Relationships between paediatricians and infant milk formula companies

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Breast is best but not always an option, and safe alternatives can only be produced through collaboration between paediatricians and formula manufacturers

Breast feeding is part of a continuum of nourishing the newborn from the womb to weaning. WHO recommend that mothers breast feed their babies for at least six months. Thereafter foods other than mother's milk need to be introduced and complementary feeding may include cow's milk or formula. Some babies born preterm or with specific diseases and surgical problems require special feeds from birth, particularly when expressed breast milk is not available. Some mothers choose not to feed their babies on the breast, and for them safe breast milk substitutes are available.

It would be nice to think that there was no need for artificial feeds, that all mothers would bear healthy babies who would be successfully breast fed and safely weaned on to complementary foods. But we do not live in an ideal world. We live in a complex and changing world, which includes choice, chance, and stark contrasts between rich and poor. Malnutrition and growth faltering affect many babies in developing countries during this dietary transition,¹ and exclusive breast feeding from birth is a central component of international strategies to reduce early infant mortality and morbidity.² However, there is debate about the optimum duration of breast feeding³ and time of first introduction of complementary foods, and whether these should be the same for all babies world wide. Recognising the importance of rational guidance during this critical period, UNICEF and WHO have published reviews⁴ and recommendations.⁵

HISTORY OF INFANT FEEDING

We take for granted the existence of safe infant formulas and have forgotten the dire fate of babies that were not breast fed in the past. In 1790, the Dublin lying-in hospital recorded a mortality of 99% in babies that were not suckled by their mothers, and "want of breast milk" was the chief cause. Hans Sloane had shown, in 1741, that "dry"

feeding with substitutes such as raw cow's milk and other concoctions was a death sentence and that wet nursing was hardly better. Physicians that cared for the newborn repeatedly stressed the importance of breast feeding and warned of the lethal consequences of the alternatives.⁶ The high infant mortality rate of around 150 deaths per 1000 live births that persisted throughout Europe during the nineteenth century was associated with marasmus, nutritional wasting, and diarrhoea, and focused attention of the feeding of infants. In Derby, for instance, the infant mortality rate was still three times higher in artificially fed than breast fed babies at the beginning of the 20th century.⁷

A national movement advocating "clean pure milk for babies" brought together paediatricians, public health authorities, and nutritional scientists dedicated to improving the welfare of mothers and babies. They exploited the growing understanding of milk composition, energy and nutrient requirements, and gastrointestinal physiology in the scientific development of the forerunners of the modern cow's milk based infant formulas that are available today.⁸ The 20th century saw a steady decline in infant mortality, but paradoxically a rise in artificial feeding, even for healthy newborns. By the 1950s formula feeding had changed from a necessity to a habit. It took the concerns of paediatricians working in the developing world, the natural childbirth movement, and an appreciation of the wider role of lactation in reproduction and infant care and health to question this situation. Alarm about the use of inappropriate milks to feed babies in the developing world, raised first by Cicely Williams, grew into a campaign.

BABY FRIENDLY INITIATIVES

The Baby Friendly Hospital Movement, promoted by UNICEF, led to the "ten steps" and the WHO code, among other international initiatives aimed at

promoting breast feeding. The last quarter century saw a steady and welcome climb in rates of breast feeding in the United Kingdom, as its advantages to both mother and baby were appreciated and stressed.⁹ More than 15 000 maternity hospitals in 134 countries world wide have now secured recognition as "Baby Friendly" (<http://www.unicef.org/programme/breastfeeding/baby.htm>).

Many of these countries are undergoing a "health transition" comparable to that experienced by Europe and North America a century ago. In those like China, on the threshold of rapid industrialisation, there is likely to be a demand for safe milk formulas and complementary foods as traditional weaning practices decline and more mothers return to work soon after the birth of their babies. In countries affected by the HIV pandemic, there is a growing need for breast milk substitutes to protect some babies born of infected mothers. In many parts of the developing world, traditional weaning foods are of low energy density and are inadequate to bridge the nutritional gap between mother's milk and family foods. Although breast is best, weaning foods should not be worse.¹⁰ Protecting babies throughout the world from the inappropriate use of milk formulas must be a part of the promotion of childcare and healthy infant feeding practices. Babies have no choice about how they are fed, and, for some, milk formulas are the key to survival. The inappropriate use of milk formulas can kill babies, but used appropriately they can save lives.

RECOGNISING THE NEEDS OF ALL BABIES

There is now a laudable initiative to accord Baby Friendly status to children's hospitals, where it is proposed that the WHO code should also apply. In children's hospitals, many patients have chronic diseases that require nutrition support,¹¹ including special milk formulas. Research is underway in many to develop new or improved milks and other nutritional products for infants and children. Paediatricians share the ideals of UNICEF that all babies deserve, equally, the best care, particularly at the start of life, whatever their social or economic circumstances and however they are fed. Milk formulas provide paediatricians with safe and effective alternatives to mother's milk when breast feeding is not possible, or when babies have particular medical problems that require a special formula. The same infant milk formula companies (IMFCs) that make "standard" formulas make most "special" formulas. They also manufacture feeds and nutritional products for children with other

conditions, such as cystic fibrosis and Crohn's and metabolic diseases. The fortunes of children with these chronic diseases have been vastly improved through the availability and use of these formulas.

