



Enough is Enough — Obesity and Formula Feeding

In a society built on the premise that more is better, it is becoming increasingly difficult to gain acceptance for the idea that enough is enough. Upsizing our fries, our burgers, our cars and our homes is somehow considered to be a good thing. But when we look at the end result of our unrestricted consumerism, nothing could be further from the truth. The energy and resources needed to fund our excesses are destroying the planet. And the excess calories that we consume are destroying our health.

According to Statistics Canada, 47.9 per cent of Canadians were obese in 1998, and that number continues to rise.¹ The cost of all of this excess was estimated to be more than \$ 1.8 billion, or about 2.4 per cent of our national health care budget.² The US Centers for Disease Control and Prevention report that obesity is rapidly overtaking smoking as that country's number one killer. In fact, obesity is becoming such a problem that many experts now say it is compromising all the benefits of recent improvements in health care and medical breakthroughs. Clearly, bigger is not necessarily better. As health care resources dwindle and waistlines expand, the question becomes: How did we get here?

Perhaps the best place to start is at the beginning. Humans are not born fat, nor is breastmilk, the first food that is naturally provided for them, designed to make them overweight. Formula, on the other hand, is loaded with chemicals, additives, flavour enhancers and fillers in a vain attempt to reproduce a product that's "...closer than ever to breastmilk."

With formula feeding, portions are determined by manufacturers' instructions. Babies are encouraged to finish up their bottles, and rewarded with maternal smiles when they do.

For breastfed babies, dinner is a custom-made affair with the menu varying from day to day as baby's needs and mother's diet changes. At the breast, there is no need or desire to finish up. In a perfect example of supply and demand, baby takes what he or she needs and mother's breast refills accordingly. But rather than celebrating this delightful balance, mothers

At the breast, there is no need or desire to finish up. In a perfect example of supply and demand, baby takes what he or she needs and mother's breast refills accordingly.

often question if baby is getting enough. And if weight gain is the judgement criteria, when compared with the formula fed baby, who has different growth patterns, the answer appears to be no.

As baby grows, so do the health risks associated with excess weight. Formula fed babies are more likely to become obese later in life. Obese older children and adults are at higher risk for many diseases including increased risk of: heart disease, hypertension, stroke, diabetes, gallbladder disease and sudden death.

Furthermore, given the growing number of scientific studies demonstrating the increased risk of obesity and overweight in formula fed babies³⁻¹⁵, the protection and promotion of breastfeeding must be seen as a serious preventative¹⁶ measure and solution to the obesity crisis.



Some interesting suggestions¹³ have been put forward on how breastfeeding protects against obesity.

1. Breastfeeding could be part of a choice system running through families that counters poor food choices. Formula feeding may be seen as the start of a lifestyle of consuming commercially processed foods higher in sugar, fat and nutritionally reduced.
2. There are substances in breastmilk that regulate the neuro-hormonal system controlling food intake. It is known that there are long-term differences between those breast and formula fed during infancy in the responses of gut endocrines to a meal.
3. Breastfed infants are able to regulate their food intake according to their growth and developmental needs and they control the amount of breastmilk produced by their mother. Thus for the breastfed infant the point of satiety is determined by internal physiology rather than by external cues, which are mostly quantitative, as is the case for the artificially fed infant.



References

- 1: Statistics Canada
- 2: C. L. Birmingham, J. L. Muller, A. Palepu, J. J. Spinelli and A. H. Anis, **The cost of obesity in Canada**, Canadian Medical Association Journal, Vol 160, Issue 4 483-488
- 3: Kramer MS. **Do breastfeeding and delayed introduction of solid foods protect against subsequent obesity?** *J Pediatr* 1981; 98:883-7
- 4: von Kries R, Koletzko B, Sauerwald T, von Mutius E, Barnert D, Grunert V, von Voss H. **Breastfeeding and obesity: cross sectional study.** *Br Med J* 1999;319:147-50
- 5: Gillman MW, Rifas-Shiman SL, Camargo CA, Berkey CS, Frazier AL Rockett HRH, et al. **Risk of overweight among adolescents who were breastfed as infants.** *J Am Med Assoc* 2001;285:2461-7
- 6: Dietz WH. **Breastfeeding may prevent childhood overweight.** *J Am Med Assoc* 2001;285:2506-7 (editorial)
- 7: Liese AD, Hirsch T, von Mutius E, Keil U, Leupold W, Weiland SK. **Inverse association of overweight and breastfeeding in 9- to 10-year-old children in Germany.** *Int J Obesity* 2001;25:1644-50
- 8: Locke R. **Preventing obesity: the breastmilk-leptin connection.** *Acta Paediatr* 2002;91:891-6
- 9: Armstrong J, Reilly JJ, and the Child Health Information Team. **Breastfeeding and lowering the risk of childhood obesity.** *Lancet* 2002;359:2003-4
- 10: Toschke AM, Vignerova J, Lhotska L, Osancova K, Koletzko B, von Kries R. **Overweight and obesity in 6 to 14 year old Czech children in 1991: protective effect of breastfeeding.** *J Pediatr* 2002;141:764-9
- 11: Gillman MW. **Breastfeeding and obesity.** *J Pediatr* 2002;141:749-50 (editorial)
- 12: Savino F, Costamagna M, Prino A, Oggero R, Silvestro L. **Leptin levels in breastfed and formula-fed infants.** *Acta Paediatr* 2002;91:897-902
- 13: Bergmann KE, Bermann RL, von Kries R, Böhm O, Richter R, Dudenhausen JW, Wahn U. **Early determinants of childhood overweight and adiposity in a birth cohort study: role of breastfeeding.** *Int J Obesity* 2003;27:162-72
- 14: Frye C, Heinrich J. **Trends and predictors of overweight and obesity in East German children.** *Int J Obesity* 2003;27:963-9
- 15: Grummer-Strawn LM, Mei Z. **Does breastfeeding protect against pediatric overweight? Analysis of longitudinal data from the centers for disease control and prevention pediatric nutrition surveillance system.** *Pediatrics* 2004;113:e81 (go to www.pediatric.org/cgi/content/full/113/2/e81)
- 16: Whitaker RC. **Obesity prevention in pediatric primary care. Four Behaviors to target.** *Arch Pediatr Adolesc Med* 2003;157:725-7 (editorial)