

Brief sleep intervention works long-term to prevent child obesity

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When it comes to obesity prevention, sleep is not usually something that springs to mind, but a University of Otago research team has found we should not underestimate its importance.

Professor Rachael Taylor, Director of the Edgar Diabetes and Obesity Research Centre and co-leader of the team, says one in three New Zealand children is overweight or obese by the time they start school.

Treating [obesity](#) once established is challenging, however, in a study published in *The American Journal of Clinical Nutrition*, and funded by the Health Research Council of New Zealand, researchers found a sleep [intervention](#) in infancy reduced the risk of obesity for participants later in childhood.

"Sleep is a very important behaviour that we need to consider. In terms of maintaining a healthy weight, sleep usually isn't the first behaviour that comes to mind—for parents or health practitioners—yet the research is actually very clear," she says.

"The relationship between not getting enough sleep and being at higher risk of obesity is actually stronger than the evidence base for nutrition or activity, where the findings are often more mixed."

The researchers studied more than 800 babies, dividing their mothers into four groups, three of which received intervention in addition to the standard Well Child/Tamariki Ora care: sleep; promotion of breastfeeding, healthy eating and physical activity; and a combination of both.

For the sleep intervention, while pregnant, mothers and their partners were invited to a group discussion based on what to expect, sleep-wise, with their baby in the first few months and how to prevent [sleep problems](#).

When the infants were about three weeks old they were visited at home to see how sleep was going. The researchers talked to parents about assisting their child with sleep by learning to recognise signals from the

baby that they were tired, and then encouraging baby to settle themselves to sleep. If a sleep problem developed, expert support was immediately available until infants were two years old. About a quarter of parents took up this support.

For the nutrition and activity intervention, mothers had access to a lactation consultant at least two times during the first few months of feeding, researchers visited them to discuss how to eat healthily as a family, and Sport Otago ran group sessions for parents and babies about being physically active as a family.

Researchers found the brief sleep intervention reduced the risk of obesity years later, while no benefit was observed with the nutrition and activity intervention.

"For those children who received the sleep intervention we found that at two years of age they had about half the risk of obesity compared with children who had not received the sleep intervention," Professor Taylor says.

"But more importantly, these benefits were still apparent at five years of age, despite no intervention having had occurred for three years.

"As any parent knows, getting enough good quality sleep keeps a child happy, behaving well and enjoying life. However, it also helps them do well at school, their diets are better, and they tend to be more active—all factors that help us be healthy."

Professor Barry Taylor, Dean of the Dunedin School of Medicine and study co-lead, describes the results as "amazing" and the long-term benefits, despite no ongoing contact, as "almost unheard of" for obesity interventions.

He also runs a special clinic for very overweight children and says it is important for children to have a regular sleep routine. Children should go to bed at a time that gives them enough sleep so that they are not tired the next day, and screen-time should be avoided for at least 30 minutes before going to bed, as well as in bed.

Health Research Council Chief Executive Professor Kathryn McPherson says the study findings are of real interest and have a very practical application.

"It can seem, and be, difficult for [children](#) to go to sleep without external aids but, this programme shows that even very young infants can learn to do so relatively quickly—and that combined with a few other strategies, it works not just for better sleep but for better health."

The research team believes a more intensive or extended sleep intervention may have larger or longer-lasting effects and further study is planned.

More information: Rachael W Taylor et al, Sleep, nutrition, and physical activity interventions to prevent obesity in infancy: follow-up of the Prevention of Overweight in Infancy (POI) randomized controlled trial at ages 3.5 and 5 y, *The American Journal of Clinical Nutrition* (2018). [DOI: 10.1093/ajcn/nqy090](https://doi.org/10.1093/ajcn/nqy090)

Provided by University of Otago

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