

Interethnic differences in the accuracy of anthropometric indicators of obesity in screening for high risk of coronary heart disease.

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BACKGROUND: Cut points for defining obesity have been derived from mortality data among Whites from Europe and the United States and their accuracy to screen for high risk of coronary heart disease (CHD) in other ethnic groups has been questioned. **OBJECTIVE:** To compare the accuracy and to define ethnic and gender-specific optimal cut points for body mass index (BMI), waist circumference (WC) and waist-to-hip ratio (WHR) when they are used in screening for high risk of CHD in the Latin-American and the US populations. **METHODS:** We estimated the accuracy and optimal cut points for BMI, WC and WHR to screen for CHD risk in Latin Americans (n=18 976), non-Hispanic Whites (Whites; n=8956), non-Hispanic Blacks (Blacks; n=5205) and Hispanics (n=5803). High risk of CHD was defined as a 10-year risk \geq 20% (Framingham equation). The area under the receiver operator characteristic curve (AUC) and the misclassification-cost term were used to assess accuracy and to identify optimal cut points. **RESULTS:** WHR had the highest AUC in all ethnic groups (from 0.75 to 0.82) and BMI had the lowest (from 0.50 to 0.59). Optimal cut point for BMI was similar across ethnic/gender groups (27 kg/m²). In women, cut points for WC (94 cm) and WHR (0.91) were consistent by ethnicity. In men, cut points for WC and WHR varied significantly with ethnicity: from 91 cm in Latin Americans to 102 cm in Whites, and from 0.94 in Latin Americans to 0.99 in Hispanics, respectively. **CONCLUSION:** WHR is the most accurate anthropometric indicator to screen for high risk of CHD, whereas BMI is almost uninformative. The same BMI cut point should be used in all men and women. Unique cut points for WC and WHR should be used in all women, but ethnic-specific cut points seem warranted among men.

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