



Welcome

Can Diet Alone Deliver Good Nutrition?

Renewed interest in diet

Participating in a number of national and international nutrition gatherings in the past two years gives me the impression that the concept ‘diet’ (defined by Merriam-Webster as “food and drink regularly provided or consumed, or habitual nourishment”) is currently in fashion.

The 2016 Global Nutrition Report (GNR) mentions ‘diet’ 78 times in its 180 pages, and the 2016 Global Panel on Agriculture and Food Systems for Nutrition report ‘Food systems and diets: Facing the challenges of the 21st century’ mentions the word 110 times in just 16 pages! I’m inclined to think that the 2nd International Conference on Nutrition in 2014, with its Rome Declaration (19 mentions of diet/ary in six pages) and Framework for Action (13 mentions in eight pages), have stimulated renewed interest in the concept of ‘diet’ on the part of international organizations.

From my perspective, I believe that we must indeed aim at *food and nutrition security within the broader context of food systems*. But I do not think that a discussion that focuses on *diet* alone, or one that fails to recognize that food and nutrition security encompasses far more than just the regular consumption of food and drink, genuinely helps us address the complex challenges of malnutrition in all its forms across the world.

The GNR reiterates: “malnutrition and poor diets constitute the number-one driver of the global burden of disease.” It sounds so simple – just address malnutrition and poor diets and, hey presto, the work is done. It is not that simple. There is no doubt that food systems need to become more public-health-sensitive and sustainable; but agriculture is still geared toward producing massive amounts of calories; the food industry is not sufficiently incentivized (and/or regulated) to produce nutrient-dense and safe foods; where regulations do exist, governments often lack the capacity to enforce these; and the average consumer does not have the nutrition literacy to make healthy choices in a world where fact and fiction often blend into one. And these are just a tiny fraction of the many factors that ultimately result in either good nutrition or malnutrition.

Elsewhere in this issue (pp.135–136), we report on our new publication *Good Nutrition: Perspectives for the 21st century*,

which provides in-depth perspectives on sustainable food systems and diets, food value chains, and the limits to consumerism, among many other topics that must be considered when we speak of “good nutrition.” To quote Adam Drewnowski, Professor in the Center for Public Health Nutrition at the University of Washington, Seattle, WA, USA (and one of the contributors to the book): “There are limits to free choice. Consumer food choices are driven by purchasing power and socioeconomic status. Calories have become cheap; nutrients remain expensive.” This summarizes the complexity of the issue, and Prof. Drewnowski’s view is complemented by a quote from Tim Lang, Professor of Food Policy at City University in the United Kingdom: “The rich need to eat less, and differently, so the poor can eat more, and differently.”

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“The rich need to eat less, and differently, so the poor can eat more, and differently”

Tim Lang

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There is scientific agreement that certain traditional dietary patterns, such as the Mediterranean Diet and the Nordic Diet, offer substantial health benefits, i.e., reduced risk of metabolic syndrome and non-communicable diseases such as cancer and cardiovascular disease. Furthermore, according to the Food and Agriculture Organization of the United Nations (FAO), more than 100 countries worldwide have developed food-based dietary guidelines “adapted to their nutrition situation, food availability, culinary cultures and eating habits.”

While recognizing this, one should also remark that not all actually available ‘diets’ that people consume are anything like nutritionally adequate, and that there are many faddish so-called ‘diets’ – proposed by individuals lacking all credentials in nutrition science – that promise health benefits for which no scientific basis exists at all. Nevertheless, we do have evidence for the benefits of certain diets, and we do have an abundance

of dietary guidelines. The question remains, however: Do the diets that the majority of people around the world consume provide sufficient nutrient-dense and safe food for all stages of the life-course?

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Diet nutrient gaps – a fact

Professor Kathryn Dewey, from the Department of Nutrition at UC Davis, CA, USA, writing in a 2013 *Journal of Nutrition* article, uses an evolutionary perspective to describe the challenge of meeting the nutrient needs of older infants and young children during the complementary feeding period. According to Prof. Dewey’s calculations, the Recommended Nutrient Intakes (RNIs) for iron and zinc are not met even when diverse foods – including nutrient-dense animal-source foods and breast milk – are part of the diet. Meeting nutrient requirements is even less likely when the complementary diet is based on cereals – the typical diet in most low- and middle-income countries. The World Food Programme video *Busting a Nutrition Myth* (www.youtube.com/watch?v=FrRjkkpun2RU) clearly illustrates why it is so difficult to close important nutrient gaps in older infants and young children, and why appropriate fortified complementary foods, such as SUPER CEREAL *plus*, provide a formidable solution to fill the gap, when consumed as part of the complementary diet.

While optimal nutrition for older infants and young children is currently a global focus, we must not forget that women’s nutrition is also critical. Thus, this edition of *Sight and Life* focuses on women’s nutrition. According to Prof. Lindsay Allen from the USDA-ARS Western Human Nutrition Research Center in Davis, CA, too little attention has been paid to ensuring adequate maternal micronutrient status when breastfeeding. In her article on pp. 36–39, Prof. Allen favors the use of multiple micronutrient supplementation during lactation over the use of iron and folic acid only. She shows that micronutrients such as thiamin, riboflavin, niacin, vitamins B₁₂, A, D, and K, choline, iodine and selenium affect breast milk concentrations, while iron and folic acid do not.

