

# Study finds waist circumference predicts infertility in child-bearing-aged women

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Waist circumference (WC) is a positive predictor of female infertility, independent of body mass index (BMI), according to a study published online Dec. 20 in *PLOS ONE*.

Jierong Ke, from Huizhou Central People's Hospital in China, and colleagues examined the relationship between WC and infertility among

women of child-bearing age. The analysis included 3,239 [female participants](#) (aged 18 to 45 years) participating in the U.S. National Health and Nutrition Examination Survey.

The researchers found that WC was positively associated with [female infertility](#) independent of BMI in an adjusted analysis. For every 1cm increase in [waist circumference](#), the risk for infertility increased by 3 percent. Women in the highest quintile of WC had more than a doubled risk for infertility versus the lowest quintile (odds ratio, 2.64).

There was a nonlinear but positively dose-dependent relationship between WC and female infertility. In participants who had moderate recreational activities, there was an inverted U-shaped relationship (turning point: 113.5cm) between WC and female infertility. In participants who had deficient recreational activities, there was a J-shaped relationship (turning point: 103cm) between WC and female infertility.

"Moderate recreational activities can lower the risk of female infertility associated with abdominal obesity," the authors write.

**More information:** Jierong Ke et al, Association between waist circumference and female infertility in the United States, *PLOS ONE* (2023). [DOI: 10.1371/journal.pone.0295360](https://doi.org/10.1371/journal.pone.0295360)

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