Obese women put their unborn children at risk of leading much shorter lives

FAT women wanting to conceive risk shortening the life of their babies by a year-and-a-half for each point over obese they are on the BMI scale, a new study claims.

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Obese women put their unborn children at risk of leading much shorter lives, a new study shows

The Body Mass Index (BMI) is a tool used to calculate a person's ideal weight, with anywhere between 19 and 24 considered normal.

But a new study has found that the higher a mother's BMI, the shorter their baby's telomeres.

Telomeres are structures at the end of chromosomes which are vital in maintaining the stability of a person's genome.

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They protect the chromosomes from degradation and are strongly linked with biological age, with short telomeres correlated with age-related diseases like diabetes, cardiovascular disease and increased mortality.

Until now, research into telomere length in newborn babies was limited, but a team from Hasselt University in Belgium have found a strong link between BMI and telomere length.

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ut a new study has found that the higher a mother's BMI, the shorter their baby's telomeres

Professor Tim Nawrot, the author of the study published in the journal BMC Medicine, said: "Compared with newborns of mothers with a normal BMI, newborns of women with obesity are older on a molecular level, because shortened telomere lengths mean that their cells have shorter lifespans.

**We ruled out many other potential factors**

Dr Dries Martens

"So maintaining a healthy BMI during a woman's reproductive age may promote molecular longevity in the offspring."

Earlier research has shown that people typically lose between 32 and 45 telomere base pairs in each year of adulthood.

The team at Hasselt found that each one-point increase in the mother's BMI prior to pregnancy led to a shortening of the child's telomeres by around 50 base pairs - the equivalent of between 1.1 and 1.6 years of adult life.

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Researchers at Hasselt University, Belgium, have found a strong link between BMI and telomere length

This, the study concluded, increased the child's risk of developing chronic disease in adulthood and ultimately led to them leading a shorter life.

Dr Dries Martens, the co-author of the paper, said: "We ruled out many other potential factors that may be associated with telomere length, including parents' age at birth, socio-economic class, ethnicity, maternal smoking status, newborns' gender or birth weight."

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The study showed that newborns of women with obesity are older on a molecular level

Professor Nawrot said: "Prior to our study, there was no evidence of an association between pre-pregnancy BMI and newborn telomere length, although meta-analyses suggest an association between BMI and telomere length in adults.

"Our results add to the growing body of evidence that high maternal BMI impacts foetal programming, which could lead to altered foetal development and later life diseases."

The researchers took 743 mothers between the ages of 17 and 44 and their newborn babies and looked at their maternal and paternal age, socioeconomic status, smoking status and ethnicity.

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