Nutriview

2009/1

A quarterly newsletter on the role of micronutrients in nutrition and health for health-care professionals and science communicators

Editorial:

Asia hosts key 2009 nutrition meetings

Already, we are in the ninth year of the twenty-first century, and malnutrition is still one of the world's most devastating problems. This year, nutrition specialists from academic and research institutions, international agencies, food and ingredient industries, national ministries, educational institutions, NGOs and community organizations from every part of the globe will hold two major conferences in Asia to continue the search for appropriate solutions.

The first of these conferences, the Second International Meeting of the Micronutrient Forum, acts as a catalyst and convener for sharing expertise, insight and experience relevant to the control of micronutrient deficiencies in vulnerable populations around the world. It will be held in Beijing, China, from May 12–15 at the Beijing International Convention Center in the heart of the 2008 Olympic Games Village. The theme of this conference is "Micronutrients, Health and Development: Evidence-based Programs". Registration is free.

About 700 delegates are expected to attend the Forum, which focuses on the impact of micronutrient deficiencies on public health and development, concentrating specifically on populations that are deficient in vitamin A, iron, folate, iodine and zinc. Collaboration between the various crosscutting groups promotes and advances the development of innovative solutions for reducing vitamin and mineral deficiency around the world. Interested individuals should register at http://www.micronutrientforum.org/Meeting2009/registration.cfm before March 1. For more information please consult http://www.micronutrientforum.org/Meeting2009 or contact Silvana Faillace at <mnforum@aed.org>.

The second conference, the 19th International Congress of Nutrition (ICN 2009), takes place at the Bangkok International Trade & Exhibition Centre in Bangkok, Thailand, on October 4–9. The ICN is a major event that, every four years, provides the highest quality scientific program featuring internationally recognized experts. It brings together more than 3,000 nutrition scientists, practitioners and researchers from all over the world and provides an excellent opportunity to meet and interact.

Host of this year's event is the Nutrition Association of Thailand, under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn. With its theme "Nutrition Security for All," the ICN 2009 addresses nutrition as an integrative science, linking with other disciplines to engage and advance evidence-based policies and programs within comprehensive food and health delivery systems. The message of the Congress will be addressed through 13 sub-themes broadly representing proximal determinants and ecological, social and cultural determinants of nutrition security for all people. Related topics are grouped into three so-called Cascades as shown in Table 1. For program and speaker details, please consult http://www.icn2009.com/conference.html and http://www.icn2009.com/news.html. To benefit from the 'Early-bird' registration fee of US$600, international delegates should register before July 4.

Table 1: Cascade themes

Cascade I: Scientific knowledge; models in nutrition science & food-based strategies	
A	Nutrient requirements & metabolism
B	Nutritional assessment
C	Clinical nutrition
D	Food-based strategies/interventions for optimal nutrition
Cascade II: Integrating agriculture, food systems, indigenous cuisines & diet quality	
E	Agriculture and food systems
F	Food cultures, cuisines, & indigenous diets
G	Right to adequate food
Cascade III: Application of Cascades I & II into problem solving, prevention, promotion	
H	Nutrition and infection, immunity, inflammation
I	Obesity and nutrition-related chronic diseases
J	Nutrition throughout the life course
K	Evidence-based policies & programs to address global health & nutrition goals
L	Food & nutrition interventions for health
Cross-cutting Cascades I, II & III	
M	Frontiers in nutrition research

A. Bowley

Feature:

HarvestPlus: biofortification moves ahead

Research into biofortification (see Nutriview 2004/4), the use of modern agricultural techniques to increase micronutrient levels in staple crops, is making considerable progress. Since the global alliance of research institutions and implementing agencies HarvestPlus was launched in 2004, it has published more than one hundred articles in peer-reviewed agriculture and nutrition journals, and answered two critical questions:

1. Do biofortified crop varieties perform agronomically as well as or better than traditional varieties?
2. Is it possible to breed sufficient amounts of micronutrients into staple crops to have a measurable impact on human health?

