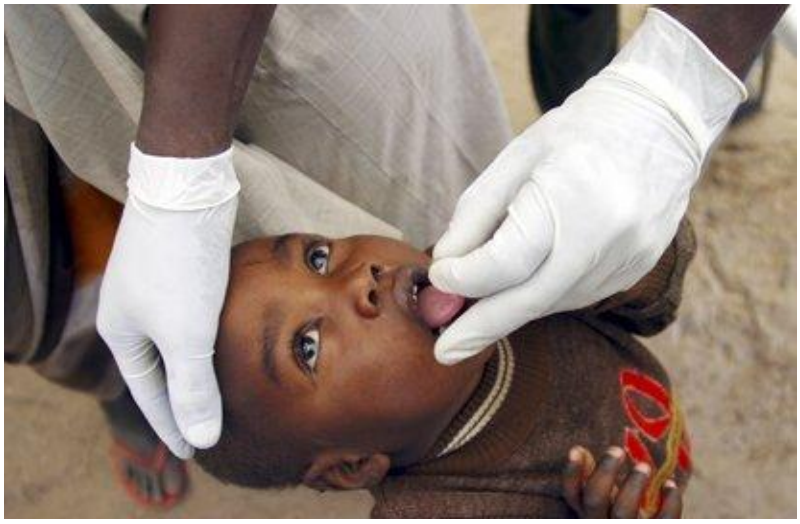
WN *Feedback*

World Nutrition **Volume 5, Number 12, December 2014**

Journal of the World Public Health Nutrition Association
Published monthly at www.wphna.org/worldnutrition/

Development. Malnutrition. Vitamin A
Let food be our medicine

Access May 2010 Michael Latham The great vitamin A fiasco here
Access June 2010 letters in response to Michael Latham here
Access July 2010 letters in response to Michael Latham here
Access October 2010 Keith West, Rolf Klemm, Alfred Sommer on Vitamin A here
Access October 2014 IJE John Mason, Ted Greiner et al on Vitamin A here
Access November 2014 John Mason, Ted Greiner et al on Vitamin A here
Access November 2014 GAVA statement rebutting the IJE paper here



Editor's note

In May 2010 *WN* published Michael Latham's 'The great vitamin A fiasco'. This criticises the still current global policy of treating populations of young children in countries judged to be at risk of deficiency with very high doses of vitamin A. *WN* then published many letters from scholars, workers, and officials at the UN Food and Agriculture Organization most supporting Michael Latham, and a commentary from scholars at Johns Hopkins School of Public Health upholding current policy and practice. Last month *WN* published 'Let food be our medicine' by John Mason, Ted Greiner, Roger Shrimpton, David Sanders and Joshua Yukich, following their October paper in the *International Journal of Epidemiology*. This concludes, as did Michael Latham, that the current global vitamin A supplement programme should be phased out and replaced with food-based programmes. The documents mentioned here are all accessible above. This month's letters are below. We will publish more in our January issue.

Vitamin A
Yes, there are better ways

Access October 2014 IJE John Mason, Ted Greiner et al on Vitamin A here
Access November 2014 John Mason, Ted Greiner et al on Vitamin A here



Food supplies and diets rich in vitamin A, breastfeeding, and also fortification and low-dose multi-supplements, especially for the vulnerable groups. The way forward to prevent vitamin A deficiency

Leith Greenslade, Jessica Johnston and Alan Court write:

The lack of evidence that six-monthly, high doses of vitamin A reduce either child mortality or vitamin A deficiency justifies the 'policy shift' and 'prudent phase-over' that John Mason and his co-authors urge (see links above).

Whether a relationship between high dose vitamin A supplements and child mortality ever existed, or whether the relationship has weakened over time due to declining measles and diarrhoea mortality, the main channel through which vitamin A supplements were supposed to reduce child deaths, no longer matters.

What matters now is that the global health and development community focuses on delivering and facilitating adequate nutrition including a 'course correction'. It needs to develop programmes that deliver regular, low dose vitamin A through staple food fortification, multiple micronutrient supplementation, and dietary change, prioritising the populations of women and children that are the most vulnerable to vitamin A deficiency and dying from preventable causes. This means focusing on the most vulnerable segments of the population, such as adolescent girls, pregnant women, and children under 2 years of age. This is particularly true for the 20 per cent of the population that have consistently been missed by the high-dose delivery mechanisms, mainly those who most needed the supplement.

New delivery channels need to be found to deliver low dose vitamin A regularly (daily or weekly). The authors make a strong case for integrated delivery of low dose vitamin A supplements and fortified foods alongside other programmes that are reaching women and children, especially those provided by the Global Alliance for Improved Nutrition (GAIN) and mainstream breastfeeding and nutrition promotion programmes. The historical lack of coordination cited by the authors across vitamin A campaigns, food fortification, micronutrient supplementation and breastfeeding promotion may be the result of a fear by some governments that introduction of vitamin A fortification of staple foods to children who are already receiving two mega doses annually, may cause problems of toxicity.

A plan for action

To achieve the careful phase-over, governments in the countries struggling with major maternal and child malnutrition need to develop new policies that focus on the sustained delivery of low dose vitamin A through fortification, supplementation and dietary change. The following could provide a roadmap for action:

- Major donors to the current vitamin A campaigns (like the government of Canada) need to transition from financing high dose vitamin A campaigns, to financing fortification, supplementation, and programmes that encourage dietary change and breastfeeding.
- The major companies donating high dose vitamin A products need to shift production to multiple-micronutrient supplements and fortified foods.
- The major non-government and UN organisations implementing vitamin A campaigns (for example UNICEF, Micronutrient Initiative, Helen Keller International, Vitamin Angels) need to re-examine their approaches to determine how they can contribute to the new low-dose vitamin A approach.

As stated by the authors, transition needs to be undertaken with care. Where coverage is good it needs to be maintained during the transition. This is often precisely where health systems and/or food distribution systems are more robust and transition can be faster. At the same time, coverage with the low-dose approach and fortified foods needs to be extended to the populations that have not been systematically covered. There may still be a continued need for high-dose campaigns in populations under extreme stress, such as those who are displaced, or refugees.

The appropriate approach to measuring vitamin A deficiency also needs adjusting. Rather than measure 'vitamin A coverage', the decline in the deficiency itself needs measuring. The authors make a compelling case that the rate of reduction in vitamin A deficiency has been too slow, particularly compared to declining iodine deficiency, which has been three times higher. The authors also address the argument that the enormous effort that goes into conducting regular, population-wide, high dose vitamin A campaigns drains resources from other efforts with a higher potential

impact on child survival 'There must be better priorities' they say. Indeed there are.

