, age, HIV or AIDS status, and cause of death.

Medical care of HIV/AIDS patients

The data on HIV-infected patients who access HIV-related care have been reported by designated hospitals every 3 months since 2002. The number of HIV/AIDS patients who visit the designated hospitals for HIV-related care at least once in a particular year was used as the numerator to

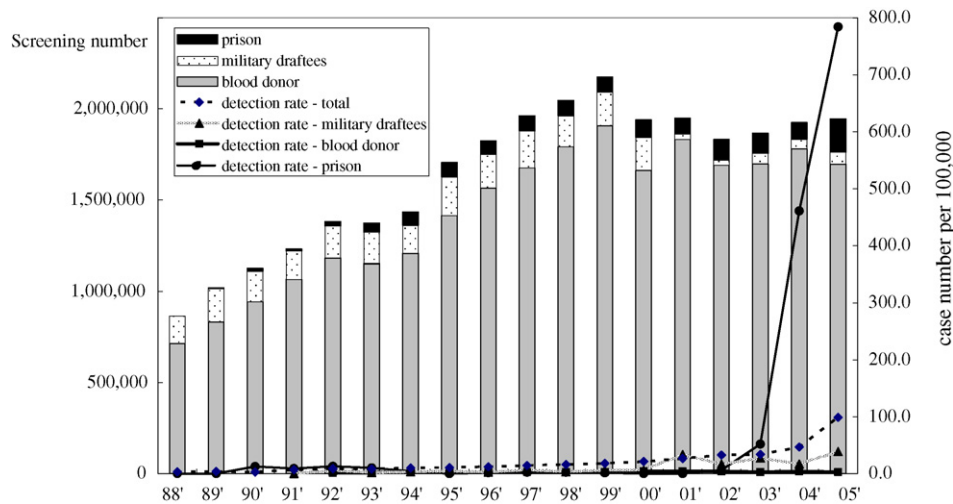


Fig. 1. Numbers of mandatory HIV screening tests and detection rates among different groups in Taiwan between 1988 and 2005.

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