

Pre-dialysis dietitian care & survival during the first year on dialysis

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Introduction

- The National Kidney Foundation recommends management by a registered dietitian for patients with chronic kidney disease.
- We aimed to determine whether dietitian care prior to ESRD is associated with normoalbuminemia at dialysis onset and lower one-year mortality among incident hemodialysis patients.

Methods

- 156,440 patients >20 years old who initiated hemodialysis between June, 2005 and June, 2007 were included (Table 1).
- Pre-dialysis dietitian and nephrology care were defined from 2728 form.
- Logistic regression was used to identify associations with serum albumin (SA) > 4gm/dL at dialysis initiation.
- Cox regression analysis was used to compare time to death, adjusting for baseline characteristics.

Results

- Only 12% of patients had dietitian care pre-dialysis (Figure 1).
- Patients with pre-dialysis dietitian care for 0-12 mo were 17% more likely, and with >12 months, 34% more likely, to have SA ≥ 4 gm/dL initiation (Figure 2).
- Survival at one year was 74%, 79%, and 83% for patients without dietitian care, with care for 0-12 months, and care >12 months, respectively (P < 0.001, Figure 3).
- The association between predialysis dietitian care and survival during the first year on dialysis was explained by the difference in predialysis nephrology care (Table 2).
- In the cohort limited to patients with pre-dialysis nephrology care (N=92,484), one year mortality was 8% lower in patients who received pre-dialysis dietitian care for longer than 12 months, compared to patients with no dietician care, after multivariate adjustment (P < 0.02, Table 2).

Table 1
Baseline characteristics by dietitian care

	Dietitian care		P
	None	0-12 months > 12 months	
n	138,200	13,327 4,913	
Age, mean ± SD	63.3	63.7 64.2	< 0.0001
Women, %	45	42 40	< 0.0001
Race, %			< 0.0001
White	65	68 68	
African American	30	26 25	
Asian	3.5	5.5 4.6	
Native American	1.1	1.2 1.8	
Cause of ESRD, (%)			< 0.0001
Diabetes	46	52 50	
Hypertension	28	25 24	
Glomerulonephritis	6.5	7.2 10	

Table 2
Dietitian care before dialysis initiation and risk of death during the first year on dialysis

	HR (95% CI) Unadjusted model	AHR (95%) Not adj. for neph. care†	AHR (95%) Adj. for neph. care with neph. care	AHR (95%) Limited to pts with neph. care
None	1	1	1	1
0-12 months	0.79 (0.76-0.82)	0.95 (0.91-0.98)	0.99 (0.95-1.03)	1.02 (0.98-1.06)
12 months	0.64 (0.60-0.68)	0.85 (0.79-0.91)	0.97 (0.90-1.04)	0.91(0.85-0.98)

†model adjusted for age, sex, race, smoking, alcohol use, drug dependence, cause of ESRD, functional status, comorbidities, Hgb, vascular access, Epo use, insurance at the time of dialysis initiation.

Figure 1
Prevalence of pre-dialysis dietitian care

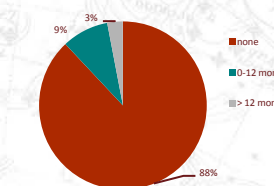


Figure 2
Odds of albumin > 4 gm/dl at dialysis initiation by dietitian care

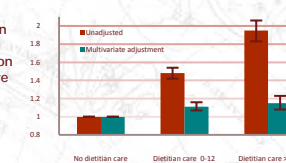
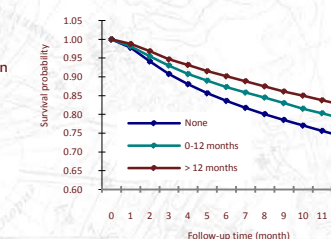


Figure 3
Survival by pre-dialysis dietitian care



Conclusions

- Pre-dialysis dietitian care was independently associated with SA > 4 gm/dL at dialysis initiation.
- In patients with pre-dialysis nephrology follow-up, pre-dialysis dietitian care for >12 months was independently associated with lower mortality during the first year on dialysis.

Limitations

- Exposure not validated.
- No bone metabolism parameter data.
- Residual bias likely.