

XUR as an indicator of abdominal obesity and cardiovascular disease risk

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Abstract :

Objectives: Abdominal obesity has been described as an independent risk factor for cardiovascular disease (CVD). To compare the ratio between the distance from the lower edge of xiphisternum to the centre of the umbilicus (XU D) to height with other anthropometric measurements in predicting cardiovascular disease (CVD) risk.

Methods: A random sample of 4532 (males 1793, females 2739) nationally representative noninstitutionalized adults aged 18years were included in analyses. XUD, body massIndex (BMI), waist circumference (WC), waist-to-hip ratio (WHR), systolic and diastolic blood pressure, fasting plasma glucose and total cholesterol, high density and low density cholesterol; and triglycerides were measured. Oral glucose tolerance test was also performed. $XUR = XUD/Height$.

Results: XUD had significant correlations with the cardiovascular risk factors analysed as continuous variables ($p < 0.001$). The correlation between BMI, WC and WHR with XUD was significant for both sexes ($p < 0.001$). The area under the curve in the receiver operating characteristic curve analysis for XUR in predicting two or more CVD risk factors was 0.64 (95% CI: 0.62 - 0.65). BMI, WC and WHR obtained higher values 0.71 (0.69 - 0.72), 0.71 (0.70 - 0.73) and 0.67 (0.65 - 0.68) respectively.

Conclusions: The XUR showed significant correlations with the cardiovascular risk factors among Sri Lankan adults. In addition, XUR can be used as an alternative to traditional anthropometric tools. However, XU distance in predicting CVD risk was inferior to BMI, WC and WHR.