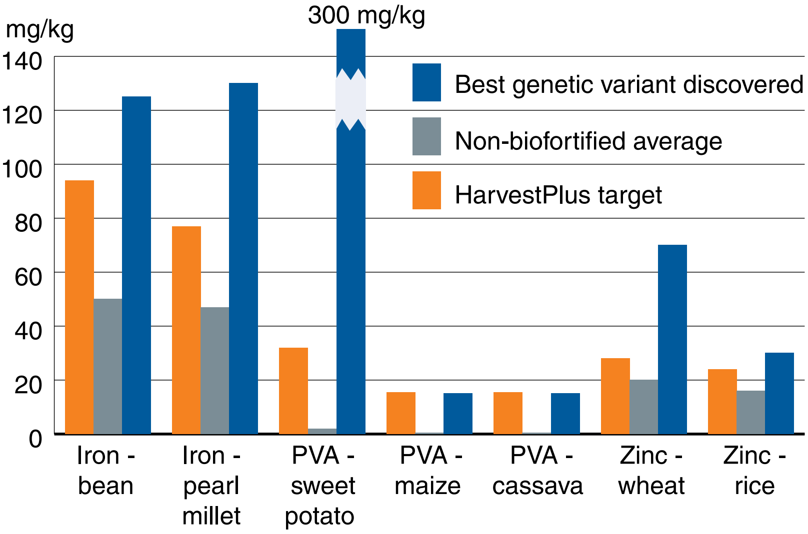

Figure 1: Micronutrient levels in selected staple crops (PVA = provitamin A)

Research addresses farmer concerns

Biofortified crop varieties must perform as well as, or better than current varieties; otherwise farmers will not grow them. HarvestPlus research therefore addresses farmer concerns, and aims to breed varieties that not only have higher micronutrient levels, but also are more resistant to disease and adverse growing conditions.

So far, breeding has led to new varieties of orange-fleshed sweet potato that are rich in provitamin A, higher yielding, and increasingly drought tolerant. HarvestPlus is currently testing them in regions of Mozambique and Uganda where there is a high prevalence of vitamin A deficiency. It is also about to release high-iron varieties of bean and pearl millet in Rwanda and India, respectively, to combat widespread iron deficiency. Among other traits bred into the plants, the bean variety has a greater tolerance to heat and drought, and the pearl millet is more resistant to mildew.

HarvestPlus scientists are also hoping to breed a provitamin-A rich variety of maize, and varieties of rice and wheat with higher levels of bioavailable zinc and iron. The aim is to obtain a maize for Africa that is also tolerant to drought, a rice that better tolerates cold and submergence, and a wheat that is resistant to lodging (tendency for the crop to be flattened in the field).

High micronutrient levels achievable

Breeding new crop varieties is an ongoing, iterative process. Success in reaching target levels of nutrients has varied depending on the crop studied. Figure 1 shows the highest levels of selected micronutrients found so far in different breeds of the same species (natural variation of the germplasm) compared with average levels in non-biofortified varieties and HarvestPlus target levels. These figures are revised periodically, as new data become available. In determining target levels for plant breeders, nutritionists consider dietary intakes by the target population, post-harvest nutrient losses during storage, processing and cooking, as well as micronutrient bioavailability.

In the case of sweet potato, for example, varieties with extremely high levels of provitamin-A carotenoids have been discovered. Most varieties being disseminated or tested have 100% of the HarvestPlus target level. On the other hand, biofortified bean varieties currently undergoing field-testing prior to release in Rwanda contain 40–50% of the target iron level. Newer varieties still in the breeding pipeline will have 60–100% of the target.

Human trials encouraging

Whether the amount of micronutrients in a biofortified crop will improve nutritional status in humans is a separate issue that is still being investigated by ongoing HarvestPlus nutrition research. Two studies are worth highlighting [1, 2].

In the Philippines, Haas et al. showed that consumption of biofortified rice containing 3.21 mg/kg iron (5.6 times as much as the

Ugandan women prepare orange sweet potato currently commercialized variety) could help to reduce the gap between typical intakes and iron sufficiency. Some of the women who had marginally insufficient iron intakes might even have crossed the threshold to sufficiency. At the end of the study, women who ate the biofortified rice for nine months had greater iron stores (serum ferritin) than the women who ate traditional rice; their total iron levels were 20% higher. Non-anemic women with the lowest baseline iron status, and who consumed the most iron from rice, showed the greatest improvement in iron status.

In Mozambique, where vitamin A deficiency affects more than 70% of young children, Low et al. found that children who regularly eat orange-fleshed sweet potato biofortified with provitamin A have higher vitamin A intakes and serum retinol levels than those who eat traditional white and yellow varieties.

With prototype varieties moving from the laboratory to the field, HarvestPlus has begun to study micronutrient bioavailability, perform controlled efficacy trials in target regions of Africa and Asia, and test farmers' and consumers' acceptance of biofortified crops. It conservatively estimates that, in fifteen years, more than 250 million people in ten countries will be eating proven biofortified foods, saving three hundred thousand or more disability-adjusted life years (DALYs; a measure of overall disease burden) annually. Once it has received definitive results from its efficacy studies, it will be easier for HarvestPlus to create support for biofortification, especially among health professionals and policymakers. While early evidence, largely based on provitamin-A sweet potato and high-iron rice, has been encouraging, the next wave of biofortified crops (bean, pearl millet, cassava, maize) slated for efficacy trails within the next 2–3 years should further strengthen the case for biofortification.