The leading causes of child death are now preterm birth, pneumonia, birth asphyxia, diarrhoea and newborn sepsis. Supporting uptake of interventions that can prevent deaths from these causes will be top priority in the final 400 days to the Millennium Development Goal deadline and beyond, into the new post-2015 era, where ending preventable child deaths will require much greater alignment between spending and the highest-impact, evidence based child survival interventions. Certainly interventions will include further ramping up immunisation coverage, including for measles and pneumonia prevention; as well as preventive and treatment interventions for malaria.

Vitamin A will have its place with a new, more evidence-based approach to delivery that takes into account the tremendous advances in child and maternal health that have occurred in most countries during the Millennium Development Goal period.

Leith Greenslade
Vice-Chair, MDG Health Alliance
Office of the UN Special Envoy for Financing the Health MDGs and Malaria

Jessica Johnston
Vice-President, Programs and Operations, MDG Health Alliance
Office of the UN Special Envoy for Financing the Health MDGs and Malaria

Alan Court
Senior Advisor to the UN Secretary-General's
Special Envoy for Financing the Health MDGs and Malaria
New York, NY, US
Email: alancourt1@gmail.com

*Greenslade L, Johnston J, Court A. Vitamin A. Yes, there are better ways. [Feedback]. World Nutrition December 2014, **5**, 12, 1111-1113*

Vitamin A
Food, not manipulated products

Ted Greiner writes:

In discussing what should take the place of megadose vitamin A capsule distribution, here are a few points that need consideration. First, regarding fortification:

Fortification is a public health measure only when it is mandated by law. Otherwise, it is an industry ploy. Unless government subsidises it, the price will rise for the fortified food. The poor, the people who really need it, will thus not get it adequately even if a vehicle commonly consumed by them is used.



Why are so many sugared ultra-processed products 'fortified'? To make them seem to be healthy. In South Korea sugary breakfast cereals are allowed into school meals because of being 'fortified'

The food industry uses fortification to pass off unhealthy foods as healthy ones. A good example in Korea is that as of a few years ago, only traditional Korean food was allowed to be served in school meals. The exception now is breakfast cereals, allowed in breakfast programmes. How can anyone consider something that is often one-third sugar by weight to be nutritious? Because it's fortified. Standards for what is a healthy food are of course influenced by manufacturers, and they lobby to ensure that such standards include what they can add through fortification (such as vitamins and minerals) and do not focus on what is more difficult to add (such as dietary fibre, polyphenols, low caloric density).

In the vitamin A context, fortification is relatively 'dead in the water' unless we make the mistake of successfully advocating for stopping megadose supplementation before fortification starts. This is because policymakers are often not going to allow fortification when they are already concerned (understandably) that megadose vitamin A supplementation is doing some harm, especially among children who already have good vitamin A status when they get it.

Second, here is why food – which is to say meals, and whole diets, as opposed to sprinkles, multiple micronutrient supplementation to mothers, Plumpy'Nut, and so on – ought to be the main focus.

Food – or at least locally grown food – is actually or potentially under the control of the people. Thus diets will naturally improve when people are empowered, through whatever means, as long as nutrition education is included.

Improvement in vitamin A status by way of food among low-income populations means focusing largely on plant sources. With partial exceptions like red palm oil, this means eating more colourful vegetables and fruits, something desperately needed in the low-income countries as well as the rich ones, also because of the impact such foods have in protecting against cancer and other non-communicable diseases, now devastating low-income countries to a greater extent than the rich countries.

Isn't it time to stop allowing the people with the money and the power to focus only on siloed approaches that deal with single nutrients? Any approach that actually gives the target population any participation, involvement or say at all will never go that way. The status quo is really is just a milder form of colonialism, imposing our will, insisting that our way of doing things is always the best, ignoring the fact that the governments and communities at all levels in low-income countries have the ability, as well as the right, to decide for themselves.

And please don't tell me that all the governments of the 100+ countries distributing capsules have freely agreed to accept these gifts. No politician in any rich or low-income country can afford to risk newspaper headlines that he or she turned down any gift worth $US millions. Just let them choose between capsules and an equal contribution to improving local diets, and that 100+ will shrink to single digits.

Ted Greiner
Hanyang University, Seoul, South Korea
tedgreiner@yahoo.com

*Greiner T. Vitamin A. Food, not manipulated products [Feedback]. World Nutrition December 2014, **5**, 12, 1113-1115*

Ed – Ted Greiner is co-author with John Mason and colleagues of the October International Journal of Epidemiology paper and the November WN commentary

Vitamin A
'Why weren't we told this long ago?'

Access October 2014 IJE John Mason, Ted Greiner et al on Vitamin A here
Access November 2014 John Mason, Ted Greiner et al on Vitamin A here

Graham Lyons writes:

Congratulations to John Mason and his co-authors for 'Vitamin A policies need rethinking' in the *International Journal of Epidemiology* (1) and their commentary in *World Nutrition* (2) . This builds on Michael Latham's incisive 'The great Vitamin A fiasco' pubished in *WN* in 2010 (3). These authors discuss the problems with the vitamin A capsule programme and argue persuasively for its curtailment.

A renewed paradigm

My background is in farming, and I consider the only realistic, sustainable approach to improving human nutrition and health at the population level is through the food system. A renewed agricultural paradigm embraces the provision of nutritious, diverse foods, moving beyond a sole focus on trying to increase the yield of a few staple crops (4).

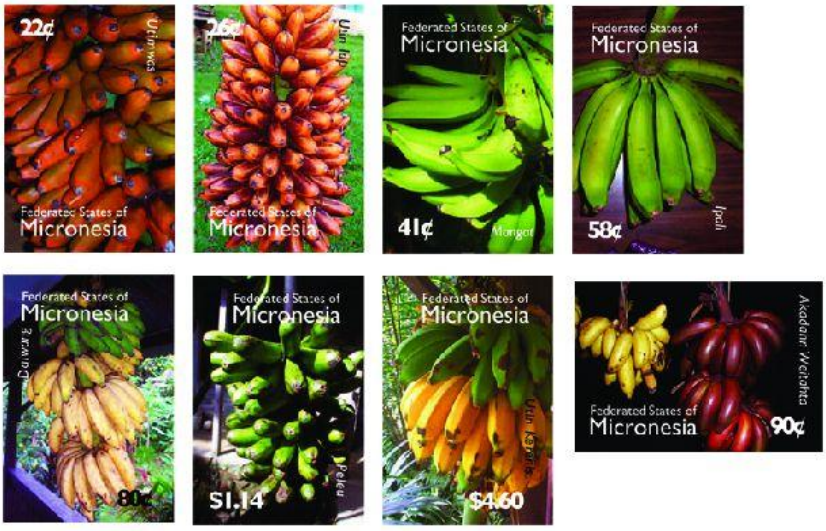
Indeed, this can be taken a step further: the key to sustainable, nutritious food systems, especially for farmers who cannot afford commercial fertilisers, is to re-establish agricultural ecosystems which are closer to the natural ecosystems they replaced. This is especially applicable to Sub-Saharan Africa (5,6).

