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Editorial

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The HIV Care Cascade in Korea: Status of UNAIDS 90-90-90 Targets

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> ▶ See the article "Estimation of the Number of HIV Infections and Time to Diagnosis in the Korea" in volume 35, number 6, e41.

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Disclosure
The author has no potential conflicts of interest to disclose.

After the introduction of effective antiretroviral therapy (ART), human immunodeficiency virus (HIV) infection is currently a controllable disease for patients on successful combination ART. The current goal in fight against HIV is ending the acquired immune deficiency syndrome (AIDS) epidemic by 2030.[1] To achieve this, the Joint United Nations Programme on HIV/AIDS (UNAIDS) set up the 90-90-90 goals.[1] The goals are to have 90% of people living with HIV (PLWH) knowing their HIV status, 90% of diagnosed PLWH on sustained ART, and 90% of people on ART achieving viral load suppression, all by 2020. The UNAIDS global HIV targets of 90-90-90 reflects the cascade of HIV diagnosis, care and treatment (HIV care cascade).[2] Many countries are evaluating their achievement for the targets, and accurate measurement of the achievements is necessary to assess progress and to implement interventions to improve the cascade.

To estimate the achievement for the HIV care cascade, we have to know parameters such as the number of PLWH, the number of PLWH who are diagnosed, the number of PLWH on ART, and the number of PLWH who are virally suppressed.

Because Korea has mandatory HIV diagnosis notification system, the number of diagnosed PLWH can be exactly measured. According to the report from Korea Centers for Disease Control and Prevention (KCDC), the cumulative number of confirmed HIV infection is 17,500 until December 2018, and the number of newly-diagnosed cases per year was 1,206 in 2018.[3] However, KCDC has not officially reported other parameters such as the number of PLWH, PLWH on ART and PLWH who are virally suppressed.

Chin et al.[4] evaluated the proportion of PLWH on ART among PLWH who were covered by the National Health Insurance of Korea using the Korean National Health Insurance data between 2006 and 2015. In 2006, among a total of 5,746 PLWH who registered the Korean National Health Insurance, the proportion of PLWH who were given ART was 55.4%. The proportion increased year by year, and in 2015, among a total of 10,587 PLWH, 87.5% of PLWH were prescribed ART. Because the study only analyzed data of PLWH who were registered to the National Health Insurance, the study might not indicate the rate of treatment for all PLWH in Korea. However, because Korea has a mandatory national health insurance system, it is likely that the results reflect the treatment rates of all PLWH very closely.

Choi et al.[5] evaluated the proportion of PLWH achieving viral load suppression among a total of 4,962 PLWH who visited 17 hospitals in 2019. They found 90.16% of subjects were virally suppressed (less than 40 copies/mL or 20 copies/mL according to the type of tests). This study only analyzed data of PLWH who visited clinics of 17 hospitals.

These studies show that some of the goals of UNAIDS are being achieved in Korea. However, the diagnosis rate is very difficult to estimate, because the number of undiagnosed PLWH is very hard to estimate. As HIV does not produce specific symptoms that lead to diagnosis around the time of infection, and HIV-infected persons spend asymptomatic years, there are many PLWH who are not diagnosed. Consequently, it is inevitable that estimates of the total number of people with HIV, both diagnosed and undiagnosed, are imprecise. Currently, there is no standardized consensus approach to estimate the number of hidden PLWH, and many countries are using different methods using various data sources.[6,7] The methods include direct methods based on prevalence surveys, methods based on reported HIV and ADIS cases such as back-calculation methods, and methods based on CD4 cell count and simultaneous HIV/AIDS diagnosis, etc.

In this issue of JKMS, Lee et al.[8] estimated the number of PLWH from the claims data of the National Health Insurance Service in Korea. They used the European Centre for Disease Prevention and Control (ECDC) HIV Modeling Tool which is an extended back-calculation modeling program. In this study, the number of nationwide prevalent HIV infection was estimated to be 14,880 in 2015, and proportion of undiagnosed people estimated to decrease from 77.8% in 2009 to 41.8% in 2015. Although the data source and used method might have several limitations, this is the very first estimation of the total prevalent HIV cases, including undiagnosed PLWH in Korea.

According to above results, it seems that among the UNAIDS 90-90-90 goals, the second and third goals are almost achieved in Korea, but the first ones (i.e., to have 90% of PLWH knowing their HIV status) have not been achieved yet. More efforts for continuous monitoring the achievement for the 90-90-90 targets with standardized methods, and improving the diagnosis rate of PLWH should be performed to overcome HIV epidemic in Korea.

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