

Editorial

Responsibilities and principles of nutrition science

The findings of nutrition scientists rarely excite politicians or make headlines these days, as do those of social and environmental scientists such as epidemiologists, climatologists and zoologists. Much of our work is quiet and relatively detached from the hurly-burly of political process and media hullabaloo.

It was not always so. Thus John Boyd Orr, the most eminent founder of public health nutrition, the first director-general of the Food and Agriculture Organization of the United Nations (FAO) and our most recent Nobel laureate, embraced the social, environmental, economic, political and ethical dimensions of our science, and pressed its case on politicians and in the media spotlight¹. His zeal was a factor in the outcome of the 1939–1945 World War. Do we need such activism in peacetime? Looking around the world now, one answer is ‘What peace, and for whom?’

Above and beyond biology

These reflections are prompted by two current processes touched on elsewhere in this issue². First, the 32nd annual session of the UN Standing Committee on Nutrition (SCN) held in March in Brasília. The SCN (formerly ACC/SCN) is a unique forum; only nutrition has a pan-UN agency standing committee³.

This year a main theme of the SCN is adequate food and nutrition as a basic human right. The focus is not presentation of research but action now, in partnership with governments and civil society. The human rights principle is championed by a network of people in the UN system, academia and civil society who profess nutrition science and food policy, such as Urban Jonsson, Wenche Barthe Eide, George Kent and Flavio Valente, now supported by Roger Shrimpton as SCN Secretary⁴. They and others at Brasília presented case studies from Bolivia, Mozambique, Angola and Brazil, examining food and nutrition aspects of programmes using the human rights principle, designed to reduce poverty.

Here is tough work for far-sighted and courageous politicians, professionals and activists working together; for basic human freedoms and rights⁵ are being crushed under the iron heel of unrestricted capital flow⁶. Within any country many government departments have to be brought on side, laws and regulations have to be made and changed, and international agreements negotiated. In

Brazil the rights dimension is being integrated into the national *Fome Zero* (Zero Hunger) programme, and plans include the mobilisation of civil society organisations through the Brazilian National Food and Nutrition Security Council (CONSEA). The federal President Luis Inácio Lula da Silva may make the initiative international at head of state level, in partnership with French President Jacques Chirac.

A message for us in the profession is that if we accept the human rights dimension, nutrition becomes defined as a social as well as a biological science; and biochemistry and physiology become less ends, and more means to bigger and wider ends. This has vast implications for teaching and practice and for capacity-building.

When growth is not health

We may feel we should confine our work to measurement and assessment of what is adequate nutrition, and that application of these findings to policy is not our concern. Such a view may not be held by many public health nutritionists. But if it were, the question then is ‘What is adequate nutrition?’ Adequate for what, and for whom?

The second process surfaced in early February. A number of UK national newspapers ran a news story with the kinds of headline that make many of us wince. As one of many examples, the *Daily Mail* blazoned: ‘Health fears as babies are fed too much’, with another banner: ‘Official guidelines followed by parents are wrong, leading to obesity’⁷.

These stories were about the new FAO energy requirements for infants and young children⁸, and the rationale for the World Health Organization’s (WHO) infant and young child growth standards due out towards the end of this year⁹, presented in London in February. Speakers included International Obesity Task Force chair Philip James, and International Union of Nutritional Sciences president-elect Ricardo Uauy.

At the meeting Prakash Shetty of FAO stated that energy requirements for formula-fed babies in the first three months of life are now determined to be 12% lower than the current standards, and 20% less between 9 and 12 months⁸. The differences for breastfed babies are even more remarkable: 17% and 22%, respectively. This is because breastfed babies need an average of around 7% less energy and are lighter in the first years of life than formula-fed babies¹⁰. Why, may be because they are more contented and suffer less illness. Current standards prompt

mothers to overfeed their children, and many young children now defined as healthy are really overweight.

The reasons for the change in energy requirements, and the rationale for the forthcoming WHO standards with new growth curves, are not merely technical. The question 'What is good child health?' now has a new answer. At the meeting, Mercedes de Onis of WHO said that the forthcoming standards will be based on a study of healthy breastfed children from six countries (Brazil, Ghana, India, Norway, Oman, USA), measured between 1997 and 2003⁹. The current standards are based on the growth of mainly formula-fed children in high-income countries, taken from US standards based on mainly formula-fed US children measured from the 1920s up to the mid-1970s^{11,12}, with an extra 5% added to 'be on the safe side' at a time when lack of food was perceived to be the main issue.

The decision to base energy and growth standards on breastfed infants is itself based on the conclusive epidemiological, clinical and other evidence that exclusive breastfeeding best protects the health of babies in infancy and also in later life, as well as of mothers¹³. The old evidence has not been revised; rather, different sets of evidence based not on the principle of 'the bigger the better', but the principle of life-course health, have been preferred.

This remarkable story has been around for 10 years now^{14,15}. Its implications were spelled out 4 years ago in front of the leaders of our profession at the IUNS Congress in Vienna, as follows: 'Redefining normality based on the breastfed infant shifts the burden of proof for equivalence in growth and development to the proponents of artificial feeding... policy implications and public perceptions should shift dramatically when the reference for normal growth and development is based on the breastfed infant'¹⁶. Quite. Thus:

- The pandemic of obesity in early and adult life is in part caused by the current standards for infant and child growth.
- The principle governing the growth and health of babies and young children should normally not be 'the bigger the better', but 'breast is essential'.
- Global estimates of the number and proportion of young children defined as overweight and obese are too low.
- Governments should strengthen legislation designed to protect extended exclusive breastfeeding, so that it becomes the societal norm.
- International and national legislators should outlaw any implicit as well as explicit health claim made by formula feed manufacturers.
- The time to begin to ensure good health and protection against chronic diseases is not in adulthood but the beginning of life.

- Infant and child health should now be integrated with adult health as a subject of academic study and policy outcomes.

The issues that confront us now, in a time of peace for many and also of wars of different types for many, are extremely challenging. Time to tighten our seat-belts?

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