The food system approach lends itself well to alleviating micronutrient deficiencies. Vitamin A deficiency disorders are often and perhaps usually accompanied by deficiencies of iron, zinc, selenium, and B vitamins, and these will not be addressed by a reductionist vitamin A capsule programme. Furthermore, the provision of diverse foods or condiments, in some cases biofortified, and process-fortified if required (for example, the successful iodised salt programme), enables the expression of beneficial micronutrient interactions (7). Biofortified high-iron beans and high beta-carotene maize and cassava have recently been released in Africa by *HarvestPlus* Moreover, the Drumstick tree (*Moringa oleifera*) is an outstanding natural biofortifier of beta-carotene, selenium and sulphur (8).

Work in the Pacific and Indonesia

Since 2006 I have been involved in food system research and development in the Pacific and Indonesia, initially focused on high beta-carotene orange-fleshed sweetpotatoes and yellow bananas (funded by HarvestPlus and the Australian Centre for International Agricultural Research) and more recently on nutritious local leafy vegetables (ACIAR: see our 'Top 12' nutritious leafy vegetables *via this link:* The importance of these food plants as inexpensive sources of b-carotene was noted by Michael Latham in 2010 (3) and John Mason and co-authors now (1,2). An intervention study in Mozambique found that production and consumption of orange-fleshed sweet potatoes increased serum retinol concentrations in children (n = 741) (9). The bioavailability and bioconversion of beta-carotene in these foods can be increased by cooking with or adding a healthy oil such as virgin coconut oil or red palm oil.

Education and access to suitable germplasm/planting material is required for successful implementation of a food system strategy to improve food and nutrition security. It is such activities that agriculture and health extensionists need to be involved with, not handing out pills or capsules every 4-6 months. In my experience, particularly in the Solomon Islands, this is the work they enjoy most, and such programmes resonate with villagers and smallholders.



The Federated States of Micronesia valorises the work of Lois Englberger and others, by this set of postage stamps celebrating the varieties of banana that naturally protect against vitamin A deficiency

I have been fortunate to work with the great nutritionist, communicator and educator Lois Englberger, founder of the Go Local movement (10), and Mary Taylor, who established the Secretariat of the Pacific Community's germplasm bank, the Centre for Pacific Crops and Trees in Suva, Fiji. Lois related the story of the delight of women who attended our *Go Local* workshops on Makira Island in 2007 in learning of the nutritional value of their indigenous yellow and orange bananas. 'Why weren't we told this long ago? Now we are proud of our bananas!' There is now an annual banana festival on this island, which is home to around 130 banana varieties.

The need for increased production and consumption of nutritious local vegetables and fruit is greater than ever, and not just due to population increase. The pandemic of obesity, diabetes, hypertension, heart disease, various cancers and other disorders and diseases, has overtaken micronutrient malnutrition in terms of health, medical and economic impact on humans. The Global Fruit and Vegetables for Health Initiative was launched in 2003 in Geneva by FAO and WHO in recognition of the importance of fruit and vegetable consumption for health. The first workshop was held in Kobe, Japan in 2004. I represented ACIAR at the most recent FAO/WHO workshop with this theme in Nadi, Fiji in October 2014. Participants included health, agriculture and education officials from most Pacific countries.

There is an urgent need to move resources from simplistic, expensive, reductionist medicinal dosing strategies to comprehensive food-based and food system-based approaches to address food and nutrition security. I congratulate *World Nutrition* for addressing this compelling issue. This is just the beginning.

Graham Lyons
University of Adelaide, South Australia
Email: graham.lyons@adelaide.edu.au

References:

1 Mason J, Greiner T, Shrimpton R, Sanders D, Tukich J. Vitamin A policies need rethinking. *International Journal of Epidemiology* 2014; doi: 10.1093/ije/dyu194.

2 Mason J, Greiner T, Shrimpton R, Sanders D, Yukich J. Development. Malnutrition. Vitamin A. Let food be our medicine. *World Nutrition* 2014; **5**(11): 940-952.

3 Latham M. The great vitamin A fiasco. *World Nutrition* 2010; **1,** 1: 12-45.

4 Graham RD, Welch RM, Bouis HE. Addressing micronutrient malnutrition through enhancing the nutritional quality of staple foods: principles, perspectives and knowledge gaps. *Advances in Agronomy* 2001; **70**: 77-142.

5 Christophersen OA, Lyons G, Haug A, Steinnes E. Selenium. In Alloway BJ (ed). *Heavy Metals in Soils: Trace Elements and Metalloids in Soils and their Bioavailability.* Springer, Dordrecht, 2013: pp 429-463.

6 Sanginga N, Woomer PL (eds). *Integrated Soil Fertility Management in Africa: Principles, Practices and Developmental Process.* Tropical Soil Biology and Fertility Institute of the International Centre for Tropical Agriculture. Nairobi, Kenya, 2009.

7 Lyons GH, Stangoulis JCR, Graham RD. Exploiting micronutrient interaction to optimize biofortification programs: the case for inclusion of selenium and iodine in the *HarvestPlus* program. *Nutrition Reviews* 2004; **62**: 247-252.

8 Lyons GH, Gondwe C, Banuelos GS, Zambrano MC, Haug A, Christophersen OA. Drumming up selenium and sulphur in Africa: Improving nutrition with *Moringa oleifera.* In Banuelos GS, Lin Z-Q, Yin X (eds) *Selenium in the Environment and Human Health.* CRC Press, Boca Raton, USA, 2014: pp 91-92.

9 Low JW, Arimond M, Osman N, Cunguara B, Zano F, Tschirley D. A food-based approach introducing orange-fleshed sweet potatoes increased vitamin A intake and serum retinol concentrations in young children in rural Mozambique. *Journal of Nutrition* 2007; **137**(5): 1320-1327.

