Waist-to-height ratio should be used as a screening tool for early health risks

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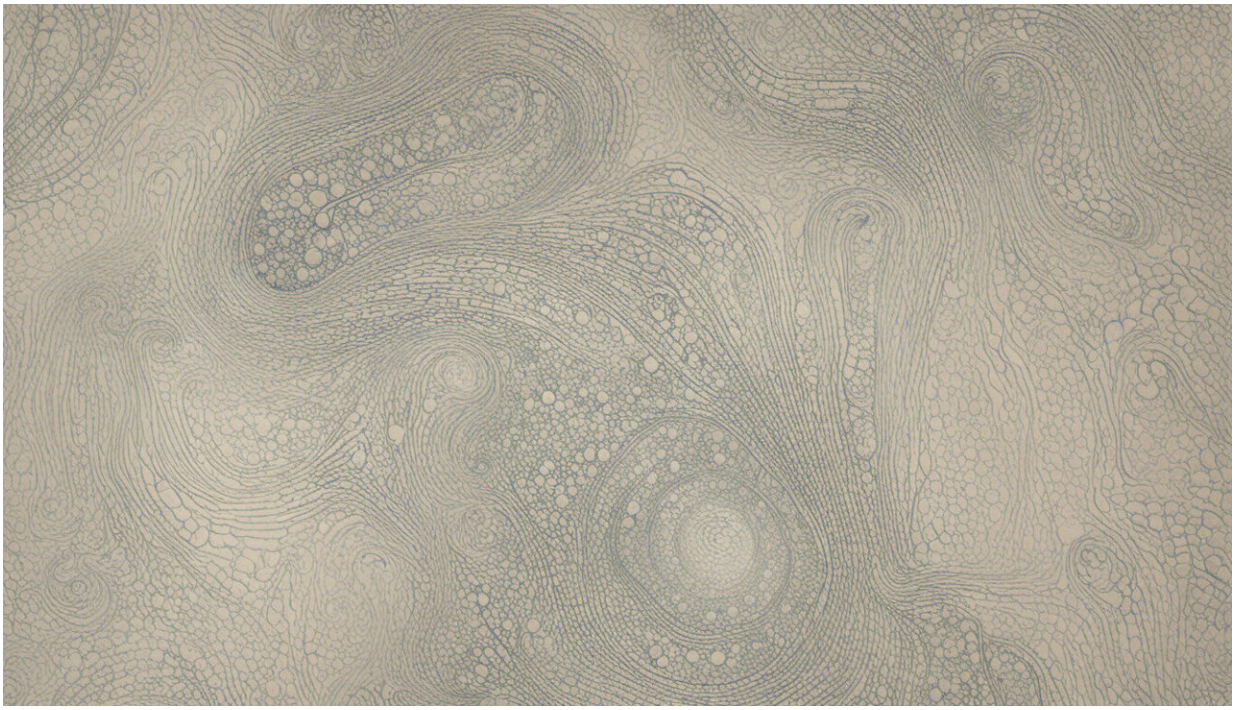

Credit: AI-generated image (disclaimer)

Waist-to-height ratio is a simpler and more predictive indicator of the 'early heath risks' associated with central obesity than the complex 'matrix', based on BMI and waist circumference (WC), currently used by Public Health England (PHE).

Research published today in *BMJ Open* found that 35% of adults judged to be OK using the current PHE 'matrix' were found to have higher levels of some cardio metabolic risk factors when using the waist-to-height ratio (WHtR). These risk factors can be early indicators of health problems including diabetes, heart disease or stroke.

Dr Margaret Ashwell, Senior Visiting Fellow at Cass Business School and her colleague Sigrid Gibson, analysed data from the UK National Diet and Nutrition Survey (NDNS) between the years 2008 to 2012.

They found that using a simple boundary value for WHtR of 0.5 identifies more people at 'early health risk' than the more complex 'matrix' favoured by Public Health England which uses boundary values for Body Mass Index (BMI) and waist circumference (WC).

The PHE 'matrix' only considers people to be at increased risk if they have both a BMI>25 and a high waist circumference. However people of a normal weight with a high waist circumference can still be at risk.

The research showed that adults with a high WHtR (>0.5) had higher levels of some cardio metabolic risk factors, even after adjusting for BMI. In fact 35% of adults judged to be OK by the 'matrix' were at higher risk.

Ashwell and Gibson argue that WHtR may be a simpler and more predictive indicator of the 'early heath risks' associated with central obesity. Dr Ashwell commented:

"WHtR is a simple primary screening risk assessment tool that identifies more people at 'early health risk' than a 'matrix', which uses a combination of BMI and WC. We recommend that the 'matrix' be amended to show that having a high WC even in the 'healthy' range of BMI, carries 'increased' risk. Indeed, we believe that serious

consideration should be given to the use of WHtR to replace the 'matrix' completely."
Measuring WHtR offers a simple approach as only a piece of string is required. The adult's or child's height is measured by the string, the string is then folded in half and if it doesn't fit around their waist, that person's health should be monitored.

A 2014 study by researchers at Cass Business School showed that the years of life that people lose through being obese can be better predicted by measuring waist-to-height ratio (WHtR) than by using the conventional Body Mass Index (BMI).

Based on their research, Professors Ben Rickayzen and Les Mayhew urged policymakers to adopt the measurement - waist circumference divided by height - to replace BMI in primary public health screening.

Commenting on the latest research, they said: "This study provides new evidence that official advice on obesity is fostering complacency when people should be taking more action to watch their waistline".

More information: Margaret Ashwell et al. Waist-to-height ratio as an indicator of 'early health risk': simpler and more predictive than using a 'matrix' based on BMI and waist circumference, *BMJ Open* (2016). DOI: 10.1136/bmjopen-2015-010159

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