

Moderate Renal Dysfunction as an Independent Predictor of Impaired Health-Related Quality of Life: The Korean National Health and Nutrition Examination Survey 2005

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Background: Only a few large-scale studies have investigated the association between health-related quality of life (HRQOL) and renal function. In addition, the HRQOL of patients with chronic kidney disease (CKD) is frequently underestimated during their general medical care. This study aimed to assess the importance of renal function in the HRQOL of the general population.

Methods: We analyzed data for 5,555 adults, aged 18 years or older, from the Korean National Health and Nutritional Examination Survey 2005. The EuroQol-5D (EQ-5D) index score was used to evaluate HRQOL and estimate quality-adjusted life-years (QALYs). Renal function was categorized into 4 groups according to the estimated glomerular filtration rate (GFR): GFR group 1, 90 or more; group 2, 75-90; group 3, 60-75; and group 4, 30-60 mL/min/1.73m². Individuals with more advanced renal dysfunction were excluded from the analysis.

Results: In this study population, parameters concerning the subjects' socioeconomic status (marital status, educational status, occupation, and residential space), health-related behaviors (alcohol intake, smoking history, and moderate intensity of exercise), and psychological status (degree of stress, and quality of sleep) were all deteriorated in proportion to the decrease in GFR. Moreover, the score of EQ-5D was also reduced proportionally with the decrease in GFR. On multivariate analysis, moderately decreased GFR was an independent predictor of impaired HRQOL after adjustment for age, gender, health-related behaviors, socioeconomic and psychological variables, and other medical comorbidities (odds ratio, 1.468; 95% confidential interval, 1.033-2.085; p=0.032).

Conclusion: This study strengthens evidence that renal function is an important predictor of HRQOL and also suggests that asymptomatic early-stage CKD should be managed to improve its global health outcome.

Key Words: Chronic kidney disease, Quality of life, EQ-5D