10 Englberger L, Lyons GH, Foley W, Daniells J, Aalbersberg W, Dolodolotawake U, Watoto C, Iramu E, Taki B, Wehi F, Warito P, Taylor M. Carotenoid and riboflavin content of banana cultivars from Makira, Solomon Islands. *Journal of Food Composition and Analysis* 2010; **23**(6): 624-632.

*Lyons G. Vitamin A. 'Why weren't we told this long ago?' [Feedback]. World Nutrition December 2014, **5**, 12, 1115-1118*

Vitamin A
Interveners and empowerers

Access October 2014 IJE John Mason, Ted Greiner et al on Vitamin A here
Access November 2014 John Mason, Ted Greiner et al on Vitamin A here

George Kent writes:

The vitamin A drama has many lessons to teach us, not just humility. To me it is a major case study in the debate between intervenors and empowerers (1):

> Empowerment means increasing one's capacity to define, analyse, and act on one's own problems. An empowering programme is one that steadily reduces the beneficiaries' need for it. It builds the capacity of individuals and communities to make their own good decisions relating to their nutrition.

Intervenors favour programmes designed by outside experts to be delivered to needy people. In contrast, empowerers call for supporting people in addressing their own concerns on their own terms and with their own resources. The distinction is important in all sorts of development work, and it is a major theme in nutrition work. Intervenors want to control what you eat, while empowerers want to guide you in what you choose to eat. This resonates with John Mason's observation (2):

> The key policy debate of the moment is whether malnutrition can best be prevented through community-based programmes (for which the evidence is reasonably good) or through supply-side interventions (for which most of the funds cycle back to western corporations – 70 per cent of the proposed annual overall requirement of $US 10 billion, as estimated by the World Bank). I think we need another paradigm shift, away from top-down interventions and towards local solutions.

Currently the scientists produce little that would directly benefit the supposed beneficiaries of their work 'on the ground'. To illustrate, home gardening has good potential for helping to improve food security in general and also for addressing micronutrient deficiencies. However, there is little user-friendly friendly information designed to help home gardeners directly.

Knowing the high nutritive value of orange-flesh sweet potatoes, I wrote to the International Potato Center in the Philippines asking, 'Has any work been done on growing sweet potatoes at home on a small-scale, primarily for home consumption rather than for sale? Has the IPC been involved in any work relating to household production for any sort of potato?' What I got in return was two outdated and long collections of scientific papers, not the sort of thing home gardeners would welcome. The International Potato Center did not refer me to some other agency serving home gardeners that might help them get their own sweet potatoes started. There are some small and scattered local NGOs that do such work, but there is no global agency that helps those NGOs serve home gardeners. Why not? Who will help villages organise annual sweet potato festivals where outside and local knowledge can be shared?

Reviewing the vitamin A story, we see that the voices of families that are supposed to benefit from all this activity have not been heard. This is because the constituency for most scientists, the people from whom they get their validation, is other scientists and the funding agencies.

There are many ways in which this could be remedied. It is not difficult to imagine scientists visiting a few villages and discussing the options with new parents. The experts could say something like, 'we have some money that can be used to help reduce child deaths in your village. We know about the following types of

programmes and here is the evidence we have about them them. What do you think? Which options would you favour? Why?' Ted Greiner proposes (2):

> Donors should fund both supplementation and food-based programmes and approaches simultaneously, with simple monitoring to decide when supplementation was no longer necessary. This could be done perhaps district by district .

Maybe there are ways in which local people could participate. If they are to be the beneficiaries, they should be helped to see and assess the benefits. Maybe the local people could help the experts see benefits and harms they had not considered. One way to empower local communities might be to turn some of the research funds over to them, and let them decide what sort of experts and other services they will hire. Done right, this would help to ensure that the communities' interests are served, and also help to empower the experts by making them more effective in their work.

Addressing malnutrition effectively requires much more than nutrition science. In time we will all recognise that no one lives in a randomised controlled trial.

References

1 Kent G. Building Nutritional Self-reliance. In Thompson B, Amoroso L (eds). *Improving Diets and Nutrition: Food-based Approaches*. 2014: Rome, Italy: Food and Agriculture Organization of the United Nations. http://www2.hawaii.edu/~kent/BuildingNutritionalSelfReliance.pdf

2 Mason J, Greiner T, Shrimpton R, Sanders D, Yukich J. Development. Malnutrition. Vitamin A. Let food be our medicine. *World Nutrition* November 2014, **5**, 11, 940-952.

George Kent
University of Hawai'i, Honolulu, Hawai'i, USA
Email: kent@hawaii.edu

*Kent G. Vitamin A. Intervenors and empowerers [Feedback]. World Nutrition December 2014, **5**, 12, 1118-1120*

Vitamin A
Food should come first

Altrena Makuria writes:

Why have food-based strategies to improve vitamin A status not received more traction than the silver bullet mass distribution of vitamin A capsules? (1). Due to reductions in measles and diarrhoea mortality, high-dose vitamin A supplementation has very little impact on child mortality and a reduced impact on morbidity. Even, the high-dose vitamin A does not reduce the prevalence of low serum retinol or vitamin A deficiency itself.

So, now, can we revisit food-based strategies? In the 1990s to mid-2000s, there was a strong call for food-based approaches (2). But as the more enthusiastic promotion of silver bullets to solve micronutrient deficiencies increased, there seemed to be fewer calls for food-based strategies. Low to middle income countries continue to contain pockets of populations of children suffering from vitamin A deficiency, and there continues to be a need for prevention. With initiatives that combine agriculture and nutrition, it is now time to promote more feasible, locally and culturally appropriate and sustainable food-based approaches to prevent vitamin A deficiency.

Even though the body can better absorb vitamin A from orange or yellow fruits and vegetables and to a slightly lesser extent from dark green leafy vegetables, children are not fed enough of these foods. A study has demonstrated that daily consumption of sweet potatoes in children is more effective in improving vitamin A status than daily micronutrient supplements (3).

Community-based strategies can effectively reach poor and vulnerable populations with health and nutrition education and behaviour change (4). A food-based strategy will increase access through local production and consumption of pro-vitamin-A rich foods along with promotion of optimal complementary feeding practices that include diet diversity, consumption of animal-source foods where appropriate, adequate frequency of feeding, quantity and consistency of foods and improved child care practices.

