

PREVALENCE AND PROGRESSION OF CHRONIC KIDNEY DISEASE AMONG DIFFERENT RACES

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Disparities in ESRD incidence between ethnic groups are still largely unexplained. We performed a non-concurrent observational cohort study to assess whether the increased ESRD risk is due to: (A) a greater prevalence of CKD (stages 3 and 4, eGFR 15-59 ml/min/1.73m²) in the non-white population; or (B) a faster progression from CKD to ESRD in non-whites.

Patients with a self-reported race/ethnicity visiting a Montefiore Medical Center medicine clinic from 1/1/2001 to 12/31/2003 were included (n=10,653). Baseline data including serum creatinine, demographics, comorbidities, insurance status and income level were collected. Serial serum creatinines until 6/30/2007 were gathered for the progression analysis (n=5,657, mean creatinine measurements = 7.7 per subject). GFR was estimated using the 4-variable MDRD equation. Progression of CKD was defined as either a decrease in the eGFR by 30% or an achieved eGFR of <15 ml/min/1.73m². Cox proportional hazards models were performed to evaluate risk of progression, censoring for death and loss to follow-up.

Compared to whites (9.9%), the prevalence of CKD stages 3 and 4 was similar for Hispanics (9.7%), Asian-Americans (9.8%) and other races (9.3%). Only African-Americans (7.1%) had a significantly different prevalence of CKD (p = 0.002). Compared to whites, the hazard ratio for progression after adjustment for potential confounders was 0.98 (95% CI 0.81-1.19) for African-Americans, 1.41 (95% CI 0.96-2.08) for Asian-Americans and 1.13 (95% CI 0.90-1.41) for other races. Hispanics, however, had a significantly higher risk for progression (1.44, 95% CI 1.17-1.76).

These results indicate that a difference in prevalence of CKD in non-whites compared to whites does not explain their increased burden of ESRD. The results also suggest that Hispanics progress faster from CKD to ESRD compared to whites. Further studies are needed to discover the mechanisms underlying the faster progression rate in Hispanics.