

MO811 HEALTHY LIFESTYLE SCORE AND MORTALITY IN PATIENTS ON HEMODIALYSIS: AN ANALYSIS OF THE DIET-HD STUDY

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BACKGROUND AND AIMS: A healthy lifestyle promotes cardiovascular health and reduces cardiac-related mortality in the general population, but its benefits in patients treated with hemodialysis are uncertain. The aim of this study was to evaluate the association of a modified American Heart Association (AHA) healthy lifestyle score, and its individual components, with all-cause and cardiovascular mortality in a large multinational cohort of patients treated with long-term hemodialysis.

METHOD: Based on the AHA’s recommendations for cardiovascular prevention, a modified healthy lifestyle score was derived from non-smoking, being physically active, higher body mass index (BMI, obesity paradox of higher BMI being protective of death in dialysis patients), healthy diet, and well-controlled systolic blood pressure for participants in the DIET-HD study, a multinational cohort study of adults on hemodialysis. Hazard ratios (aHR) were estimated to evaluate the association between the healthy lifestyle score [low (0-3 points) as the referent, medium (4-6), and high (7-10)] and cardiovascular and all-cause mortality by using cox model.

RESULTS: 5483 out of 9757 (56%) patients with complete lifestyle data were followed for a median of 3.8 years (17450.9 person-years). There were 2,163 deaths, of which 826 cardiovascular-related. Compared with patients with a low lifestyle score (963, 18%), the aHRs (95%CI) for all-cause mortality among those with medium (3,621, 66%) and high (899, 16%) were 0.70 (0.63-0.78) and 0.57 (0.49-0.66), respectively. Cardiovascular death was 17% [aHR, 0.83 (0.68-0.99) and 30% (0.70, 0.55-0.90) lower in patients with medium and high lifestyle score, respectively. Results were consistent in stratified or complete-case analyses, and after excluding early deaths. Risk reductions were largely driven by being a non-smoker, physically active and having a higher BMI. 20% of deaths were attributed to a medium/low lifestyle score (population attributable fraction; 95% CI 12-28%).

CONCLUSION: A healthier lifestyle, especially non-smoking, regular physical activity, and a higher BMI, is dose-dependently associated with lower all-cause and cardiovascular mortality in hemodialysis patients.

Lifestyle score	Total	Low (0-3)	Medium (4-6)	High (7-10)	P for trend
All-cause mortality					
Number of observations	5,483	963 (18)	3,621 (66)	899 (16)	
Number of events	2,163	446	1,417	300	
Event rate per 1000 person-year		156	122	100	
Univariable random effect	5,483	Ref	0.78 (0.70-0.86)	0.62 (0.54-0.72)	<0.01
Multivariable random effect	5,483	Ref	0.70 (0.63-0.78)	0.57 (0.49-0.66)	<0.01
Excluding the first 12 months of follow-up	4,681	Ref	0.71 (0.63-0.80)	0.57 (0.48-0.68)	<0.01
Multivariable competing risk	5,483	Ref	0.62 (0.59-0.75)	0.55 (0.45-0.63)	<0.01
Cardiovascular mortality					
Number of events	826	152	549	125	
Event rate per 1000 person-year		53	47	41	
Univariable random effect	5,483	Ref	0.89 (0.74-1.06)	0.75 (0.59-0.96)	<0.01
Multivariable random effect	5,483	Ref	0.83 (0.68-0.99)	0.70 (0.55-0.90)	<0.01
Excluding the first 12 months of follow-up	4,681	Ref	0.86 (0.69-1.06)	0.73 (0.55-0.97)	0.03
Multivariable competing risk	5,483	Ref	0.86 (0.67-1.03)	0.72 (0.50-0.90)	0.02

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