

Father's weight is just as relevant as the mother's in determining a child's risk of obesity

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It's not only women who should be concerned about the impact of their weight on their children's health. A*STAR researchers have identified a set of factors, including the father's weight, that combine to increase a child's risk of obesity by up to 11-fold.

The period between conception and a child's second birthday is crucial in determining his or her future risk of obesity. Previous studies have identified several factors that can boost obesity risk during this window, but most only considered them in isolation. "Few studies have looked at how risk factors combine to influence a child's risk of obesity, which is important because many of them are interlinked," says Izzuddin Bin Mohd Aris of the A*STAR Singapore Institute for Clinical Sciences. For example, if the mother is overweight, she's more likely to have higher blood sugar levels during [pregnancy](#), which in turn could cause the fetus to gain more [weight](#).

To investigate these relationships in more detail, Aris and his colleagues assessed 1,247 women during pregnancy, and when their children were four years old, scoring them against the following criteria: mother overweight/obese; father overweight/obese; [excessive weight gain](#) during pregnancy; raised blood glucose during pregnancy; breastfeeding for less than four months; and introducing [solid food](#) before four months. They also looked at how the child's size at four years related to this combined score.

The team found that the more risk factors a family had, the more likely their child was to be overweight or obese. Surprisingly, the weights of both parents made an equal contribution. "If either the mum or the dad was overweight, the contribution was similar, but if both parents were overweight, the probability of the child being overweight doubled," says Aris. Compared to children whose families had no risk factors, those with four or more risk factors were 11 times more likely to be overweight. Parents' weight made the greatest contribution to a [child's](#) obesity risk, followed by pregnancy weight gain, breastfeeding duration, timing of solid food introduction, and maternal glucose levels.

The researchers note that while fathers could be transmitting genetic, or epigenetic factors that influence [obesity risk](#), their weight could also be a more general indicator of family diet and exercise levels.

"The most important thing is that all these [risk factors](#) are modifiable," says Aris. "Targeting only one of them will have a limited impact, but if we can target them in tandem then we should be able to reduce the risk of [obesity](#) even further." Advice and support could also be directed at families where many of these factors are present.

More information: I M Aris et al. Modifiable risk factors in the first 1000 days for subsequent risk of childhood overweight in an Asian cohort: significance of parental overweight status, *International Journal of Obesity* (2017). [DOI: 10.1038/ijo.2017.178](https://doi.org/10.1038/ijo.2017.178)

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