DIALYSIS. EPIDEMIOLOGY, OUTCOME RESEARCH, HEALTH SERVICES RESEARCH - 1

ASSOCIATION OF SUBSTANCE ABUSE WITH MORTALITY AND KIDNEY TRANSPLANTATION AMONG NEW DIALYSIS PATIENTS

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Introduction and Aims: It is unclear to what extent substance abuse contributes to adverse outcomes among patients who develop kidney failure. The goal of this study was to describe the impact of substance abuse on mortality and kidney transplantation among new dialysis patients.

Methods: We analysed national data in a cohort of 1,226,461 US patients who began dialysis between 1995 and 2008 and were followed until December 2010. The hazard ratios (HR) and 95% Confidence Intervals (CI) for hospitalisation events and death were determined for each addictive behaviour (current smoking, alcohol use and illicit drug use), as well as for combinations of 1, 2 and all 3 behaviours using data from the US Renal Data System. Multivariable Cox regression was used to model the risks of all-cause mortality and kidney transplantation. Ethics approval was granted from the University Hospitals Ethics Committee.

Results: The average age was 62.7 years, 65% were white, 30% Black, and 3.8% Asian. In multivariate analysis with adjustment for demographic, comorbid and socioeconomic factors, smoking (HR=1.24, CI 1.23-1.26), alcohol (HR=1.59, CI 1.55-1.63) and drug use (HR=1.79, CI 1.74-1.84) were each independently associated with higher risks of death. When assessed in combination, we found increases in mortality of 30% (95% CI 28 to 31%), 66% (95% CI 60 to 71%) and 81% (95% CI 67-96%) with rising number of addictive behaviours (1, 2 and 3 versus none) respectively. These risks were only slightly attenuated with multivariable adjustment. Similarly, risks of all-cause hospitalisation increased significantly by 13% (95% CI 12 to 14%), 12% (95% CI 9 to 16%) and 18% (95% CI 10 to 26%) with increasing numbers of addictive behaviours. In contrast, the risk of kidney transplantation declined significantly by 42% (95% CI 40-44%), 80% (95% CI 77-83%) and by 87% (95% CI 80-92%) for those reporting 1, 2 and 3 addictive behaviours respectively compared to none.

Conclusions: Substance abuse from smoking, alcohol and illicit drugs exerts a significant detrimental impact on patient survival following the onset of dialysis. Better awareness, detection, and treatment programmes are required to reduce the risk of adverse outcomes.

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