

Waist-to-hip ratio has strongest link with all-cause mortality

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Waist-to-hip ratio (WHR) has a strong, consistent association with all-

cause mortality, regardless of body mass index (BMI), according to a study published online Sept. 20 in *JAMA Network Open*.

Irfan Khan, from the David Braley Cardiac, Vascular, and Stroke Research Institute in Hamilton, Ontario, Canada, and colleagues examined which of BMI, fat mass index (FMI), and WHR has the strongest and most consistent association with [mortality](#) in a [cohort study](#) using incident deaths from the U.K. Biobank (UKB; 2006 to 2022). A total of 387,672 UKB participants of British White ancestry were divided into a discovery and validation cohort (337,078 and 50,594, respectively), with the latter including 25,297 deaths and 25,297 controls.

The researchers observed J-shaped associations for measured BMI and FMI with all-cause mortality, while the association of WHR with all-cause mortality was found to be linear using the hazard ratio scale (hazard ratio per [standard deviation](#) [SD] increase of WHR, 1.41). A stronger association was seen for genetically determined WHR with all-cause mortality than for BMI (odds ratio per SD increase of WHR, 1.51; odds ratio per SD increase of BMI, 1.29). Compared with [women](#), men had a stronger association (odds ratio, 1.89). The genetically determined WHR-all-cause mortality association was consistent, regardless of observed BMI, unlike BMI and FMI.

"Our results provide further support to shift public health focus from measures of general adiposity, such as BMI, to adiposity distribution using WHR," the authors write.

Several authors disclosed ties to the biopharmaceutical industry.

More information: Irfan Khan et al, Surrogate Adiposity Markers and Mortality, *JAMA Network Open* (2023). [DOI: 10.1001/jamanetworkopen.2023.34836](#)

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