



## Health

# Women may age fastest during their 30s and 50s

A woman may be most likely to give birth in her 30s and go through the menopause in her 50s, with these life events causing hormonal changes that may accelerate ageing

By [Alice Klein](#)

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**▲ The rate at which women age may increase in their 50s if that is when they go through the menopause**

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Women tend to experience accelerated ageing around the ages of 30 and 50, according to a study that analysed a wide range of molecular and physical markers. This may be due to hormonal changes that occur when some women give birth or go through the menopause.

In recent years, there has been growing recognition that ageing doesn't always progress at the same pace and certain factors, such as stress and smoking, [can speed it up](#).

Scientists have developed several ways to gauge the rate of ageing, including measuring the length of [telomeres](#) – pieces of DNA that protect the ends of chromosomes – in cells, analysing facial dimensions and looking at [epigenetic](#) markers – signs of genes being influenced by the environment – on DNA. However, the accuracy of these measures may be limited if they are used on their own, says [Weiqi Zhang](#) at the Beijing Institute of Genomics in China.

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Now, Zhang and her colleagues have conducted the most comprehensive study yet of [ageing](#) in women by combining multiple different measures.

The researchers recruited 113 women aged 20 to 66 who had no known medical conditions and were from Quzhou, a city in south-east China. No transgender people were included in the study.

The researchers collected samples of the volunteers' blood, urine and faeces. They also photographed their faces, asked them about their diet and other lifestyle factors, and took more than 100 clinical measurements, including their height and weight, [blood pressure](#), lung capacity, grip strength and ability to stand on one leg.

Next, they analysed the expression of the participants' genes and proteins, as well as their telomere lengths, facial dimensions, gut [microbiomes](#), hormones, lipids, immune markers and a range of other measures, to establish a composite ageing clock.

Their analysis revealed that the women tended to be biologically “younger” than their chronological age if they had healthy diets that included eating plenty of fruits and grains.

It also found that the participants around the ages of 30 and 50 typically displayed the fastest rate of ageing. These are often the ages that some women give birth or experience the [menopause](#), both of which are associated with hormonal changes, says Zhang. “These results indicate that the pace of female ageing might be, at least partially, regulated by the hormone regulation system.”

Intriguingly, the participants aged 45 and older who were on hormone replacement therapy to treat menopause symptoms seemed to display slower ageing than those who weren't. “Hormone replacement therapy

can alleviate the decline in circulating hormones, potentially slowing the rate of [ageing],” says Zhang.

However, because the study only included a relatively small number of participants, further research is needed to confirm its findings, she says. The team is now planning to conduct a similar study in men to find out if they display different patterns of ageing.

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