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Korean Renal Data System (KORDS)

Jongha Park
Ulsan University Hospital, University of Ulsan, Korea

The Korean Society of Nephrology (KSN) launched a nationwide end-stage renal disease (ESRD) patient registry, Korean Renal Data System (KORDS), in 1985, which has continued for over 35 years. The goals of the KORDS are (1) to estimate the numbers and distributions of patients; (2) to determine the characteristics of patients and dialysis therapies; (3) to determine the complications or outcomes; and (4) to improve the quality of dialysis therapies and support public health decisions related to ESRD.

For the early period (1985-1994), the KORDS was populated with response from mailed paper questionnaires. An electronic questionnaire with dial-up modem file or diskette mailing was used from 1995-2000. An internet web site for data collection was opened at 2001 and has been updated yearly. The KORDS Committee of KSN has analyzed and reported data annually.

Participation of KSN members and dialysis centers is voluntary. The registry program has collected data throughout the years about dialysis center information, the start date of renal replacement therapy (RRT), cause of ESRD, comorbid diseases, vascular access, dialysis doses, medications including erythropoiesis-stimulating agents and phosphorus-controlling agents, laboratory data, dialysis adequacy, rehabilitation status, and outcomes for each patient on hemodialysis (HD), on peritoneal dialysis (PD), or who had undergone kidney transplantation (KT).

The incidence of ESRD patient in Korea are increasing continuously. At the end of 2019, the total number of new patients was 18,642, comprising 83.6% with HD, 4.1% with PD, and 12.3% with KT. The prevalence of ESRD has doubled since 2010, a total of 108,879 patients received RRT: 75.1% with HD, 5.5% with PD, and 19.4% with KT. Korea ranked sixth country in the world for prevalence of ESRD.

The three leading causes of ESRD were diabetes, hypertension, and chronic glomerulonephritis. The proportion of diabetes increased from 1992 (19.5%) to 2019 (48.4%). Elderly dialysis patients are increasing constantly, with 51.9% for the proportion of patients older than 65 years old in 2019.

All-cause mortality was difficult to estimate exactly in KORDS because of incomplete data collection of death, but the trend decreased for the last 20 years, regardless of sex, age, and cause of ESRD. The unadjusted mortality rate for overall dialysis patients decreased from 122.5 per 1,000 patient-years in 2001 to 45.2 per 1,000 patient-years in 2018. The mortality rate was similar between HD and PD in 2018 (45.1 with HD and 51.3 with PD per 1,000 patient-years). Cardiovascular complication was the leading cause of death in 2019 (35.8%). Infection was the second causes (22.9%) and vascular disease including cerebrovascular accident was the third causes (11.2%).

KORDS Committee of KSN has shared data to the researchers and the international working-groups. However, KORDS has several limitations. First, it is based on voluntary participation, so 71% of a total dialysis center has been participated in 2021. Second, collecting variables are limited to data from daily practice. Third, the information on patient survival is incomplete. Currently, efforts to merge with other national data sources have been trying to overcome these limitations.