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Dialysis

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The Association between Perceived Social and Family Support with Comorbidity and Clinical Outcome in Incident Hemodialysis Patients

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Background: A number of evidences demonstrated that social and family supports are essential for maintaining physical and psychological health. However, little is known about the association of social and family support on baseline comorbidity and clinical outcome in dialysis population. Thus, the aim of this study was to investigate the association between the social and family support with modified charlson comorbidity index (MCCI) and mortality in dialysis patients.

Methods: A total 1,155 incident hemodialysis patients were prospectively enrolled in Clinical Research Center for End-Stage Renal Disease (CRC-ESRD) cohort from August 2008 to April 2013. The social support was assessed using by perceived support and family scale that are expressed by a range of scores from 1 to 4. The patients were categorized into three groups according to the summation of perceived social and family support: group 1, fully independent; group 2, partially dependent; group 3, fully dependent, respectively. The comorbidities were validated by MCCI, and the primary outcome was defined as all-cause mortality.

Results: The mean age was 58.5 ± 14.4 years and 716 (62.0%) patients were male. Only 104 patients (9.0%) were fully independent and 141 patients (12.2%) showed severe dependency. The mean total score of family and social support in the patients was 5.20 ± 1.58 . Group 3 showed significantly higher MCCI (4.59 ± 2.03 vs. 5.44 ± 2.25 vs. 5.62 ± 2.3 , $P=0.001$) and lower mean arterial pressure (MAP, 103.82 ± 16.6 vs. 99.66 ± 14.7 vs. 97.59 ± 14.80 , $P=0.007$) compared to group 1 and 2. In multiple linear regression analysis, social and family support was closely related to MCCI ($\beta=0.095$, $P=0.038$) after adjustment for confounding factors. In multiple Cox analysis,

group 3 revealed significantly higher all-cause mortality rate (hazard ratio, 3.28; 95% confidence interval, 1.54-7.00; P=0.002) compared to group 1 even after adjustment for age, sex, education status, MCCI, serum albumin, hemoglobin, and parathyroid hormone levels.

Conclusion: The incident dialysis patients needed social and family support are significantly associated with high MCCI and low MAP, and independently associated with higher all-cause mortality.

Keywords: Family support, Hemodialysis, Modified charlson comorbidity index, Mortality, Social support