In 2011 WHO strongly recommended against vitamin A supplementation in post-partum women and recommended that women consume a healthy diet to achieve adequate nutrition (5). Now it is time for investments in sustainable strategies for food-based approaches for children, too.

References

1 Mason J, Greiner T, Shrimpton R, Sanders D, Yukich J. Vitamin A policies need rethinking. *International Journal of Epidemiology,* 2014. doi: 10.1093/ije/dyu194

2 Chakravarty I. Food-based strategies to control vitamin A deficiency, *Food and Nutrition Bulletin* 2000, **21**(2):135-143.

3 Tanumihardjo, S. A., Food-based approaches for ensuring adequate vitamin A nutrition.*Comprehensive Reviews in Food Science and Safety* 2008. **7**: 373-381.

4 Bhutta, Z. A., Das, J. K., Rizvi, A., Gaffey, M. F., Walker, N., Horton, S., et al. (2013). Evidence-based interventions for improvement of maternal and child nutrition: What can be done and at what cost? *The Lancet,* 382 (9890): 452-477.

5 WHO. *Guideline: Vitamin A Supplementation in Postpartum Women.* Geneva, 2011: Geneva, WHO

Mukuria A. Food should come first
*[Feedback]. World Nutrition December 2014, **5**, 12, 1120-1121*

Vitamin A
A public service

Claudio Schuftan writes:

As far as I know, it is only *WN* that does this – following up on seminal documents in the literature, as here with the *International Journal of Epidemiology* paper on vitamin A supplementation, to ask the authors to explain their motivation and the thinking that led to their analysis and recommendations. It puts their paper in a better perspective. It is very unusual to get the authors interviewed, especially so soon after publication.

In this case *WN* reveals a common denominator. All the authors were motivated by a growing discontent that developed sometimes many years back until the time was ripe to go public.

Their commentary basically lambasts 'silver bullet' advocates (not only vitamin A silver bullet champions!) and shows how difficult it is to dethrone this or any supply-side intervention by changing policy-makers' attitude and behaviour. This, even despite thin or absent scientific evidence for continuing, in this case, to shoot silver bullets in the form of capsules – and evidently at the wrong age target group.

The authors also see the issue as ethical. The *IJE* paper and the *WN* commentary both strongly call for phasing out the universal vitamin A supplementation practice, and the sooner the better. It was originally designed as a stop-gap measure, and now has to go. The authors see no reason for inaction, and all the more so because as far as I can see, it has mainly become a market bonanza for the pharmaceutical industry. Yes, the disease burden has changed – a good reason by itself for policy and practice to change course. But the commentary and the *IJE* paper goes further and calls for resources to go to food-based approaches, for all the tons of good reasons stated over the years.

John Mason, Ted Greiner, Roger Shrimpton, David Sanders, Joshua Yukich, you have done public health nutrition a favour, and *WN* has now picked up the baton to run further with it and with you by its side. Well done everybody involved. Michael Latham would have been proud of you.

Claudio Schuftan
Ho Chi Minh City, Vietnam
schuftan@gmail.com

Schuftan C. Vitamin A. A public service.
[Feedback]. World Nutrition December 2014, ***5****, 12, 1122*

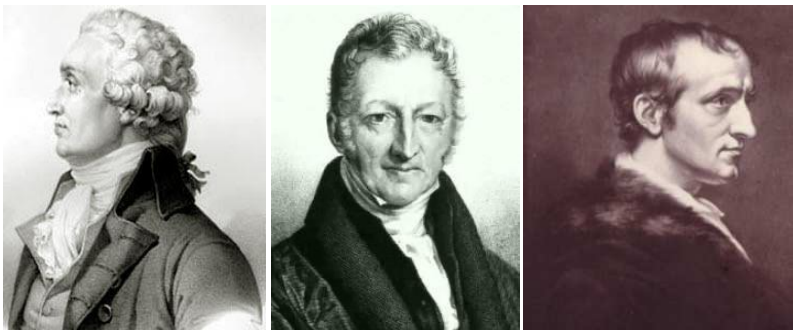
Ed – Claudio Schuftan is a long-standing member of the WN editorial family.
He was not involved in the preparation of the WN vitamin A commentary



Population. Climate

We have been warned – again and again

Access December 2009 Tony Michael, Colin Butler on climate here
Access July 2013 Claus Leitzmann on Limits to Growth here
Access March 2014 IPCC report on food systems impacts here
Access March 2014 IPCC report on health impacts here
Access April 2014 Editorial on climate and food systems here
Access May 2014 Editorial on climate and food systems here
Access May 2014 Tony McMichael, Helen Berry, Colin Butler on climate here
Access June 2014 Colin Butler on climate here
Access October 2014 Editorial on climate here
Access October 2014 Naomi Klein, Tony McMichael, Colin Butler on climate here
Access November 2004 Climate Change and Global Health ch 13 Colin Butler here
Access this issue Update Colin Butler and Mark Wahlqvist on climate here



The Marquis de Condorcet and Thomas Godwin (left and right) saw human growth as opportunity. Thomas Malthus (centre) saw that population would overwhelm capacity. The force is with him now

Colin Butler writes:

Here is a further contribution to the *WN* work in progress on climate and what led us to the world crisis we face now. *[Ed: links to relevant publications including Colin Butler on climate change, famine and food insecurity are above].* The German philosopher Jürgen Habermas identifies two forms of knowledge. One is 'hermeneutic'. This is for understanding cultural specifics 'from the inside', for communication between people who have the same general world view. The second is 'critical-emancipatory'. This creates a view of knowledge and reality 'from the outside', and is derived from new or unrealised ideals (1). Much thinking on climate and about population, and other future threats and prospects that require forethought and judgement, necessarily needs to be framed by this second form of knowledge.

Thus, it is well known that the theory of evolution is founded on the concept of competition. It is less well recognised that co-operation occurs, between co-evolving

individuals and groups. Many species co-operate and co-evolve. For example, we now know that in any adult human there are about 3 kilograms of bacteria of innumerable varieties, whose significance is now beginning to be understood.

Limits to human growth

The role of Thomas Robert Malthus (1766-1834), the world's first professor of political economy, in the unfolding of the theory of evolution by Charles Darwin and Alfred Russel Wallace, is also less well-known than it should be, because it too has run counter to the temper of the times (2).

