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AGE- AND GENDER-SPECIFIC ASSOCIATION BETWEEN METABOLIC SYNDROME COMPONENTS AND SUBCLINICAL ARTERIAL STIFFNESS IN A CHINESE POPULATION

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Objectives Cardiovascular diseases (CVD) are major cause of mortality and morbidity globally. Atherosclerosis, as an underlying cause of most of CVD events, is usually present before clinical manifestation of CVD. Brachial-ankle pulse wave velocity (baPWV) is a measurement interpreted as atherosclerosis. The aim of this study was to analyse the relationship between baPWV, and components of metabolic syndrome (MetS) in different age and gender groups.

Methods We examined 12 900 Chinese adults aged 20–79 years and categorised according to gender and age. All participants underwent examinations, including, waist circumference, blood pressure, baPWV, and blood chemistry. Multiple linear regression analyses were performed to evaluate the relationship between baPWV and these variables as well as to determine the relative influence of each component of MetS.

Results Men showed significant greater baPWV than women in young and middle-aged adults but not in elderly adults. Systolic blood pressure was positively associated with baPWV in most groups, whereas diastolic blood pressure was positively associated with baPWV only in young and middle-aged men and young women, waist circumference had a positive association with baPWV in elderly men and middle-aged women, fasting glucose levels showed a significant association with high baPWV in middle-aged and elderly adults, but high-density lipoprotein was not significantly associated with any groups. All participants with MetS or any component of MetS had higher baPWV levels, with blood pressure being the strongest predictor.

Conclusions The association between baPWV and metabolic variables is age- and gender-specific. Each component of MetS has a distinct impact on the baPWV in individual age- and gender-specific groups. The present results may allow specialists to manage metabolic disorders considering gender and age difference for artery stiffness improvement.