

# Nutrition for Sustainable Development

## The 17<sup>th</sup> Latin American Congress on Nutrition

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The XVII Latin American Congress on Nutrition was held in Punta Cana in the Dominican Republic under the auspices of the Latin American Society of Nutrition (SLAN). The theme of the meeting was “Nutrition for Sustainable Development.” The inaugural Keynote Plenary Lecture was in concert with that theme, featuring Francesco Blanca, Head of the Nutrition Division of the World Health Organization in Geneva. He positioned the newly released UN Sustainable Development Goals in the context of health in general and nutrition in particular.

The program included 25 individual presenters, as well as 80 symposia; completing the platform program was a controversies debate and a series of oral communication sessions with 320 free papers. A total of 598 free-paper presentations were scheduled as posters. Within this, four of the individual formats were explicitly devoted to issues of micronutrients, whereas 11 of the symposia were micronutrient-related.

### Plenaries and conferences

Dr Kathryn Dewey of the University of California at Davis was the winner of the McCollum International Award of the American Society of Nutrition for 2014–2015. Her presentation “Meeting nutrient needs during the first 1,000 days: A global challenge but a wise investment” constituted the awards lecture. Dr Dewey emphasized that exclusive breastfeeding remains the pillar of infant feeding during the first 6 months of life. She also updated the Congress on the emerging findings from the International Lipid-Based Nutrient Supplement (ILiNS) Project in Burkina Faso, Ghana and Malawi, in which anemia was largely controlled but additional linear growth was not seen. It should not be overlooked that none of the sites for the ILiNS Project were in Latin America or the Caribbean.

Omar Dary of the US Agency for International Development gave a conference in which he reviewed the history of the use of salt assays and urinalysis for iodine to assess the risk of io-

dine deficiency disorder. He recounted the misunderstandings that have been propagated over the interpretation of these two indicators and pointed to situations in which some sections of a population may be receiving excessive iodine as frequent consumers of ramen-noodle instant soups that double iodized salt intake; this was totally opaque to the index of households consuming adequately fortified salt.

Helena Pachón, of the Emory University in Atlanta, Georgia, spoke about making agriculture sensitive to the nutritional needs of populations. She reflected on her experience as the only nutritionist in the world of agronomists at the International Center for Tropical Agriculture in Cali, Colombia. To this she added a request for both patience and ingenuity in seeking improved food production from the agricultural sector. There is pressure on the land for non-edible or non-nutritious cash-cropping such as cotton, coffee and sugarcane as well as for the production of grains for animal feed. The first barrier to overcome is opening allocation of land for items that are consumed by humans. These must be high in yield and profitable for the producer. Taking the next step – i.e., to biofortified or protein-enriched varieties in the human-designated crops – requires these same conditions of production and profitability in order to engage the commitment of farmers.

“Conditions of profitability are essential for winning the commitment of farmers”

The Micronutrient Forum (MNF) Global Conferences have emerged to replace the international meetings sponsored by the various micronutrient “consultative groups” over the decades. The first revitalized MNF conference was held in Addis Ababa, Ethiopia, in 2014. News of particular interest to a Latin American constituency was delivered by Lynnette Neufeld of GAIN as the chairperson of the Steering Committee for the II MNF Global Conference, as it will be held in Cancún, Mexico, in October of



From left to right: Hector Cori, Edna Rodas, Ricardo Uauy, Rodrigo Valenzuela, Fernanda Elías and Ignacio Arauz

2016. The theme of the next conference will be: “Positioning Women’s Nutrition in the Center of Sustainable Development.”

### Congress symposia

Fortification strategies of a diverse nature were the topics of five of the 11 symposia. This included an overview of the overall risks, benefits and trade-offs of fortification programs as analyzed from the perspective of professionals from Spain. The Flour Fortification Initiative sponsored a symposium evaluating the fortification of cereal grain products with micronutrients across the Americas. Recommendations for addition to wheat and maize flours are in place. The impact of flour fortification on anemia prevalence in Costa Rica and on anemia and various vitamin deficiencies in Colombia were documented. A mathematical association between levels of red blood cell folate and risk of neural tube defects (NTD), derived by US data collected at the Center for Disease Control and Prevention, suggests that NTD prevention can be achieved if women attain, and maintain, a specific red cell level.

