

Healthy diet in pregnancy significantly reduces risk of having a small baby

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A healthy diet in pregnancy significantly lowers the risk of giving birth to a small baby, finds a new study carried out in South Wales.

Professor Ros John, from Cardiff University's School of Biosciences,

who led the study, said: "Our findings suggest that by focusing support on encouraging healthier eating habits in identified areas of Wales, we could reduce the occurrence of lower [birth](#) weight babies and the associated [health complications](#), helping to improve future outcomes for infants and their mothers."

The first of its kind in Wales, and one of the first to use fully customised birth weight centiles, the new study offers a more accurate picture of infant birth weight, taking into account factors that may affect growth, such as maternal height, weight, ethnicity, gestational age and foetal sex.

Recent statistics indicate that almost 7 percent of infants born in Wales are classified as having a [low birth weight](#), with significant variations seen across health boards. These babies are at increased risk of newborn morbidity and mortality, adverse neurocognitive outcomes, and later-life health complications such as heart disease, stroke and diabetes. Mothers who deliver a lower birth weight baby also have an increased future risk of cardiovascular disease.

Using customised birth weight centiles, babies can be classified as 'small for gestational age', 'average for gestational age' or 'large for gestational age.'

"To understand the impact of maternal diet on birth weight, we asked over 300 [pregnant women](#) in South Wales to complete a food frequency questionnaire the morning prior to an elective caesarean section," explained Professor John.

"We then analysed these responses alongside additional data on birth and pregnancy outcomes extracted from the participants' medical notes.

"We discovered that those mothers who followed a 'health conscious' dietary pattern were significantly less likely to deliver a small-for-

gestational-age baby."

The paper 'The Grown in Wales Study: Examining dietary patterns, custom birthweight centiles and the risk of delivering a small-for-gestational age (SGA) infant' was published in PLOS ONE.

More information: Samantha M. Garay et al. The Grown in Wales Study: Examining dietary patterns, custom birthweight centiles and the risk of delivering a small-for-gestational age (SGA) infant, *PLOS ONE* (2019). [DOI: 10.1371/journal.pone.0213412](https://doi.org/10.1371/journal.pone.0213412)

Provided by Cardiff University

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