

The shorter the mother, the higher the odds of having a premature baby: study

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Photo by Bianca de Blok.

Short mothers are twice as likely to have a baby born premature than tall mothers, according to a new international study.

The odds of having a premature baby rises as the mother's height decreases, the researchers found. Among short [mothers](#) (155 cm tall or shorter), 9.4 percent of babies were born premature (at less than 37 weeks of gestation), and 1.1 percent very premature (less than 32 weeks of gestation).

For tall mothers (179 cm or taller), these figures were 4.7 percent and

0.5 percent respectively.

This is the latest of a series of studies by collaborators from the Liggins Institute, based at the University of Auckland, and Uppsala University. The researchers have analysed a rich body of data on Swedish women to better understand the long-term effects of early life events occurring before, during, and after pregnancy.

For this study, the researchers examined data collected between 1991 and 2009 on more than 192,000 Swedish women aged over 18 years. These latest findings add to an international body of evidence linking mothers' height to [premature birth](#) risk.

Premature birth is a major cause of newborn death worldwide, and is linked to serious health problems in the short and long terms. In New Zealand in 2014, 4421 (7.4 percent) of babies were born premature, including 748 (1.3 percent) at less than 32 weeks of gestation.

"Around half of all premature births are 'spontaneous', apparently with complex and often unknown causes," said study lead Dr José Derraik.

"But many studies worldwide have shown that maternal height may play a role. What complicates the picture is that there are probably a number of factors involved, such as the mother's ethnicity and their level of affluence."

In this study, all women were of Nordic ethnicity and came from a population of relatively even levels of affluence.

"Researchers don't know exactly what's behind this association between the mothers' height and spontaneous premature birth," said Dr Derraik.

"But evidence from other studies suggests it could be anatomical

constraints. Short mothers tend to have less space for the babies to grow before birth, and this seems to lead to [premature delivery](#) in some women."

"Based on the mounting evidence," he added, "maternal height is one of the factors that needs to be considered when evaluating a woman's risk of delivering a [premature baby](#)."

The study is published in the journal *PLOS ONE*.

Key Points:

- Main findings: Short mothers (155 cm tall or shorter) are twice as likely to have a baby born premature - at less than 37 weeks of gestation - than tall mothers (179 cm or taller)
- Among short mothers, 9.4 percent of babies were born premature and 1.1 percent very premature - less than 32 weeks of gestation
- For tall mothers, these figures were 4.7 percent and 0.5 percent
- Adds to a body of evidence suggesting the shorter the mother, the higher the odds of giving birth early
- One reason may be because shorter women have smaller pelvises
- This study by researchers at the Liggins Institute at University of Auckland and Sweden's Uppsala University - Study lead is Dr José Derraik at the Liggins Institute

More information: José G. B. Derraik et al. Maternal Height and Preterm Birth: A Study on 192,432 Swedish Women, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0154304](https://doi.org/10.1371/journal.pone.0154304)

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