

PREDICTORS OF CENTRAL OBESITY AMONG AFRICAN-AMERICAN WOMEN

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Purpose: To determine if the components of the metabolic syndrome predicted central obesity among healthy African-American women (AAW), age 19-45. We hypothesized that there would be a stronger association between central obesity, and the following components of the metabolic syndrome: blood pressure, glucose, insulin, and plasminogen activator inhibitor-1 (PAI-1), than levels of triglyceridies, or HDL-C.

Method: This cross-sectional pilot study consisted of N = 33, healthy AAW age 19-45. The participants were recruited from the campus newspaper, beauty parlors, and churches. Participants fasted for 12-hours, came to the GCRC in the AM, underwent measures of body composition, laboratory measurements of blood samples, an oral glucose tolerance test was conducted, and then a 2-hr post-glucose was obtained. Logistic regression was used to analyze which variables were most predictive for central obesity.

Finding: Descriptives statistics revealed: n=18 (47.4%) of the women were centrally obese. The most significant predictors of central obesity were: PAI-1 (p =0.015); fasting insulin (p =0.024); post glucose (p =0.032); pre-glucose (p =0.049); and systolic blood pressure (p =0.148). As hypothesized levels of triglyceridies, and HDL-C were not significant predictors of central obesity within this population of AAW. Although systolic blood pressure was a predictor of central obesity, diastolic blood pressure was not.

Discussion: The NCEP ATP III guidelines do not include insulin or PAI-1 within the criteria for diagnosis of the metabolic syndrome. However, the WHO has included insulin, and the Association of Clinical Endocrinologist includes both insulin, and PAI-1 in the criteria for the metabolic syndrome. It has been documented that AAW have higher insulin levels than their white counterparts, and also do not typically manifest hyper-triglyceridemia, and often have above normal levels of HDL-C, which do not appear to be protective. However, AAW still continue to experience significant disparities in their cardiovascular health, which are not being explained by the NCEP's definition for the metabolic syndrome. Implications for clinical practice are that a broader definition for the metabolic syndrome may be needed in certain populations as the components of the metabolic syndrome may differ by race.

