

## Letters to the Editor

### Undernutrition

#### Problems and solutions

Madam

In a recent editorial you wondered whether 2009 would be the 'year of solutions'. You stated that 'the journal can... lobby for investment in more action-oriented research on solutions to today's food and nutrition problems'<sup>(1)</sup>. Last year a group of scholars called for improved nutrition operations in response to *The Lancet* Child Survival series<sup>(2)</sup>. They stated: 'We are convinced the key will be to translate the understanding of undernutrition into practical interventions'. This call for an important shift from traditional thought to practical interventions is echoed in your editorial quoting World Food Programme Executive Director Josette Sheeran and stating, 'we can defeat hunger, if we pull together and act now'.

Nutrition is critical to long-term economic, societal and overall human development. Evidence of this is abundant in meetings of the G8 Summit in Tokyo (undernutrition), in London (obesity) and in Seattle, where WHO, UNICEF, the Gates Foundation and other non-governmental organisations (NGO) all highlighted the need for reinvigorated approaches to nutrition science<sup>(3)</sup>. Further, the newly formed United Nations High Level Task Force on the Global Food Crisis has called for unprecedented action to address the current and impending nutrition crises during the recent Rome Summit<sup>(4)</sup>. The Task Force unambiguously stated that 'hunger and undernutrition are the greatest threats to public health, killing more people than HIV/AIDS, malaria and TB combined. Each day, 25,000 people, including 10,000 children, die from hunger and its related cause'.

Many solutions are being proposed. Most tend to focus on the critical task of providing food to those in need. Few organisations, however, highlight the important need for investment in nutrition science. One exception came from the editor of *Nature* who, earlier this year, called for greater investment in science to tackle the twin nutrition problems of 'feasting and fasting'<sup>(5)</sup>.

To date, insufficient investments in nutrition science have been made in emerging economies beset by dual burdens of over- and undernutrition. Evidence of this weak capacity is obvious when examining the focus and quantity of nutrition research output with research by emerging economies in leading medical and nutrition journals. We reviewed the proportion of full-length publications in leading science and medical journals (based on ISI citation indexes) by country of the first author, nutrition topic and year from 1991 to 2007 (D Yach,

unpublished results). Objectives were to assess trends in nutrition science publications, examine changes in topics being published and establish a baseline with regard to authors' origin in order to assess national capacities in nutrition science. For the last two years, 83% of articles were on overweight/obesity, and only some 5% of first authors for any nutrition category were from India and/or China – two countries that comprise 40% of the total world population (Table 1). Trends over time have improved very slightly in favour of India and China; however, developed nations, particularly the USA, continue to dominate contributions to nutrition science publications.

We believe there is a need for centres of excellence and impact in nutrition science to be based in emerging markets to initiate and strengthen research in a number of strategic areas, including Fe deficiency and stunting in children, weight management/satiety in adults, and muscle mass and improved memory/thoughts in older people. Such centres could contribute to resolving community-based nutrition needs by directing and managing a small grants programme aimed at executing short- and medium-term applied actions in their regions. Centres could pioneer new approaches and ideas about optimal nutrition and physical activity by considering how to bridge the fields of under- and overnutrition and activity from a research-and-action perspective.

Such an approach has been followed in other areas of science and health where human resources, especially related to research, have been a key constraint to progress. Examples include WHO support for reproductive health research, Rockefeller Foundation support for parasitology, the National Institutes of Health Fogarty Centers' approach to long-term capacity development in health science, and the Bill and Melinda Gates Foundation support for neglected tropical diseases. In each case, investments have led to new products and health-care solutions, scientists with fresh ideas and innovative private-public partnerships<sup>(1)</sup>. The key was the need to commit for 5–10 years to a small core of outstanding and action-oriented scientists. Centres for excellence could

**Table 1** Full-length publications in leading nutrition journals, 2006–2007 (total = 1716)

	Obesity/overweight (n 1423/83%)	Micronutrition (n 220/13%)	Undernutrition (n 73/4%)
% USA	48.13	64.09	41.10
% China	2.18	0.91	4.11
% India	0.42	4.09	1.37
% Mexico	0.56	3.18	2.74

employ this same commitment by engaging global nutrition and international development experts, as well as by involving consortia of corporations, major foundations, UN agencies, leading NGO (such as the International Union of Nutritional Sciences) and government development agencies.

*The Lancet* paper<sup>(2)</sup> states that 'the intricacy of undernutrition as a global problem seems to defy simple, directed and uniform programmes. We will not effectively improve child survival unless we untangle this web [of interactions]'. The authors call for a 'knowledge base on the necessary support and institutional capacity that enables these interventions to work and improve child survival'.

If the global burden of undernutrition is to be combated successfully and in ways that link its solution to avoiding a worsening of the crises in overweight and obesity, the need for strong public-private partnerships to support practical interventions at the population level is not only necessary, but critically urgent.

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### Leaf concentrate. Undernutrition Benefits for children in Mexico

Madam

I have been following your correspondence on clinical observations of the benefits of leaf concentrate when given to children, pregnant women and nursing mothers and undernourished adults<sup>(1–6)</sup>. I wish to record our experience in Mexico over the last nine years.

My Association was founded in 1841 and is dedicated solely to philanthropic activities. It is certified as an institution of public benefit. One of our activities is the production and distribution, free of charge, of leaf concentrate products.

Our mission here is to find solutions to the poor diets and malnutrition that exist in certain sectors of the population. The leaf concentrate initiative is led by Dr Carlos Gonzalez, nutritionist at the National Autonomous University of Mexico. He is responsible for receiving the concentrate and producing and distributing all the leaf products that we provide free to 25 000 children who attend fifty-four institutions (such as schools, orphanages, community centres) in Mexico City and surrounding states. Most children receive 5 g of concentrate daily, with more being given to those whose health requires it.

Our products are very well accepted by the children. We have numerous testimonials and professional and official data as well as statistics collected by ourselves. These show the remarkable results of our products and that there have never been any negative effects.

We rely on the support of professors and directors of private institutions and official organisations, such as the National Institute of Nutrition and the National Paediatric Institute, who bear witness to the results obtained in combating malnutrition and anaemia together with an improvement in the children's performance at school and in their physical and mental development.

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### Editor's note

*We will be pleased to hear from readers who have experience of the effects of concentrate made from leaves of local plants. We will also be pleased to hear from readers who have doubts about the benefits of leaf concentrate or who believe that other nutritional methods to alleviate malnutrition and address disease are preferable.*