

Main publications

1. Wen LM, Baur LA, Rissel C, Wardle K, Alperstein G, Simpson JM. Early intervention of multiple home visits to prevent childhood obesity in a disadvantaged population: a home-based randomised controlled trial (Healthy Beginnings Trial). *BMC Public Health* 2007; 7:76
2. Wen LM, Baur LA, Simpson JM, Rissel C, Wardle K, Flood VM. Effectiveness of a home-based early intervention on children's BMI at age two years: randomised controlled trial. *BMJ* 2012;344:e3732
3. Wen LM, Baur LA, Simpson JM, Rissel C, Flood VM. Effectiveness of an early intervention on infant feeding practices and "tummy time": randomized controlled trial. *Arch Pediatr Adolesc Med.*2011;165:701-707
4. Hayes A, Lung T, Wen LM, Baur L, Rissel C, Howard K. Economic evaluation of "healthy beginnings" an early childhood intervention to prevent obesity. *Obesity (Silver Spring)*. 2014 Mar18
5. Wen, L., Baur, L., Rissel, C., Xu, H., Simpson, J. (2014). Correlates of body mass index and overweight and obesity of children aged 2 years: Findings from the healthy beginnings trial. *Obesity*, 22(7), 1723-1730

Trial registration

The Healthy Beginnings Trial is registered with the Australian Clinical Trial Registry (ACTRN012607000168459)

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For further information please contact
Associate Professor Li Ming Wen: lmwen@email.cs.nsw.gov.au

Healthy Beginnings



A Healthy Beginning to prevent childhood overweight and obesity in south west Sydney

Authors

Li Ming Wen, Louise A Baur, Judy M Simpson,
Chris Rissel, Karen Wardle, and Victoria M Flood
on behalf of HBT team,
Health Promotion Service,
Sydney & South Western Sydney Local Health Districts
School of Public Health, University of Sydney,
Discipline of Paediatrics & Child Health,
Sydney Medical School, University of Sydney

What we already know

- A significant proportion of children are already overweight or obese at age two years, which could have adverse effects on later health.
- Early infant feeding practices and sedentary behaviours are important contributing factors associated with early onset of childhood obesity.
- There is little high quality intervention research addressing infant feeding practices and sedentary behaviours for obesity prevention in the first two years of life.

What this study adds

- This study is a randomised controlled trial to test the effectiveness of a childhood obesity prevention program.
- A home-based early intervention delivered by trained community nurses is effective in reducing mean BMI for children aged two years.

This issue

Childhood obesity is a serious public health challenge. Worldwide, 43 million preschool-aged children were overweight or obese with a prevalence of 6.7% in 2010. In Australia, about one in five children aged 2-3 years is overweight or obese. There is accumulating evidence that excess weight and fast weight gain in early childhood are related to overweight later in life. It has been argued that efforts to prevent childhood obesity should begin in the early years, and even before birth.

What we did

The Healthy Beginnings Trial developed by Dr Li Ming Wen, Professors Louise Baur and Chris Rissel, and the Healthy Beginnings team is a world first randomised controlled trial evaluating the effectiveness of an early obesity prevention program.

The trial funded by NHMRC (ID number: 393112 and 1003780) and conducted in south west Sydney, used a unique Healthy Beginnings Program delivered by nurses to 667 first-time mothers in their home during the first two years of their child's life to help tackle childhood obesity.

The program consisted of eight home visits from specially trained community nurses delivering a staged home-based intervention, one in the antenatal period, and seven at 1, 3, 5, 9, 12, 18 and 24 months after birth. Timing of the visits were designed to coincide with early childhood developmental milestones (see Table 1).

The effectiveness of the intervention was evaluated using a parallel randomised controlled trial with blinded outcome assessment.

We also developed a Healthy Beginnings website for community and health professionals to use freely <http://www.healthybeginnings.net.au/>

Table 1: Stage and focus of the intervention

Time of visit	1 month	3 months	5 months	9 months	12 months	15 months	24 months
Main issues to be addressed							
Breastfeeding and/or formula	+++	+++	+	+			
Introduction of solids		++	++				
Food texture and serving size			+	++	++	++	++
Bottle vs cup feeding			+	++	++	+	+
Introduction of cow's milk			+	++	++	+	
Consumption of 'extra' foods			+	++	+++	+++	+++
Healthy food choices (no food rewards)			+	++	++	++	++
Family and social support	+	+	+	+	+	+++	+++
Physical activity/Activeplay	+	+	+	+	+	++	+
Sedentary behaviours e.g. TV			+	++	++	+++	+++

Key intervention messages

- Breast is best
- No solids for me until 6 months
- I eat a variety of fruit and vegetables every day
- Only water in my cup
- I am part of an active family
- TV away let's go play

What we found

The Healthy Beginnings Program led to:

- Significantly higher median duration of breastfeeding by 4 weeks at 12 months
- 12% reduction in the proportion of children having solids before 6 months
- 7% increase in the proportion of children having >1 serve a day of vegetables
- 8% reduction in the proportion of children watching TV for >60 mins a day
- Improved mothers' behavioural risk factors for childhood obesity.

More importantly, a mean BMI reduction by 0.38 kg/m² at 2 years

The implications

The early onset of childhood overweight and obesity would require health promotion intervention programs to commence as early as possible and to be family-focused. A home-based, staged intervention of multiple home visits to address the risk factors for childhood obesity can be effective in improving children's weight status and risk factors.