The evidence is also clear that countries that have mandated the fortification of wheat flour with folic acid have experienced massive reductions in neural tube defects (NTDs). Throughout the Americas, and in many other countries where flour fortification is mandatory, this has simply become part of the diet, and the fact that it is significantly contributing to nutrient adequacy is largely forgotten. Interestingly, in Europe

only Moldova and Kosovo have mandated folic acid fortification, so not surprisingly an article in the November 2016 issue of *The Lancet Neurology* asks, *Folic acid: time for Europe to mandate fortified flour?*

An exciting public-private partnership in Ghana, known as Affordable Nutritious Foods for Women (ANF4W), is looking at establishing a market-based solution to improve the nutritional status of women of reproductive age with fortified food products. Dr Eva Monterrosa, Senior Scientific Manager at *Sight and Life* Foundation, describes in an article on pp. 32–35 how the project aims to provide considerable amounts of the RNIs of 18 vitamins and minerals during the critical period of pregnancy and lactation when nutrient needs are elevated.

Evidence: the basis for global guidelines?

In the near future, market-based solutions providing multiple micronutrient supplements (MMS) – which demonstrably result in enhanced birth outcomes, including improvements in birth weight and reductions in both low birth weight and preterm birth – appear to be the only reasonable means of providing essential micronutrients to pregnant women. I had hoped that in this edition of *Sight and Life* we could share positive news from the long-awaited and recently released World Health Organization (WHO) antenatal care guidelines endorsing prenatal MMS. However – disappointingly – the WHO states in the document: “Multiple micronutrient supplementation is not recommended for pregnant women to improve maternal and perinatal outcomes.”

This statement is made despite the overwhelming evidence in favor of MMS. The WHO continues to endorse prenatal iron/folic acid, a policy it has pursued since since 1968, although the new guidelines permit a reduction in the iron dose (30–60 mg). Why does it do this when – since the design of the UNIMAP formulation in the late 1990s – some 20 large-scale trials, the 2013 Lancet Series on Maternal and Child Nutrition, and several meta-analyses demonstrate the precise contrary? The research has corroborated an advantage of MMS over iron/folic acid on birth outcomes, though no difference on maternal anemia reduction (remembering that the UNIMAP formulation uses just half of the iron [30 mg] of iron/folic acid tablets [60 mg]).

It is difficult to understand why the WHO has not followed the bulk of the evidence in updating its guidelines. In my opinion, this is a matter of public health concern. Governments must thus draw their own conclusions based on the evidence available to them, and should implement the best possible strategies – namely, multiple micronutrients and not just iron/folic acid – to supplement the diets of pregnant women. Moreover, governments should more carefully assess the underlying causes of anemia before implementing anemia-mitigating strategies. In a thought-provoking contribution in this issue of our magazine, Crystal Karakochuk, Professor at the University of British

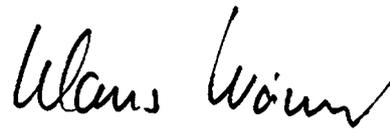
Columbia in Vancouver, Canada, raises concerns pertaining to iron supplementation, as iron deficiency anemia appears to be less widespread, and hemoglobinopathies, such as thalassemia, more prevalent than originally thought (pp.46–53). Iron supplementation and/or fortification in an iron-replete population provides no benefit and may even be harmful. There is more to nutrition than meets the eye!

There is little doubt in my mind that supplementation and (bio)fortification are important dietary interventions that can significantly contribute to nutrition security. Clearly they are not the answer to all the nutrition challenges we face, but they should be carefully considered as part of any public health nutrition strategy. First and foremost, we need to know the underlying causes of malnutrition (over- and/or undernutrition) and the magnitude of the (micronutrient deficiency) nutrition problem in any given local context if we are to design appropriate and effective evidence-based solutions to be delivered through public and/or private channels. In this connection, we should also challenge the type and level of evidence we require in nutrition, as Dr Lawrence Haddad, Executive Director of the Global Alliance for Nutrition (GAIN), eloquently asked in his blog of November 16, 2016, *Evidence in nutrition: have we set the bar too high?* For

prenatal MMS, we have certainly reached the tipping point at which implementation should begin (see above).

Considering the magnitude of the malnutrition problem – and reading, as this edition goes to print, the article ‘A new global research agenda for food’ by Dr Lawrence Haddad and colleagues in the December 1, 2016 issue of *Nature*, which proposes “ten ways to shift the focus from feeding people to nourishing them” – I believe that we urgently need to take the evidence we have to scale, and execute the research eloquently suggested in this piece. But what we do not need is to confuse ourselves and the public by continually changing nutrition messages and terminology. Nor will our task be made easier by interference from the proponents of orthodoxies and ideologies in a ‘post-truth’ era.

With warm regards,



Klaus Kraemer

Managing Director, *Sight and Life* Foundation



“There is more to nutrition than meets the eye”