

Abstract Submission No. : 2065

Health insurance status is related to risk of mortality and hospitalization in Korean maintenance hemodialysis patients: a longitudinal cohort study

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Objectives: There has been an increasing incidence of hemodialysis (HD) due to old age and comorbid condition such as diabetes. In general, socioeconomic status (SES) is known as one of the most important risk factors for patient mortality and morbidity. Whether low SES is associated with poorer outcome in HD patients is controversial. This study was performed to evaluate the association of health insurance status as a proxy indicator for SES upon mortality and hospitalization in maintenance HD patients.

Methods: We used HD quality assessment data from the year of 2015 for collecting demographic and clinical data. The subjects were classified into Medical Aid (MA) recipients (low SES) and National Health Insurance (NHI) beneficiary (high SES). We analyzed mortality and hospitalization risk based on health insurance status using Cox proportional hazard model. A total of 35,454 adult HD patients ≥ 18 years old who received HD treatment more than twice weekly were included in the analysis.

Results: The ratio between MA recipient and NHI beneficiary was 76.7% versus 23.3%. The MA recipient group demonstrated younger age, and lower proportion of female, diabetes, hypertension, and cerebrovascular accidents compared to the NHI beneficiary group. After adjusting for age, gender, comorbidity and laboratory parameters, the MA recipient group showed significantly higher mortality risk compared to the NHI beneficiary group (hazard ratio 1.073 [1.009-1.14], $P = 0.025$). The MA recipient group was also an independent risk factor for hospitalization after adjusting for age, gender, comorbidities and laboratory parameters (hazard ratio 1.142 [1.108-1.178], $P < 0.001$).

Conclusions: Low SES as measured by health insurance status was associated with increased risk of patient mortality and hospitalization in Korean maintenance HD patients.