

CKD and ESRD in Korea: Results from population-based studies

Dong-Ryeol Ryu

Department of Internal Medicine, School of Medicine, Ewha Womans University

The number of patients with chronic kidney disease (CKD) and end-stage renal disease (ESRD) has been rapidly increasing in Korea largely due to the prolonged average lifespan and growing number of patients with major risk factors for CKD, such as diabetes mellitus and hypertension. There are many population-based databases in Korea, which are now available to researchers who want to investigate epidemiologic and economic studies for both CKD and ESRD.

The number of CKD patients who had been detected in the National Health Insurance database was 90,596 in 2009 to 150,850 in 2013, thereby the annual increment rate was 13.6%. In 2013, the total amount of medical expense for CKD patients was KRW 1.3 trillion, thus CKD cost the second most behind hypertension in Korea.

The ESRD Registry Committee of the Korean Society of Nephrology (KSN) has collected data from dialysis centers which launched in 2001. Newly registered cases included 52,378 patients on hemodialysis (HD) and 7,540 on peritoneal dialysis (PD) in 2013. These figures, especially the number of HD patients, were likely to be underestimated because the recent average response rate of KSN-ESRD registry was about 70%.

The number of HD patients was reported as 69,837 in the Health Insurance Review and Assessment (HIRA) database in 2013. We investigated the risk of major cardiovascular events among incident dialysis patients using HIRA database, and the crude incidence rates were as follows: major adverse cardiac and cerebrovascular events (MACCE), 182 per 1000 patient-years (PY); major adverse cardiac events (MACE), 138/1000 PY; all-cause mortality, 116/1000 PY; non-fatal acute myocardial infarction (AMI), 18/1000 PY; target vessel

revascularization (TVR), 17/1000 PY; and non-fatal stroke, 60/1000 PY. Most common cause of death in ESRD patients was cardiovascular diseases (49.1%), and followed by infection (23.5%) and cancers (5.7%). Total annual medical expense of HD patients was KRW 1.6 trillion in 2013 from KRW 1.2 trillion in 2009, which represents a 32% increase.

Prevalence and medical expense of both CKD and ESRD have been skyrocketing in Korea, but the clinical outcomes remain poor. Therefore, better clinical outcomes of Korean patients with a more cost-effective way should be considered as a higher priority.