

# Waistlines are a better measure of obesity than BMI

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If your trousers or skirts seem to be getting tighter you are not alone: almost 40% of men and women are now becoming obese in old age.

The University of Glasgow team, which included Antonis Vlassopoulos, Dr Emilie Combet and Professor Mike Lean, examined data from the Health Survey of England and the Scottish Health Survey comparing the periods of 1994-96 and 2008-10.

Between these two periods, the prevalence of individuals with a BMI greater than 30 – considered 'obese' – increased by 5-15% on average, reaching a peak at age 60-70 with 35-38% being obese in both sexes. This peak prevalence happens five to 10 years later than previously observed in 1994-96 for men, and unchanged for women.

Between the two dates, mean BMI at all ages and for both sexes in England and Scotland increased significantly, as did the prevalence of BMIs above 25 (overweight) and 30 (obese).

Even at a younger age, there was a marked increase in BMI and waist size. In England, in young men aged 18-22, the prevalence of a waist size greater than 102cm (40 inches) more than doubled, from 4.6% to 10.7%. In young women the prevalence of a waist measurement greater than 88cm (34.5 inches) increased from 9.25% to 24.4%.

The prevalence of a BMI greater than 30 doubled in English young men (to 10.7%) and tripled in Scottish young men (to 12.1%). A similar

picture emerged in women, reaching 17.8% in England and 20.1% in Scotland.

The number of people with bigger waistlines also increased over the period, with the percentage of people with a large waist circumference – 102cm/40 inches for men, 88cm/34.5 inches for women – increasing from 30% to 70% at ages 80-85 for men and 65-70 for women.

Waist sizes in Scotland grew considerably more than England, with the prevalence of a large waist circumference growing four-fold to 12.7% in [young men](#), and nearly five-fold in women (to 28.2%).

In 2008-10, the proportion of adults with 'normal' BMI of 18.5-25 fell with age to 15-20% at age 60-70 for men and 75 for women. Even in this group, however, the proportion with unhealthily elevated waist circumference were 30% for men and 55% for women.

Professor Mike Lean said: "People are growing fatter later in life, with waist sizes rising more persistently than BMI which may indicate increased loss of muscle mass in old age".

"Within the 14-year period of this study, we also are seeing more young people entering adult life already obese, and more older people have adverse body composition.

"The continuing rise of waist circumference in older age groups is evidence of continued body fat accumulation and redistribution into older age, which is a major public health concern.

"The proportion of people with a 'normal' BMI (18.5-25) has dropped to only about 15% of UK adults by the age of 65. This rather small proportion now includes unhealthy people who have illnesses that have caused weight loss or prevent weight gain, as well as those who are

genuinely healthy and active. So older people with an apparently 'healthy' BMI are not all healthy."

"The use of BMI alone as a measure for adiposity in this age group may be misleading and using [waist circumference](#) might be better for identifying adverse changes in body composition."

The study, 'Changing distributions of body-size and adiposity with age' is published in the *International Journal of Obesity*.

Provided by University of Glasgow

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