Racial and Gender Differences of the Survival Advantage of Obesity in Maintenance Hemodialysis Patients

Joni L Ricks, MPH[1]; Csaba P Kovesdy, MD[2]; Joel D Kopple, MD[1]; Keith C Norris, MD, FASN[3]; and Kamyar Kalantar-Zadeh, MD, MPH, PhD*[1]

[1]Harold Simmons Center for Chronic Disease Research & Epidemiology, LABioMed at Harbor-UCLA, Torrance, CA; [2]Salem VA MC, Salem, VA, United States; [3]King-Drew School of Medicine, Los Angeles, CA, United States

INTRODUCTION

- High body mass index (BMI) is associated with lower death risk in maintenance hemodialysis (MHD) patients, among whom African-American (AA) have superior survival.
- This survival advantage persists even after adjusting for such important factors as co-morbid diseases and laboratory abnormalities.
- It is not known whether the survival advantage of high BMI differs across race and gender.

METHODOLOGY

- We examined a 5-year (7/2001-6/2006) cohort of 122,869 MHD outpatients (including 39,090 AAs) from DaVita Clinics with survival follow-up until 6/2007. Cox survival regression models were examined across race and gender strata after adjustment for case-mix and malnutrition-inflammation complex syndrome (MICS) (see Table 1).
- Case mix models included multivariate adjustment for age, gender, dialysis vintage, diabetes mellitus and ethnicity.
- The MICS models control for case-mix variables as well as serum albumin, blood hemoglobin, nPCR (nPNA), phosphorus, TIBC, ferritin, calcium and creatinine.
- BMI is examined as a continuous variable.

RESULTS

Table 1. Demographics by Race

	N	Age (yrs) mean ± SD	Women (%)	Diabetics (%)
African American	39,090	57.8 14.9	48.7	42.7
White American	53,098	65.5±15.0	42.0	43.4

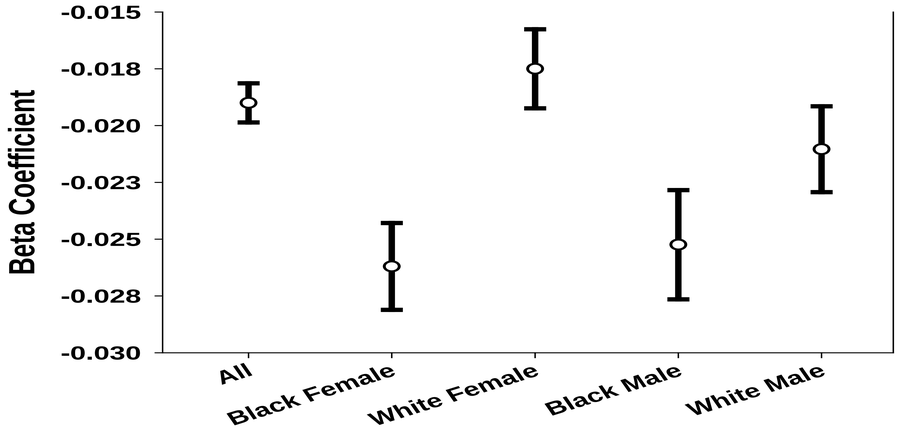

Figure 1. BMI Coefficient Estimates and Standard Error by Race and Gender

CONCLUSIONS

- A 1 kg/m2 higher BMI was associated with approximately a 1.8 % lower mortality rate in white women, 2.1% lower in white men, 2.6% lower in AA women and a 2.5% lower in AA men.
- Decreased mortality per unit of BMI is highest for AA, and slightly higher for AA women than AA men.

KEY LEARNINGS

- ✓ Overall, there is evidence to support that increased BMI is associated with lower mortality in the MHD cohort examined.
- ✓ Survival advantage conferred by higher BMI appears most prominent among AA men and women and the weakest among White women.
- ✓ The racial and gender differences exhibited deserve further investigations

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*Correspondence: Kamyar Kalantar-Zadeh, MD, PhD
Email: kamkal@ucla.edu

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