

Night eating, lower diet quality during pregnancy associated with greater weight gain and retention

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A study led by researchers from KK Women's and Children's Hospital (KKH) has found evidence that pregnant women who consume more of

their daily food intake after 7:00 PM, and who consume lower quality diets during pregnancy, are more than three times more likely to experience postpartum weight retention of five kilogrammes or more 18 months after giving birth.

The study was published in the journal, *Nutrients* in November 2019 and drew data from a large scale birth cohort study, GUSTO (Growing Up in Singapore Towards healthy Outcomes).

Lead Author of the study, Dr. Loy See Ling, Research Fellow, Department of Reproductive Medicine, KKH, said, "Our research, based on multi-ethnic Asian women, shows that although predominantly night eating and lower [diet](#) quality have been independently linked with [weight gain](#), practising night eating along with low diet quality demonstrated the greatest likelihood of substantial postpartum weight gain and [retention](#) even after 18 months."

There is evidence to show that retaining more weight after the first year of giving birth is associated with higher body mass index even at 15 years postpartum. Weight retention after childbearing also appears to be more harmful than [weight gain](#) in other stages of life as the retained body fat is typically deposited in the abdomen (visceral fat) rather than in other parts of the body. This phenomenon has a profound effect not only on the mother's lifelong health, including metabolic and cardiovascular disease consequences, but also on subsequent pregnancies and the future health of her child.

Overall, 16 per cent of the 687 [pregnant women](#) involved in the study gained and retained five kilogrammes or more at 18 months after giving birth. It was also found that a stronger likelihood of postpartum weight retention was observed when predominantly night eating was practised together with a higher diet quality, whereas those practising predominantly day eating with lower diet quality showed a weaker

association with postpartum weight retention. However, this finding needs further investigation and confirmation due to the modest number of women within the group of night eating with higher diet quality.

Co-author of the study, Associate Professor Fabian Yap, Head and Senior Consultant, Endocrinology Service, Department of Paediatrics, KKH, suggests that night eating may be potentially more damaging than lower diet quality in contributing to substantial postpartum weight retention. "Our body systems have evolved to metabolise food during the day and rest during the night. Hence, consuming more calories at night than day mismatches our body's natural body time clock by disrupting the metabolic rhythm in various organs such as the liver, stomach, pancreas, fat tissue, and resulting in disruption of energy metabolism. The consumption of more calories at night is also closely linked with a later bedtime and hence, associated with overweight and obesity."

In view of the study's results, Associate Professor Fabian Yap and Dr. Loy See Ling recommend that pregnant women adopt the following interventions during their pregnancy to ensure an adequate nutrient supply for both mother and baby as well as to prevent undesirable weightgain and retention after birth:

- Adopt good diet during pregnancy. Eat more whole grains, fruits, vegetables and low-fat dairy products. Cut down on fatty, salty and sugary foods.
- Change meal times to earlier in the day or have lighter foods at night. Eat meals at regular times of the day.

More information: See Ling Loy et al, Associations of Circadian Eating Pattern and Diet Quality with Substantial Postpartum Weight Retention, *Nutrients* (2019). [DOI: 10.3390/nu11112686](https://doi.org/10.3390/nu11112686)

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