

EARLY IDENTIFICATION OF CARDIOVASCULAR RISK AMONG AFRICAN-AMERICAN WOMEN

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Purpose: It has been well documented that the Metabolic Syndrome (MS) is a predetermined pathway leading to type 2 diabetes (T2D) and ultimately cardiovascular disease (CVD). African-American (AA) women are known to suffer unduly from CVD and have one of the highest prevalence rates of the MS. The Purpose of this study was to determine early risk markers for CVD among healthy AA women ages 19-45. We hypothesized that AA women's risk was more closely associated with insulin sensitivity, inflammation and a prothrombotic state than dyslipidemia as identified in the National Cholesterol Education Program (NCEP) criteria. Therefore, the level of CV risk among AA women based on the present NCEP criteria commonly utilized in clinical practice is potentially underestimating their risk for CVD.

Method: This study took place in the General Clinical Research Center of a southeastern medical center in the US, N=33. AA women age 19-45, were screened for the MS and other CV risk factors in a fasting state and underwent a 2 –hour OGTT. Then various criteria were compared to determine presence for the MS and other early risk markers for CVD.

Findings: Interestingly, the NCEP guidelines only classified n = 6 (15.8 %) women as possessing the MS. Whereas, the American Clinical Endocrinology criteria diagnosed n =12 (31.6%) as having MS. The most sensitive single predictor of CV risk was waist circumference which classified n = 18 (47.4 %) of women being at risk. Similarly, BMI classified n =17 (44.7%) as being at risk in the overweight to obese categories. A regression equation produced a R² of 0.68 using Plasminogen Activator Inhibitor-1 (PAI-1) as the dependent variable with the predictors of fasting glucose, CRP, and waist circumference; waist circumference was predicted by PAI-1 with an R² of 0.58 and C-Reactive Protein (CRP) was predicted by post-glucose with an R² of 0.50.

Discussion: As identified in the literature AA women's risk for CVD is likely significantly underestimated based on the sole use of NCEP criteria. Clinicians should consider a broader definition of risk than contained within the NCEP criteria. The inclusion of markers of inflammation (CRP) and prothrombotic factors (PAI-1) along with measures of insulin sensitivity may add to early detection of CVD risk, and ultimate reduction in the CV health disparities of these AA women.