A fascinating joint forum was put together by the Pan American Health Organization and Micronutrient Initiative to explore the contradictions in contrasting public health policies of reducing the consumption of sodium to benefit vascular health and using table salt as a vehicle for iodine and other micronutrients. The evidence for the WHO recommendation for lower sodium

intake is solid and the efficacy of salt in controlling IDD is undeniable. The obvious way forward is rebalancing the fortification levels as salt intake declines. Drinking-water is often a naturally occurring source of essential minerals, but decades of experience in Brazil have demonstrated that water can be a vehicle for iron fortification to combat anemia in preschool- and school-children. Finally, biofortification is a strategy that has been advanced in the Americas by HarvestPlus and other partners. Presenters were able to provide concrete evidence of efficacy for human micronutrient status with crops fortified with iron, zinc and provitamin A. Much of the plant biology to inform the technology of enriching plants with carotene sources of vitamin A is now being understood.

### “Vitamin D deficiency extends throughout the Latin American and Caribbean region”

An entire symposium, in fact, was devoted to carotenoid biology in plants and in consumers, sponsored by the Ibero-American Network for the study of carotenoids as food ingredients; presenters came from Spain, Brazil and Panama. The symposium covered the dietary sources of provitamin A in Spain and the

Americas, as well as the factors surrounding the bioconversion of food carotenoids into retinoids. Vitamin D occupied the attention of another entire symposium. It was shown that deficiency in the vitamin extends throughout the Latin American and Caribbean region, despite the tropical location of most of the countries.

The state of the art regarding the so-called emerging micronutrients and trace elements was covered in two symposia. DSM sponsored a session in which vitamin E is seen as an emerging micronutrient in the Latin American region. The essential polyunsaturated fatty acid docosahexaenoic acid (DHA) has a number of functions that become more relevant in the dietary and environmental circumstances of low-income societies. The relevance and importance of interactions in the diet and in supplements was addressed with consideration of iron-zinc-copper and iron-zinc-calcium supplements. Diabetes is an emerging theme in the context of trace elements. Insofar as the zinc-binding proteins are related to insulin secretion, saturating intakes of oral zinc may have promise in diabetic and glycaemic control. Type 2 diabetes, moreover, is associated with obesity. Excessive iron exposure seems to be a factor in aggravating the inflammation associated with obesity, and in combination, diabetic control is more difficult and sequelae more prominent. The latter topic was revisited in a separate symposium on micronutrients, inflammation and obesity. Obesity is associated with lower status of zinc and of the B-complex vitamins. There is a bi-directional association of micronutrients and non-communicable, chronic diseases.

The PROCOMIDA was a 5-year, community-based, family-food diversification project conducted in the north-central area of Guatemala and based around the distribution of edible oil, beans, rice and fortified corn-soya blend along with a supplement for home-fortification of young children's rations. The US Agency for International Development sought to gather information on the relative cost-efficiency of various combinations of intervention packages, by providing only one or a few of the commodities with or without various multiple micronutrient supplements. Thus they created a nested, cluster-randomized study within the larger intervention, delivering numerous permutations of the basic delivery package, and called on the International Food Policy Research Institute (IFPRI) to monitor the process and impact within the study. The presentation at SLAN only described the process aspects of the comparative interventions, but it seemed obvious that the communities expressed a differential acceptability for the micronutrient supplements, with the sachet powder more widely accepted than the lipid-based nutrient spread.

An even greater proportion of the 918 free-paper presentations in oral or poster formats was related to issues of micronutrient nutrition and biology. At the conclusion of the meeting, the presidency of the SLAN passed from María de las Nieves García-Casal of Venezuela to Juan Rivera of Mexico for the next three-year period, to culminate in Cancún, Mexico in 2018.

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