

DISTRIBUTION OF C-REACTIVE PROTEIN AMONG US ADULTS FROM NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (NHANES), 2009-2010

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Abstract: The cardiovascular disease (CVD) is the leading cause of morbidity and mortality among US adult population. In addition, disparities in CVD morbidity and mortality exist as CVD risk factors differs by gender and ethnicity. According to the American Heart Association in 2014, among blacks, 46.0% males and 47.7% females had CVD and number of deaths 49,210 in males and 48,573 in females. Recently, C-reactive protein (CRP), a biomarker of chronic inflammation emerges as an independent predictor of CVD. Therefore, the purpose of this study was to assess the distribution of CRP levels by gender and ethnicity among US adult population. We analyzed data from 5629 participants from NHANES, 2009-2010, which is a multistage cluster sample design survey and represents non institutionalized US population. We analyzed data using SAS 9.4 version, proc survey procedure and weighted sample. Log transformation was applied for CRP variable as it was not normally distributed. Out of the sample of 5629, 51.2% were females, 48.8% males, mean age for females 45.4, SE 0.34 and males 44.8, SE 0.45. The mean levels of CRP were higher among females vs. males (unadjusted mean 0.41, SE 0.02 vs, 0.31, SE 0.02, p value<0.0001) and blacks vs. whites (0.50, SE 0.02 vs. 0.35, SE 0.02, p<0.001). After controlling for CVD risk factors such as age, blood pressure, total cholesterol, HbA1c and smoking history, females vs males (0.43, SE 0.02, 0.31, SE 0.02, p<0.0001) and blacks vs. whites had higher CRP levels (0.49, SE 0.05 vs 0.38, 0.02; p<0.02), respectively. Our results show that both unadjusted and adjusted mean levels of CRP was higher among female gender and black race. Further study is needed to explore the racial and biological differences of CRP.

Keywords: National Health and Nutrition Examination Survey, US Adults, and high sensitivity C-reactive protein