CORRELATIONS BETWEEN BODY MASS INDEX, WAIST-HIP RATIO, AND WAIST CIRCUMFERENCE TO CARDIOVASCULAR RISK FACTORS IN MIAMI HISPANICS

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Background:
Overweight and obesity have been associated with increased risk of cardiovascular disease. Traditionally, body mass index (BMI) has been the most accepted measure. However, recent studies indicate that excess abdominal fat, measured by waist circumference (WC) or waist-hip ratio (WHR) might be a better indicator of cardiovascular risk. Hispanics are known to have disproportionately high prevalence of metabolic risk factors (BMI, WC and lipids), so it is important to begin to characterize the association between these metabolic risk factors and the risk of cardiovascular disease.

Objective:
To assess and compare the correlations of WC, WHR, and BMI to associated cardiovascular risk factors in a sample of Miami Hispanics.

Methods:
Between 2009-10, 727 Miami Hispanics (244 men and 483 women) participated in free cardiovascular screenings conducted by Florida Heart Research Institute. Data gathered included measurements of height, weight, waist, hip, blood pressure, fasting glucose and lipid profile.

Results:
Chi-square tests revealed that BMI ≥ 25 was associated in women with elevated triglycerides (≥150; p <.001), hypertension (BP ≥140/90 or hypertension meds; p=.001), and high glucose (≥126 or diabetes meds; p <.029). No significant association was seen in men.

Waist Circumference, ≥ 35”, in women was found to be significantly correlated to high triglycerides, hypertension (p<.001), high glucose (p=.001), and low HDL (≤40; p=.004). Among men, WC ≥40", was associated with low HDL (p=.010) and high glucose (p=.036.)

In women WHR ≥.88, was associated with high triglycerides and glucose and low HDL, for all (p<.001). In men, WHR ≥0.95 was only significantly associated with high glucose (p<.001). No studied measure was significantly related to total cholesterol or LDL.

Conclusion:
In this unadjusted, pilot data analysis of Miami Hispanics, WC and WHR appeared to be more correlated with cardiovascular risk factors than BMI. These results are interesting and suggest that WC and WHR could be important standard anthropometric measures.
that may help to identify patients at risk of cardiovascular disease who might otherwise not receive healthy lifestyle because of normal BMI. A larger study powered to demonstrate these associations and control for confounders is needed.