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Impact of Quality-of-Life after Dialysis Start on Survival: A Prospective Cohort Study in Korea

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Objectives: Maintenance hemodialysis patients often have poor health-related quality of life (HRQOL) and high death rates, whereas the effect of HRQOL on dialysis patients' survival has not been well studied. In this study, we aimed to investigate the effect of HRQOL after the onset of dialysis start on the long-term survival of patients.

Methods: A total of 579 dialysis patients who completed baseline HRQOL questionnaires were included among 1850 incident dialysis patients from a nationwide prospective cohort study. HRQOLs were evaluated using the Kidney Disease Quality of Life Short Form 36 (KDQOL-36) at 3 months after dialysis start. The effect of each KDQOL-36 index score on patient mortality was analyzed using the Kaplan-Meier survival analysis and the COX proportional hazard model. Multivariate COX analysis was performed adjusting age, sex, modified Charlson comorbidity index, and causes of primary renal disease.

Results: The scores of 3 ESRD domains (burden of kidney disease, quality of social interaction, social support) showed significant association with patients' mortality in univariate analysis. However, in multivariate analysis, these 3 ESRD domain scores did not show significant association with mortality. The 3 indices (physical function, physical role, body pain) in physical component summary domain showed significant association with patients' mortality in both univariate and multivariate Cox analysis. Among the 4 mental component summary domain indices, only one index (emotional well-being) showed significant association with mortality in multivariate analysis. Mental composite score did not show significant association with mortality (*P*-value = 0.225). However, high physical composite score decreased the risk of patients' mortality (*P*-value = 0.003).

Conclusions: Poor physical health 3 months after dialysis start among dialysis patients correlates significantly with overall mortality. Improving HRQOL by interventions that can improve the physical health status could increase patients' survival.

Table 1. Risk of mortality according to the increase of physical composite score using multivariate Cox analysis

	Hazard Ratio (95% Confidence Interval)	P-value
Physical composite score		0.003
Quartile 1	1 (reference)	
Quartile 2	0.529 (0.308-0.907)	0.021
Quartile 3	0.317 (0.151-0.665)	0.002
Quartile 4	0.350 (0.162-0.758)	0.008