The climate crisis is driven in large part by population growth, which in turn is driven by the general belief that all sorts of growth are good. In recent decades it became common to attack and even to ridicule Malthus. Especially from the late 1970s, many senior economists claimed that hunger would not be a problem (3). Thus D Gale Johnson, chairman of the department of economics at the University of Chicago, where he was seen as 'one of the world's most eminent researchers of agricultural and development economics', even argued that knowledge would continually and perhaps perpetually trump scarcity (3,4). His views upheld the US and other governments' commitment to constant and accelerated material growth

There was a history to such views. The US free-market champion Julian Simon, and the Chinese communist leader Mao Tse Tung, while having polar opposite political ideologies, both argued, more or less, that humans are the 'ultimate resource'. They believed that additional people were more likely to provide solutions than to contribute to problems, and that there is no real limit to growth. Before then, two contemporaries of Thomas Malthus, William Godwin (1756-1836) and the Marquis de Condorcet (1743-1794) were cut from similarly optimistic cloth. As he languished in a French jail, soon to die, de Condorcet wrote of a future time when want for all would be permanently solved. Thomas Malthus's *Essay on the Principle of Population* was written partially to refute him and also William Godwin.

The Cornucopian Enchantment

I have called the time from about 1980 until the 2008 global financial crisis the 'Cornucopian Enchantment' (5). In this period, most countries (excluding China, where Mao's pro-natalist policies were undermined by the great Chinese 1959-1962 famine, then permanently shelved by his successors), acted as if in agreement with US president Ronald Reagan, who in 1984 declared that population did not matter (6,7). Other powerful people have denied the idea that growth has limits. These included Laurence Summers, chief economist at the World Bank, and then a US cabinet member as Secretary of the Treasury. Paul Demeny, editor of the *Population and Development Review,* did not deny limits, but suggested that several more doublings of the human population might still be possible before these are reached (8).

Box 1

World scientists' warning to humanity

This statement, extracts from which are below, was issued in 1992. In the more than 20 years since then, in most respects circumstances have become more ominous and the evidence more compelling. This is the context of climate change. We were warned. The full statement is at: http://www.ucsusa.org/about/1992-world-scientists.html

We the undersigned, senior members of the world's scientific community, hereby warn all humanity of what lies ahead. A great change in our stewardship of the earth and the life on it is required, if vast human misery is to be avoided and our global home on this planet is not to be irretrievably mutilated. No more than one or a few decades remain before the chance to avert the threats we now confront will be lost and the prospects for humanity immeasurably diminished.

The Atmosphere. Stratospheric ozone depletion threatens us with enhanced ultraviolet radiation at the earth's surface, which can be damaging or lethal to many life forms. Air pollution near ground level, and acid precipitation, are already causing widespread injury to humans, forests, and crops.

Water Resources. Heedless exploitation of depletable ground water supplies endangers food production and other essential human systems. Heavy demands on the world's surface waters have resulted in serious shortages in some 80 countries, containing 40 percent of the world's population. Pollution of rivers, lakes, and ground water further limits the supply.

Oceans. Destructive pressure on the oceans is severe, particularly in the coastal regions which produce most of the world's food fish. The total marine catch is now at or above the estimated maximum sustainable yield. Some fisheries have already shown signs of collapse. Rivers carrying heavy burdens of eroded soil into the seas also carry industrial, municipal, agricultural, and livestock waste -- some of it toxic.

Soil. Loss of soil productivity, which is causing extensive land abandonment, is a widespread by-product of current practices in agriculture and animal husbandry. Since 1945, 11 percent of the earth's vegetated surface has been degraded -- an area larger than India and China combined -- and per capita food production in many parts of the world is decreasing.

Forests. Tropical rain forests, as well as tropical and temperate dry forests, are being destroyed rapidly. At present rates, some critical forest types will be gone in a few years, and most of the tropical rain forest will be gone before the end of the next century. With them will go large numbers of plant and animal species.

Living Species. The irreversible loss of species, which by 2100 may reach one-third of all species now living, is especially serious. We are losing the potential they hold for providing medicinal and other benefits, and the contribution that genetic diversity of life forms gives to the robustness of the world's biological systems and to the astonishing beauty of the earth itself. Much of this damage is irreversible on a scale of centuries, or permanent.

Population. The earth is finite. Its ability to absorb wastes and destructive effluent is finite. Its ability to provide food and energy is finite. Its ability to provide for growing numbers of people is finite. And we are fast approaching many of the earth's limits... Pressures resulting from unrestrained population growth put demands on the natural world that can overwhelm any efforts to achieve a sustainable future. If we are to halt the destruction of our environment, we must accept limits to that growth.

Enthusiasm for economic growth is of great benefit to industry. Resources such as cheap oil were squandered during the Cornucopian Enchantment. We are beginning to pay the price. Evidence includes rising prices of fuel and food, and rising costs of disasters, all in part caused by climate change. The predictions of Thomas Malthus – dire if nothing were to be done − are increasingly relevant now. But the concept of limits to growth remains poorly recognised by public intellectuals, and most powerful politicians and officials pay only lip service. Some, such as Tony Capon, director of the UN University Institute for Global Health, do understand. They need support.

Too many of us are beholden to the illusion that unremitting growth is essential. D Gale Johnson and others overlooked or ignored the joint view of 1,700 senior scientists, over 100 of whom had been awarded the Nobel Prize, who in 1992 were brought together by the Union of Concerned Scientists. This warning re-stated that there are limits to growth, in effect bringing the predictions of Thomas Malthus up to date (9). Among these Nobel laureates was Norman Borlaug, the 'father' of the Green Revolution, which had helped to avert the increase in hunger foreseen by Paul Ehrlich and others in the late 1960s, at a time when global population growth was at its peak. Some of what the Union said over 20 years ago is shown above in Box 1.

References

1 Castree N, Adams W, Barry J *et al.*. *Changing the intellectual climate. Nature Climate Change* 2014. **4**, 9,. 763-768.

2 Petersen W. *Malthus*. Cambridge MA: Harvard University Press, 1979.

3 Johnson DG. Growth of demand will limit output growth for food over the next quarter century. *Proceedings of the National Academy of Sciences* 1999, **96**, 11, 5915-5920

4 Johnson DG. Population, food, and knowledge. *American Economic Review* 2000. **90**, 1, 1-14.

5. Butler CD. Globalisation, population, ecology and conflict. *Health Promotion Journal of Australia, 2*007, **18,** 2, 87-91.

6. Finkle JL, Crane B. Ideology and politics at Mexico City: The US at the 1984 International Conference on Population. P*opulation and Development Review* 1985. **11**, 1, 1-28.

7. Wilmoth JR, Ball P. The population debate in popular magazines 1946-1990. *Population and Development Review* 1992, **18**, 4, 531-668.

