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EDITORIAL

What is Next for HIV/AIDS in Korea?

According to the United Nations Programme on human immunodeficiency virus (HIV)/AIDS (UNAIDS), the estimated number of people living with HIV/AIDS (PLWHA) worldwide is 35.3 million as of 2012 [1]. Since the first diagnosis of HIV infection in 1985 to 2012, a total of 9410 PLWHA cases have been diagnosed in Korea, which is relatively low compared to the global standard [2]. However, the number of the HIV-infected people has increased sharply in Korea since 2000 [2].

In Korea, various studies have been conducted on HIV/AIDS. The Korea National Institute of Health regularly conducts laboratory-based research on HIV patients receiving highly active antiretroviral therapy [3]. Since the establishment of the Korean HIV/AIDS Cohort in 2006, various papers on the incidence and seroprevalence of HIV/AIDS in Korea have been published [4,5]. Social science approaches deal with the status of PLWHA under a social context in various social settings [6–8].

Since 1985, Korea has been active in developing HIV/AIDS prevention policies and expanding the target/risk groups for HIV testing. However, since 1998, there has been a reduction in the number of tests carried out due to a change in the national policy from mandatory to voluntary HIV testing, with more emphasis on supporting the cost of treatment for HIV-infected persons and on prevention education. These are the initiatives taken by the Korean government to prevent and treat HIV/AIDS. In addition, it is necessary to estimate the future incidence of HIV/AIDS in Korea to secure the budget for the HIV/AIDS prevention policy.

In the current issue of the *Osong Public Health and Research Perspectives*, one paper presents the estimation and projection of HIV/AIDS incidence in Korea [9]. The authors have adopted an autoregressive integrated moving average (ARIMA) model. The ARIMA model has previously been used for the estimation of influenza mortality [10], malaria incidence [11], and the incidence of other infectious diseases [12–14].

However, the back calculation, EPI-info, and EPP models cannot be applied to estimate the number of HIV-infected Koreans because of limitations such as a lack of exact statistics on AIDS cases and the unavailability of specific information on commercial sex workers, intravenous drug users, and sexually transmitted infection risk groups. However, the time series method can utilize the autocorrelation functions and produce an estimation model based on the data of HIV cases identified yearly or monthly [9].

This study aims to construct an estimation model using data on HIV cases diagnosed in Korea on a yearly basis since 1985, and forecast the number of HIV-infected persons and changes in the epidemiological characteristics of the infection.

In this study, one interesting trend has been observed with respect to the gender ratio for HIV/AIDS infection in Korea. As the number of HIV-infected persons increases, the current gender ratio (HIV-infected men: HIV-infected women, 11:1) also increases. This ratio for newly diagnosed HIV infection is projected to be 20:1 in 2017, suggesting an increase in the current male dominance in the ratio. Another interesting point is that by 2012, the majority of the HIV-infected persons will be in their 30s (28%); however, at present, the rate of HIV infection is increasing in persons who are in their 20s. Thus, as the results of this study suggest, we can expect a sharp increase in the number of HIV-infected people who are in their 20s in the upcoming 5 years. Hence, people in their 20s form the target group for HIV prevention in Korea. In a previous study on HIV prevalence and herpes simplex virus type 2 seroprevalence, the Koreans in their 20s have been found to have a low rate of infection for both these sexually transmitted diseases [15,16]; however, it is necessary to monitor this age group more carefully, keeping in mind the current trend change.

Despite many studies on HIV/AIDS in Korea, we would still like to see a viral dynamic study on HIV/AIDS, estimating the incidence of the infection using a

robust mathematical model. This may provide another interesting perspective on the gender ratio for HIV/AIDS in Korea.

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