The Association of Chronic Kidney Disease Risk Factors and All-Cause Mortality among Black Men

Black men suffer from some of the highest rates of advanced Chronic Kidney Disease (CKD) and premature mortality. Reasons believed to underlie these high rates include two of the major CKD risk factors, diabetes and hypertension. Diabetes and hypertension are more prevalent and severe in Black males, diabetes ranking as the 6th leading cause of death among black men and hypertension killing approximately half of Black men annually. In order to better understand the effect CKD risk factors has on Black men all-cause mortality, we investigated the association between self-reported CKD risk factors (hypertension and diabetes), self-report of “weak/failing kidneys,” and all-cause mortality. We hypothesized there will be a significant association between CKD risk factors (diabetes and hypertension) and all-cause mortality among Black men. In order to adequately test our hypothesis, we analyzed linked data from the 2000-2009 National Health Interview Survey (NHIS) and the National Death Index as of December 21, 2011. The sample included 15,591 Non-Hispanic Black men aged 18 and over who completed the Sample Adult Survey. CKD risk factors were coded as following: no diabetes/no hypertension, no diabetes/yes hypertension, yes diabetes/no hypertension, and yes diabetes/yes hypertension. Cox regression models were used to estimate hazard ratios (HR) and corresponding 95% confidence intervals (CI). Adjusting for marital status, education, income, obesity, self-reported health status, smoking status, drinking status, and weak/failing kidneys, Black men with diabetes and hypertension had a higher mortality risk (HR=1.48, 95% CI: 1.24-1.78), compared to Black men without hypertension or diabetes. Among men with weak/failing kidneys, Black men with hypertension and diabetes had a higher mortality risk (HR= 3.43, 95% CI: 1.83-6.43) than Black men without hypertension or diabetes. Among men without weak/failing kidneys, Black men with diabetes and hypertension (HR=1.31, 95% CI: 1.06, 1.60) also had a higher mortality risk relative to Black men without hypertension and diabetes, though not as robust as those with weak/failing kidneys. These findings highlight an important association between key CKD risk factors and all-cause mortality in Black men, which is magnified in the presence of weak/failing kidneys.