8. Demeny P. Demography and the limits to growth. *Population and Development Review*, 1988, 14S, 213–244.

9. Union of Concerned Scientists, *World Scientists' Warning to Humanity*. Cambridge MA: 1992. http://www.ucsusa.org/about/1992-world-scientists.html

Colin D. Butler
University of Canberra, Capital Territory, Australia
Email: colin.butler@canberra.edu.au

*Butler CD. Limits to growth. We have been warned – again and again [Population. Climate] [Feedback]. World Nutrition December 2014, **5,** 12, 1123-1126*

Traditional food systems
Harmony everywhere

Access July 2012 Best Food on Earth: Peru. Enrique Jacoby here
Access August 2012 Best Food on Earth: Peru. Enrique Jacoby, Patricia Murillo here
Access June 2014 Enrique Jacoby et al on family farming in the Americas here
Access September 2014 Stefania Vezzosi on a Tuscan food system here

Stefania Vezzosi writes:

Here are a few more thoughts about traditional local food systems, following our commentary in the October WN. Giampolo Fabris, the Italian sociologist of consumer studies, says that side by side with *il villaggio globale* (the global village), with its pre-planned consumption, rituals and rhythms, thousands of different local cultures coexist and co-evolve. Our study took this insight as our theme. Our aim has been to prove that side by side with 'the syndrome of the full refrigerator' (which comes from the memory of hunger during and after World War 2), new generations could once again value and nourish traditional Tuscan values, attitudes and ways of life.

Hence, our main goal has been to 'direct the gaze and the hands' of the school community in a continuous process that has involved many voices, in which we have explored foods, the tastes of the young and the elderly, and the countryside with all its products – not only food. The countryside belongs to the whole community. The land can produce well-being, and also evoke aesthetic feelings, many emotions, and enhanced conviviality. As we all know, children have watchful, interested, full of confidence eyes on the world around them and on what will happen.

We believe that it is through knowledge of the countryside where they live, that people can recover and understand the recent and past food and agricultural story and to make links between facts, circumstances and situations. Then we all can grow our future with more care, respect, affection and awareness.

Our project has been possible because of the attention, commitment and synergy between different professionals and institutions, awareness of alternative policies and multiple pathways of research and work. From this has arisen a wealth of precious knowledge and skills about farmers' traditions which, we hope, will take root in the minds and hearts of the people here, as well as in the earth, and further develop the beauty, richness and goodness of the Tuscan food culture.

Stefania Vezzosi
Food and Nutrition Dept, Local Unit 3-Pistoia, Tuscany, Italy
E-mail: s.vezzosi@usl3.toscana.it

Vezzosi S. Traditional food systems. Harmony everywhere

[Feedback]. World Nutrition December 2014, ***5****, 12, 1127*

Food supplies

Green shoots in Kuwait

Access October 2014 Update Hetty Einzig on street markets here
Access 2014 Sara and Philippe Garduno-Diaz on obesity in Kuwait here



Green shoots are growing in Kuwait, but there is much to be done to ensure a healthy food supply in a country where obesity rates are high and rising. Locally grown products at an organic supermarket

Sara Garduño-Diaz writes:

Kuwait, where I am working now, is a country with one of the highest average incomes per head in the world. It is also rapidly becoming one of the fattest. In 2010 the World Health Organization estimated obesity prevalence at 30 per cent for men and 55 per cent for women in Kuwait, ranking it the most obese among Arabic-speaking countries.

Previously a country dominated by a nomadic lifestyle and the trading of pearls, Kuwait has experienced rapid economic growth since the discovery of oil in 1938. Following the occupation by Iraq in 1990 and then the intervention by the US and its allies, changes in ways of life including eating habits have resulted in very rapid increases in rates of obesity (1).

But it is not all bad. In the *October issue of WN Hetty Einzig* celebrated her local farmers' market in London's Stoke Newington. Here I report on the Shakshooka pop-up market in Kuwait, the farmer's markets in the south of the country, and on the options for purchasing locally grown organic food in Kuwait.



Shakshooka: pop-up mystery organic market

A weird thing about this farmers' market is that its location and opening hours change at random. One never knows when and where it will pop up, so one must be on the lookout. *Shakshooka* is a Middle Eastern dish made with eggs poached in a sauce of tomatoes, chili peppers, onions and cumin. The dish is the inspiration for the name of the new business and is captured in the egg-tomato logo shown above. The market is unlicensed, unregulated, and popular. As part of a growing informal economy in Kuwait where locals and expatriates launch Instagram shops and pop-up businesses to avoid bureaucratic loopholes, the market is run for only a few hours every week and only during the winter months – summer is too hot for most outdoor activities in Kuwait. The market organisers will announce the day and location shortly before it opens, and then it's a free for all!

Shakshooka usually take place in an inner courtyard of a traditional-style Kuwait house. The last *Shakshooka* of the season last year was held at *BeitCedra.* Most stalls sell out by the hour, with products ranging from locally grown vegetables and fruits to artisanal bread, cheese, coffee and eggs. Everything sold at *Shakshooka* must be made by the person selling the goods at the market and not part of an established business. Nothing should be industrially processed. No cupcakes, cookies or commercial chocolate or hazelnut spreads are allowed. People of all ages are involved and the wholesome goodness is palpable in the air. The *Shakshooka* outdoor market has become the newest '*habba*' (Kuwaiti slang for trend).

Farmers' markets at the Wafra farms

Parallel to the Saudi border is Wafra, the southernmost city in Kuwait, famous for its fertile soil and farms. This part of the country is fed through naturally occurring underground lakes, and it is the one area where food is grown in the country. It is possible to tour the farms on the weekends and then shop for fruits, vegetables, herbs and dairy products. This is as fresh as it gets in Kuwait. Some products from the Wafra farms are available in larger supermarkets, under a specially designated farmers' market section with slightly higher prices than imported foods.

Most of the farms in Wafra are behind high walls, so we don't really know what goes on in there. The couple of places that it is possible to visit, claim to follow organic practices. The chickens kept at some of these farms are free-range and most of the cow milking is done by hand. The products are advertised as pesticide-free and

natural. Standards for food imports into Kuwait are quite relaxed. Most focus just on certification of origin and labelling for *halal* meat and meat products. Detailed lists of ingredients are required but generally not enforced (1).

The Middle East market is acknowledged as one of the fastest growing markets in the world for natural and organic products (2). But lots of education is needed for the general population as to what constitutes organic foods, processed foods and their impact on personal wellbeing.