PAEDIATRICIANS AND IMFCs

The existence and availability of a range of milk formulas and other nutritional products have come about through collaborations between paediatricians and IMFCs in the development of feeds for babies and toddlers, partnerships in education, training and nutrition support services, and sponsorship of clinical and scientific meetings on infant and child nutrition. Collaborative relationships between paediatricians and IMFCs¹² have led to systems for the regulation of the testing and marketing of milks and other nutritional products for infants and children.¹³ Healthy relationships are based on mutual trust, respect, openness, and shared interests. Guidelines governing sponsorship should be transparent and incorporate these principles. The report of a working party of the Royal College of Paediatrics and Child Health addressed these issues in 1999 but was unable to find a comfortable or clear position in relation to IMFCs.¹⁴ There may be ambiguity around some issues in the relationship, such as whether company logos on published materials infringe the WHO code,¹⁵ particularly when several IMFCs also make other nutritional products for sick children. Such issues are resolvable, and should not interfere with the open conduct of research, clinical, and scientific meetings.

We need to update and revise the WHO code to take into account the multiplicity of activities (research, teaching, training, and clinical care) that go on in children's hospitals, and to acknowledge that IMFCs make nutritional products other than infant milk

formulas alone. An understanding of the changing circumstances and realities of mothers and babies in countries undergoing the health transition, including the HIV epidemic, must replace the simplistic and polarised view that breast feeding is by definition good, and formula feeding is by definition bad. The recent review of the Welfare Foods Scheme recognises a continuing need for free formulas, especially for vulnerable babies whose mothers cannot easily afford them.¹⁶ Modern infant milk formulas are not poison, any more than breast feeding is a panacea. Both can have a place in infant feeding. In the United Kingdom, without the availability of modern milk formulas and other nutritional products, the infant mortality rate would undoubtedly rise, and we would quickly have to reinvent them to meet the needs of babies that cannot or are not breast fed. Conducted according to the high standards that we expect both parties to uphold, relationships between paediatricians and IMFCs contribute to the care of many infants and children in hospital and the provision of safe alternatives to mother's milk and nutritional products during weaning and thereafter.

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REFERENCES

- 1 Fuchs G, Ahmed T, Araya M, *et al*. Malnutrition: Working Group Report of the Second World Congress of Pediatric Gastroenterology, Hepatology and Nutrition. *J Pediatr Gastroenterol Nutr* 2004;**39**:S670–7.
- 2 Costello A, Osrin D. Epidemiological transition, medicalisation of childbirth, and neonatal mortality: three Brazilian birth-cohorts. *Lancet* 2005;**365**:825–6.
- 3 Elsom R, Weaver LT. Does breastfeeding beyond one year benefit children? *Fetal & Maternal Medicine Review* 1999;**11**:163–74.
- 4 Brown K, Dewey K, Allen L. *Complementary feeding of young children in developing countries: a review of current scientific knowledge*. WHO: Geneva, 1998.
- 5 Michaelsen KF, Weaver LT, Branca F, *et al*. *Feeding and nutrition of infants and young children*. WHO: Copenhagen, 2000.
- 6 Cone TE. *History of American pediatrics*. Boston: Little Brown, 1979.
- 7 Howarth WJ. The influence of feeding on the mortality of infants. *Lancet* 1905;**i**:210–13.
- 8 Mephram TB. Humanizing milk: the formulation of artificial feeds for infants (1850–1910). *Med Hist* 1993;**37**:225–49.
- 9 Weaver LT, Prentice A. Nutrition in infancy. In: Morgan JB, Dickerson WT, eds. *Nutrition in early life*. London: Wiley, 2003:205–32.
- 10 Weaver LT, Michaelsen KF. A good start in life: breast is best, but complementary foods should not be worse. *Nutrition* 2001;**17**:481–3.
- 11 Hendrickse WH, Reilly JJ, Weaver LT. Malnutrition in a children's hospital. *Clin Nutr* 1997;**16**:13–18.
- 12 Weaver LT. Improving infant milk formulas: near the end of the Holy Grail. *J Pediatr Gastroenterol Nutr* 2003;**36**:307–10.
- 13 Aggett PJ, Agostoni C, Goulet O, *et al*. The nutritional and safety assessment of breast milk substitutes and other dietary products for infants: a commentary by the ESPGHAN Committee on Nutrition. *J Pediatr Gastroenterol Nutr* 2002;**34**:496–8.
- 14 Royal College of Paediatrics and Child Health. Commercial sponsorship in the Royal College of Paediatrics and Child Health. London: Royal College of Paediatrics and Child Health, 1999.
- 15 Kramer MS, Chalmers B, Hodnet ED, *et al*. Promotion of breast-feeding intervention trial (PROBIT): a cluster-randomised trial in the republic of Belarus. In: Black RE, Michaelsen KF, eds. *Public health issues in infant and child nutrition*. Nestle Nutrition Workshop Series Vol 48. Philadelphia: Lippincott Williams & Wilkins, 2002:189–98.
- 16 DoH COMA. Scientific review of the welfare food scheme. *Rep Health Soc Subj (Lond)* 2002;**(51)**:i–xxi, 1–147.