RENAL DISEASE IN PATIENT AT RISK OF HYPERTENSIONS

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Abstract: End-stage renal disease (ESRD) is the last stage of kidney disease. ESRD cannot be controlled by conservative management alone, and dialysis or kidney transplantation are needed to maintain life. The purpose of this study is to determine the association between prehypertension stages and early sign of kidney disease and whether such association exists across ethnicity population. Participants’ age at the time of NHANES study, gender, race/ethnicity, smoking status, annual household income and education were from the 2007-2008 NHANES interview questionnaires. Individual’s Blood pressure data was from physical examination of NHANES, which was measured by licensed physician. Creatinine and fasting food glucose data were from the laboratory tests of NHANES. Bivariate analysis was used to examine the association between blood pressure and kidney disease. Logistic regression was used to find the association between blood pressure and renal disease by controlling participants’ age, gender, ethnicity, glucose level, education, income and smoking status. The average age of participants was 40. There were 639 (53.34%) males in the study. There were 418 (34.89%) participants with blood pressure in prehypertension level. Among the study population, 61.85% had possible kidney disease based on the creatinine level, and 41.32% were in the pre-diabetes status. The kidney disease was generally distributed to all three blood pressure groups. Results from the bivariate analysis showed no significant associations at the 0.05 alpha level between blood pressure and kidney disease (p=0.5924). The logistic regression analysis for predicting renal disease did not show the association between blood pressure and renal disease after controlling covariates. The model showed significant association between kidney disease and race/Ethnicity. Non-Hispanic Black had 2.035 time higher odds to develop kidney disease comparing with Non-Hispanic White. Gender played a significant role to develop kidney disease. Males have 1.938 higher odds to get kidney disease comparing females. The study does not show the association between blood pressure and creatine levels. Gender is an important role for developing renal disease. Non-Hispanic Black should manage their creatinine level no matter high blood pressure. It is unclear why people who have some college education or AA degree have 3.070 higher times risk of getting kidney disease among other Hispanic group, but it seems to be the case. The study suggests the necessity of kidney disease prevention among males. Since kidney disease prevalence is more than 50% among normal blood pressure population, the further study on kidney disease among non-hypertensive people should be conducted.