

Abstract #: 1300**Associations between self-reported or measured anthropometric variables and cardiometabolic biomarkers in a Danish cohort**

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Background: It is easy and cost-effective to ask study participants to self-report height and weight and self-reported anthropometry is therefore widely used in epidemiological studies. However, it is questioned to what degree self-reported adiposity indices are a solid proxy of measured indices in terms of estimates of health outcomes. The current study aimed to quantify the agreement between self-reported and measured anthropometrics, including height, weight, body mass index (BMI), weight circumference (WC), and weight-to-height ratio (WHtR) in a contemporary cohort of adults, and to assess whether anthropometric indices misreporting yielded inaccurate estimates of associations with cardiometabolic biomarkers.

Methods: Self-reported and measured anthropometric variables were obtained from the Diet, Cancer, and Health-Next Generation Cohort (n = 39,514). Pearson correlations and Lin's concordance correlations evaluated the correlation between self-report and measured anthropometrics. Misreporting in relation to age, sex and smoking status was investigated. Multivariable regression models and ROC analyses were used to assess the associations of cardiometabolic biomarkers with self-reported and measured general obesity and abdominal obesity.

Results: Self-reported height was overreported by 1.07 cm, weight was underreported by 0.32 kg on average, which led to self-reported BMI 0.42 kg/m² lower than measured. Self-reported and measured height, weight, BMI, WC and WHtR were highly correlated (r = 0.98, 0.99, 0.98, 0.88, 0.86, respectively). Associations between self-reported indices and cardiometabolic biomarkers were comparable to associations assessed with measured anthropometrics.

Conclusions: The self-reported anthropometric indices were reliable when estimating associations with metabolic biomarkers.

Key messages: This study found overall agreement between self-reported and measured anthropometric variables.