Relationship Among Waist Girth, Body Mass Index, Total Cholesterol in College-Aged Males

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ACSM risk stratification includes fasting glucose and lipid measures. Assessment of these risk factors often requires specialized equipment that may not be available in all settings. **PURPOSE:** To determine what relationship, if any, exists between waist girth (WG) and body mass index (BMI) in individuals with elevated total cholesterol (tCHO) ≥200 mg/dL. A secondary purpose was to determine if the addition of cholesterol testing to our screening procedures changed risk status in our participants. **METHODS:** A blood sample of 40µL was obtained from the participants' distal phalange using a single use lancet. The sample was placed in a lipid/glucose cassette and analyzed by a commercially available analyzer. BMI was calculated from height and weight collected using standard procedures. WG was measured with a standard tension tape measure. Correlations between variables was assessed with Pearson product moment correlation. **RESULTS:** The males (*N*=666) tested for the study had an average age of 21.92 years. 9.9% of the test subjects (*n*=66) had a tCHO value ≥200 mg/dL. A strong linear correlation was observed between Wg and BMI (r=0.64). No relationship was observed between tCHO and BMI (r=0.16) or WG(r=.23). Among our subjects with elevated cholesterol, tCHO on average was 257mg/dL, WG on average was 37 inches, and a BMI average of 26.25 kg/m^2. **CONCLUSION:** Adding tCHO testing to the screening procedures identifies additional participants not captured by the remaining risk factors. Despite the cost, fasting cholesterol assessments should be performed to get a complete risk factor profile on all college aged subjects.