Epidemiologic Features of AIDS in China, 2004–2013

To the Editor—The human immunodeficiency virus (HIV)/AIDS epidemic has been a pressing global health problem for >30 years [1, 2], yet no effective vaccines against HIV infection are available, for multiple reasons raised in detail elsewhere [3]. As the HIV epidemic continues in China, unique challenges have been identified. In China, characteristics of the HIV epidemic are inconsistent compared to other countries and different regions within the same country [4, 5]. In China, HIV is transmitted predominantly through heterosexual contact; however, wide geographic variations exist with respect to the HIV/AIDS epidemic [6]. Epidemiologic characteristics of AIDS cases from 2004 to 2013 were analyzed using data from the China Information System for Disease Control and Prevention, which included information about sex, age, occupation, and regional distribution.

From 2004 to 2013, 221,314 cases of AIDS (70.48% among males and 29.52% among females) were reported and 63,524 AIDS-related deaths (74.27% male and 25.73% female) occurred in China. The prevalence of AIDS cases has grown steadily in this period, reported as 0.28 cases per 100,000 persons in 2004 to 3.06 cases per 100,000 persons in 2013 (Cochran-Armitage trend test, $z = 295.27$, $P < .05$), a 10-fold increase. Prevalence of AIDS varied markedly by age group: The majority (86.35%) of cases were in people aged 20–50 years, with 32.38% of cases among those aged 30–39 years; the lowest prevalence of AIDS cases was observed among those aged 0–9 years (1.12%). Age distribution of HIV/AIDS prevalence in China suggests that adults with the greatest chance of exposure through unsafe sexual practices are at greatest risk of infection.

The HIV/AIDS case distribution varies significantly across the 31 provinces of
Figure 1. Spatial and temporal distribution of AIDS incidence in 31 Chinese provinces, 2004–2013.
China (Figure 1). AIDS cases had a clustered distribution in 4 provinces (Guangxi, Sichuan, Yunnan, and Chongqing) in southwest China, accounting for 48% of AIDS cases. The highest number of reported cases were in Guangxi (20.14%), Yunnan (15.36%), and Henan (13.28%) provinces; total cases in these locations are likely to have a significant contribution from injection drug users [7].

Our data suggest that persons of low socioeconomic status (48.12%), unemployed persons (16.23%), commercial personnel (10.16%), and rural laborers (3.43%) are the groups most often affected by HIV/AIDS. HIV epidemics in China continue to be concentrated among female sex workers, injection drug users, and men who have sex with men, and not in the general population. Changing HIV/AIDS transmission trends have been observed in China. Before 2007, HIV was spread mainly through heterosexual contact and blood transmission; however, homosexual transmission exceeded other routes of HIV transmission and showed the fastest growth rate after 2007, although heterosexual transmission also exhibited an increased trend. Infection with HIV occurred mainly through blood and heterosexual transmission before 2004 (32.23% and 30.0%, respectively) [7]. Between 2006 and 2008, however, HIV transmission through heterosexual and homosexual contact was of similar ratio (33.51% and 34.20%, respectively). From the beginning of 2009, homosexual transmission of HIV displayed explosive growth and was the dominant route of HIV transmission. On the other hand, HIV/AIDS epidemics are interrelated across the 3 most at-risk populations; provinces with high HIV prevalence among injection drug users consistently also had higher HIV prevalence in female sex workers and men who have sex with men. This is probably due to the existence of concurrent risk behaviors and interaction of these groups [8, 9].

The study describes the characteristics of AIDS cases throughout China, which will be useful for developing new prevention strategies for HIV/AIDS transmission in China. Strategies addressing injection drug use and commercial sexual behaviors and improving the rate of condom use, as well as strengthening HIV monitoring and intervention among the high-risk population, are urgent tasks for health-related professionals.

Notes

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References