Bringing fresh products to the city

If driving over an hour through the desert in search of local organic produce is not a feasible option, the products can come to you. For organic products, apart from the pop-up market, it is possible to visit one of the large supermarkets or the organic section in the more popular supermarket chains. SaveCo is new in Kuwait. It opened only in this year of 2014, and is still unknown to most of the population. Most of the people shopping there seem health-aware, checking food labels and really taking the time to browse the aisles. The selection of organic items is wide, although little is locally sourced. Products include fresh vegetables and freshly baked bread. In Kuwait this is a big deal. Conscious selection of quality food is a new phenomenon.

According to the five strategic pillars set by IFOAM (the International Federation of Organic Agriculture Movements) (3), the Middle East is only at a developmental stage, with European Union countries and the US leading the way in advocacy, information, development of organic food growing programmes and upholding organic standards. Diets composed exclusively of locally grown food in this region are an impossible dream, and organic food production is only just taking off. Progress depends on demand, and thus food quality becoming a priority.

Sara Diana Garduño-Diaz
American University of the Middle East, Kuwait
Email: sdgarduno@gmail.com

References

1 Garduño-Diaz S, Garduno-Diaz P. Components of an obesogenic environment in Kuwait. *Journal of Nutritional Therapeutics* 2014, **3**, 35-46
2 Middle East Natural and Organic Products Expo Fact sheet, 2014. Available from: http://www.naturalproductme.com/fact-sheet.htm.
3 International Federation of Organic Agriculture Movements. *The Five Strategic Pillars*. 2014. Available from: http://www.ifoam.org/en/what-we-do/organic-umbrella.

Garduño-Diaz S. Food supplies. Green shoots in Kuwait.
[*Feedback*] *World Nutrition December 2014, **5,** 12, 1128-1130*

Nutrition and nourishment

Healthy food is beautiful

Access September 2014 Geoffrey Cannon on healthy meals are beautiful here
Access November 2014 Guia Alimentar para a Populacao Brasileira here



A Brazilian main meal dish. The traditional national rice and beans, plus meat balls made by grandmother, and beetroot with an Andean type of potato. It is beautiful, delicious, nourishing

Maria Alvim writes:

We have been invited to send in pictures of good food, dishes or meals that look good, the examples given being salads. Here above is my contribution. This is whole rice, black beans, 'baroa' potato (which looks a bit like a carrot and tastes rather like chestnut with celery) cooked with onions, baked meatballs, and shredded raw beetroot. Everything was prepared by me, except the meatballs, made by my 83 year-old grandmother and baked by me. This is a good example of a daily dish and of Brazilian cuisine. It is rich in nutrients, colours, textures and flavours. As I prepare the food I love the noise of the pressure cooker hissing, and the smell of cooked beans. On the plate, a greater pleasure is the sensation that my grandmother's spices bring. Noise, smell, taste and a feast for the senses: it is a complete dish.

Maria Alvim
Federal University of Juiz de Fora, Minas Gerais, Brazil
Email: maria_alvim@yahoo.com.br

Alvim M. Healthy food is beautiful
*[Feedback]. World Nutrition December 2014, **5**, 12, 1131*

Obesity

Walking the walk and talking the talk

Access Yoni Freedhoff website here
Access September 2014 Update on Yoni Freedhoff here



Faced with an easy way to build physical activity into their everyday lives, what do some top obesity experts do? As sleuth and Weighty Matters blogger Yoni Freedhoff shows, they take the escalator

***Yoni Freedhoff* writes:**

In the week of 2-7 November I went from my home town of Ottawa in Canada to Boston, Massachusetts, for Obesity Week. This is a massive annual joint conference co-hosted by The Obesity Society and The American Society for Metabolic and Bariatric Surgery. Among the over 5,000 people attending are many of the world's foremost obesity researchers and clinicians.

These are the folks who most assuredly understand and appreciate the impact 'lifestyle' has on health. Among the many recommendations health professionals provide their patients and the public is: 'take the stairs, not the escalator'. And yet... Above is a typical picture from a video I shot on the first day of the conference. It shows what some of the top experts do, faced with the obvious choice to either use the escalator, or to take the immediately adjacent stairs. As you see, nobody chooses the stairs. The fact that the folks with arguably the most education about the value of purposeful healthful lifestyle choices don't make this easy, healthful, and obvious choice, speaks to the folly of simple 'education' as a means of changing behaviour.

If the world's top obesity experts don't practice what they preach, it bolsters the case that education alone isn't going to cut it in improving health in the US, my own country of Canada, or anywhere else for that matter. Without environmental

engineering and legislative efforts designed to support and encourage desired behaviour, our healthy living staircases aren't likely to see much use.

People first language

Here is another nugget from the conference. People aren't 'obese'. People ' have obesity'. This distinction is referred to as 'people first language'. Many have championed its use and importance in other chronic diseases and especially in regard to mental illness. Not using people first language labels people by way of their medical conditions. When it comes to 'obesity', given the negative stereotypes associated with the word, labelling somebody as 'being' obese is a deeper stigma.

The Obesity Society, and the American Society of Bariatric and Metabolic Surgery, have both adopted as their policy, people first language. But three days into their joint Obesity Week conference, after attending more than a dozen presentations, I had yet to hear the language used once in a lecture hall. And given that the speakers who clearly at least in many cases are not using people first language, are the very experts called upon by the media for comment on obesity, their adoption of people first language is important beyond the lecture halls. They need to get into the habit.

Here's hoping that next year The Obesity Society and the American Society of Bariatic and Metabolic Surgery provide their speakers with strong encouragement as to the need for and value of people first language. Perhaps a category on people first language on the speaker evaluation could help. Many experts no doubt see the value of the language, but may not yet realise that they are not adopting it.

Yoni Freedhoff
Bariatic Medical Institute, Ottawa, Canada
http://www.weightymatters.ca/

Freedhoff Y. Obesity. Walking the walk and talking the talk.
[*Feedback*] *World Nutrition December 2014,* ***5,*** *12, 1132-1133*

How to respond

Feedback is edited by Maria Alvim and Isabela Sattamini. Please address letters for publication to wn.letters@gmail.com. Letters usually respond to or comment on contributions to *World Nutrition*. More general letters will also be considered. Usual length for main text of letters is between 350 and 1,000 words but they can be shorter or longer. Any references should usually be limited to up to 12. Letters are edited for length and style, may be shortened or developed, and once edited are sent to the author for approval.