

# Association between self-reported walking speed;and calcaneal stiffness index;in;postmenopausal Japanese women

## Abstract

Background: Osteoporosis and related fractures, a worldwide public health issue of growing concern, is characterized by compromised bone strength and an increased risk of fracture. Here we show an association between self-reported walking speed and bone mass among community-dwelling postmenopausal Japanese women aged 50 years and older. DESIGN; CROSS-SECTIONAL STUDY: Setting and Participants; The survey population included 1008 postmenopausal women 50-92 years of age residing in rural communities.

Methods: Self-reported walking speed was ascertained by asking the participants: "Is your walking speed faster than others of the same age and sex?" to which participants responded "yes (faster)" or "no (moderate/slower)." Calcaneal stiffness index was measured.

Results: Women with a faster self-reported walking speed were younger and had a lower BMI, higher stiffness index, and higher grip strength than women with a slower walking speed. Multiple linear regression analysis adjusted for age, BMI, grip strength, comorbidity, current smoking, and alcohol drinking status showed a significant association between faster self-reported walking speed and higher calcaneal stiffness index ( $p < 0.001$ ).

Conclusions: Our findings suggest that questionnaires of walking speed may be useful for predicting bone mass and that a fast self-reported walking may benefit bone health in postmenopausal women.