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Asian Indians: Large But Not Obese

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Objective: Relative to Europids, Asian Indians appear to have higher rates of type 2 diabetes and cardiovascular disease despite a low prevalence of general obesity defined by BMI. Whether varied fat distribution patterns may underlie these population differences remains to be determined. We propose that the waist circumference to weight ratio (WW) might reflect propensity towards storage of energy as visceral body fat relative to subcutaneous fat, and therefore would be higher in Asians than in U.S. **Methods:** We tested our hypothesis in this ecological study comparing anthropometric data from the CURES (Chennai Urban Rural Epidemiologic Study) survey with those for three U.S. ethnic-racial groups from NHANES III. A total of 15,733 subjects from CURES and 5,975 from NHANES III met the inclusion criteria.

Results: Asian Indian had substantially lower height, weight, waist circumference, hip circumference, waist-hip ratio and BMI relative to U.S. ethnic groups. The mean (\pm se) WW were significantly higher ($p < 0.001$) in AI (men 1.35 ± 0.002 and women 1.45 ± 0.002) than in all the U.S. groups (1.09, 1.21, 1.14 in men and 1.23, 1.33, 1.26 in women of African American, Mexican and Caucasian ethnicity respectively [se ranged from 0.005 to 0.006]).

Conclusions: Differences between Asian Indian and other populations in chronic disease risk may not be explained by differences in traditional anthropometric parameters. It appears that the WW might be a simple anthropometric index capturing population differences in propensity for intraabdominal fat storage, while appearing to sufficiently account for the large confounding influence of overall body size and general adiposity.