

INFANT FEEDING AND OBESITY

Scientific evidence indicates that breastfeeding provides an ideal window of opportunity for obesity prevention and may help in the development of taste receptors and appetite control

BREASTFEEDING IS ESSENTIAL FOR THE NORMAL DEVELOPMENT OF INFANTS AND YOUNG CHILDREN

As a public health measure, the **World Health Assembly (WHA)** recommends that infants should be exclusively breastfed for the first six months of life, followed by continued breastfeeding alongside nutritionally adequate and safe complementary foods for up to two years or beyond.

The **International Code of Marketing of Breast-milk Substitutes** and subsequent WHA Resolutions (*The International Code*) and the **Global Strategy for Infant and Young Child Feeding** aim to protect and support optimal infant and young child feeding practices. They call for a ban of the commercial promotion (not the sale) of baby milks,

other breastmilk substitutes, bottles and teats to the general public. WHA 2010 also called for an end to the inappropriate promotion of all baby foods. The WHA Resolutions protect parents' rights to information that is free from commercial influence, requiring governments to avoid conflicts of interest in infant and young child health programmes.¹

In 2010 the WHA also adopted an action plan to address noncommunicable diseases such as heart disease, diabetes and cancer which are linked to malnutrition, formula feeding and inappropriate young child feeding. The recommendations call for restrictions on the marketing of 'junk' foods to children, including in schools.



THE SEVEN-YEAR MULTICENTRE GROWTH REFERENCE STUDY CARRIED OUT BY WHO SHOWS THAT BABIES EXCLUSIVELY BREASTFED FOR SIX MONTHS ARE LEANER THAN FORMULA-FED BABIES.³



FORMULA-FED INFANTS CONSUME MORE MILK AND GAIN WEIGHT MORE RAPIDLY THAN BREASTFED INFANTS AND MAY RECEIVE AN OVERSUPPLY OF ENERGY OF 72-151 DAILY KCAL,² EQUIVALENT TO 70-145 CHOCOLATE BARS BY 8 MONTHS.

FORMULA MILK & OBESITY - HYPOTHESES:^{4,5,6,7}

DECREASED ABILITY TO SELF-REGULATE MILK INTAKE Formula-fed infants develop poorer control of their milk intake than breastfed infants.

EARLY PROTEIN HYPOTHESES The higher protein content of infant formulae compared to human milk (80% to 55% higher), leads to higher body weight and Body Mass Index (BMI) at age two.

LACK OF BIOACTIVE FACTORS IN FORMULA MILK Formula feeding is associated with lower levels of the appetite-regulating hormone leptin.

ABSENCE OF VARIABILITY IN FORMULA MILK NUTRITION Formula-fed infants are not exposed to the changes in the content, taste and smell that breastfed infants experience, so may be programmed to narrower food selections and dietary habits in later life.

FEEDING BEHAVIOUR AND MOTHER-CHILD INTERACTIONS Formula-fed babies show a different sucking pattern, a lower frequency of meals and longer time intervals between meals than typically found in breastfed infants.

SOME OF THE STUDIES WHICH INDICATE THAT BREASTFEEDING IS IMPORTANT IN OBESITY PREVENTION

WHO'S EVIDENCE ON THE LONG-TERM EFFECTS OF BREASTFEEDING: SYSTEMATIC REVIEWS AND META-ANALYSES⁸

Evidence suggests that breastfeeding may have a protective effect on the prevalence of obesity even when confounding factors are taken into account. The effect seems greater against obesity than overweight.

EARLY-LIFE DETERMINANTS OF OVERWEIGHT AND OBESITY: A REVIEW OF SYSTEMATIC REVIEWS⁹

Breastfeeding appears to protect against later overweight and obesity. While the association may be weak, acting on small attributable but highly prevalent risks, such as high formula feeding rates, can have large effects on outcomes in populations.

THE 2010 WHITE HOUSE TASK FORCE ON CHILDHOOD OBESITY REPORT TO THE PRESIDENT includes breastfeeding support as a key strategy:

"Children who are breastfed are at reduced risk of obesity...the likelihood of obesity is 22% lower among children who were breastfed. The strongest effects were observed among adolescents, meaning that the obesity-reducing benefits of breastfeeding extend many years into a child's life...the risk of becoming overweight was reduced by 4% for each month of breastfeeding. This effect plateaued after nine months of breastfeeding."

Observational studies can always be questioned because of confounding factors. However, when all the available evidence from these studies is taken into account, policy makers consider formula milk feeding to be an important determinant of later obesity. The only evidence from a controlled study showing no association between formula feeding and later obesity was not designed to measure this effect.¹⁰

- 1 WHA Resolutions 49.15, 58.32, 61.20, 63.24
- 2 Pandelova ME et al. Int J Food Sci Nutr 2009;60(S5):212-9
- 3 de Onis M et al. J Nutr 2007;137:144-8
- 4 Li R et al. Pediatrics 2010;125:e1386-e1393
- 5 Koletzko B et al. Am J Clin Nutr 2009;89(suppl):1S-7S
- 6 Singhal A et al. Obesity Reviews 2007;8(Suppl.1):51-4
- 7 Dewey K et al. J Hum Lact 2003;19:9-18
- 8 Horta B et al. WHO 2007
- 9 Monasta L et al. Obesity Reviews 2010;11:695-708
- 10 Kramer et al. Am J Clin Nutr 2007;86:1717-21

