

Pregnant women with high/low BMI are at higher risk of complications and hospital admissions

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Pregnant women with a body mass index (BMI) that is too high or too low are more likely to have maternal complications, require additional hospital care and incur higher medical costs, according to a new study published today (18 September) in *BJOG: An International Journal of Obstetrics and Gynaecology*.

The study was carried out in collaboration between researchers at the Universities of Edinburgh and Aberdeen, and the Information Services Division of NHS Scotland. It used routine obstetric records in Scotland, between 2003-2010, to investigate the impact of pregnant women's BMI on clinical complications, the number and duration of [hospital admissions](#) and short-term [healthcare costs](#) to the NHS.

The 109,592 pregnant women examined in the study were classed in five BMI categories, underweight (BMI < 18.5).

Data from the analysis showed that the risk of [maternal complications](#) increased with BMI and, when compared to normal weight women, severely obese women had a three-fold increased risk of hypertension (2.6% vs 7.8%) and gestational diabetes (0.1% vs 3%).

Furthermore, when compared to normal weight women, all other weight categories showed an increase in the duration and number of maternal hospital admissions required after the birth. Underweight women had an

8% increased risk for admission, while overweight, obese and severely obese women's risk grew substantially more, 16%, 45% and 88% respectively.

The additional maternity costs, for women with high or low BMI, were also higher when compared to the standard [maternal health](#) service cost for women of normal weight. The estimated additional cost for underweight women was £102.3, [overweight women](#) £59.9, obese women £202.5 and severely obese women £350.8.

Dr Fiona Denison, Tommy's Centre for Maternal and Fetal Health, MRC Centre for Reproductive Health, Queens's Medical Research Institute Edinburgh and co-author of the paper, said:

"Our data demonstrates that both high and low maternal BMI are associated with increased risk of complications during pregnancy, increased numbers and duration of maternal admissions and higher health service costs.

"These findings further highlight the need for local and national government in Scotland, and other developed countries, to implement fundamental strategies that will help reduce the prevalence of obesity.

"Longer term benefits of reducing maternal obesity will show improvements, not only in the health outcomes of mothers and their babies, but the workload and cost to current maternity services."

Mike Marsh, *BJOG* deputy editor-in-chief, added:

"We know that maternal obesity is a major cause of ill health in pregnancy in the UK, significantly increasing the risk of adverse medical outcomes such as [gestational diabetes](#), hypertensive disorders and admissions for specialist care.

"This study confirms these risks and in addition highlights the financial burden to the NHS of obesity in pregnancy.

"It is vital that women understand the importance of maintaining a healthy weight prior to conception to reduce the risk of future pregnancy complications, the need for specialist care and the resulting cost to the NHS."

More information: [dx.doi.org/10.1111/1471-0528.12442](https://doi.org/10.1111/1471-0528.12442)

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