References

1. *Haas JD, Beard JL, Murray-Kolb LE, et al. Iron-biofortified rice improves the iron stores of non-anemic Filipino women. J Nutr 2005; 135: 2823–2830.*
2. *Low JW, Arimond M, Osman N, et al. A food-based approach introducing orange-fleshed sweet potatoes increased vitamin A intake and serum retinol concentrations in young children in rural Mozambique. J Nutr 2007; 137: 1320–1327.*

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Feature:

Flour fortification with vitamin A

Vitamin A deficiency (VAD) affects more than 130 million children under five years of age and about 20 million pregnant and lactating women globally. They are mainly individuals with low dietary intakes of foods from animal sources or provitamin-A-rich plants. In such populations, the fortification of cereal flours can play an important role in improving vitamin A status. Because VAD also contributes to iron deficiency anemia (IDA), food fortification with vitamin A helps to reduce IDA as well as VAD.

Cereal flours are a major component of the diets of poor families in many countries; they are often centrally processed, and fortification is technically feasible. Experience in the Philippines, Bangladesh and Venezuela shows that flour fortification with vitamin A can have a profound human and social impact [1, 2, 3].

Unfortunately, some flour millers and bakers are reluctant to include vitamin A in the fortification process. They say that the losses in vitamin A during processing to the finished product might be important. Others complain that they cannot afford to add more than elemental iron and folic acid, due to low profit margins and government controls on flour prices.

Quality is a critical factor

To have a measurable impact on public health, the ingredients used in food fortification must meet minimal standards. Ingredients of inferior quality cannot be expected to work as well as those of high quality. What you "save" by using a cheaper form of fortificant or simpler technology is frequently lost to unpredictable micronutrient levels, poorer stability and lower efficacy.

Vitamin A (retinol) is an unstable fat-soluble compound. To make it suitable for fortification, its chemical structure must be modified. Esterification of retinol yields oils such as retinyl acetate or retinyl palmitate. In order to make these suitable for the fortification of dry powders such as cereal flours, manufacturers of high-quality fortificants encapsulate the oil into nano-beadlets incorporating antioxidant systems (Figure 1). This yields a highly stable, compatible and (often) water-dispersible powder that is readily bioavailable. The majority of vitamin manufacturers still have to learn how to master this technology.

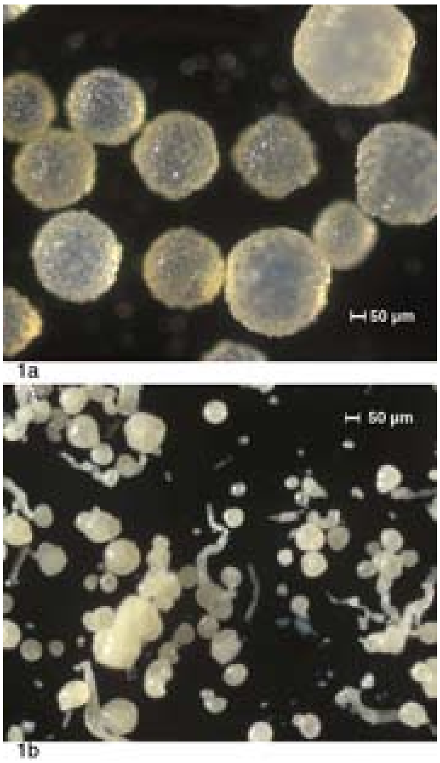

Figure 1a: Example of a premium-grade vitamin A for coarse-particle foods, such as cereal meals and sugar, under the microscope. The uniform spherical, isolated beadlets ensure a reliable behavior.
Figure 1b: Example of a lower-grade form of vitamin A for the same purpose (according to the label). The clusters of particles of different shapes and sizes make their behavior unpredictable in the best of cases, and instability a certainty.

When an appropriate form of vitamin A is used, the fortified flour can be stored without any considerable loss of activity. In the Philippines, fortified wheat flour still contained 81% of the added vitamin A after one month of storage [4]. Even in the presence of iron, retention was still over 70%. In another study, 90% of added vitamin A (range 79–105%) was retained in most processed foods made from fortified flour stored for up to six months [5]. Another study reported that more than 70% of the vitamin has been found in fortified flour stored for 3 months at 45º C rather than at room temperature [6].

Stability testing in the laboratory (unpublished) has shown major variations in the stability of vitamin A in fortified white bread. When a high-quality fortificant was used, the bread still contained 99% of the added vitamin after storage for three days at 22°C; when fortification was done with two low-grade products, retention was 79% and 33% respectively. In similar experiments with vitamin-A/flour premixes stored at 30°C and 60% relative humidity for three months, vitamin-A retention was around 80% for the products made with the premium-grade fortificant, and between 70% and 50% for those made with low-grade forms.

Users should also be aware that some premixes might contain less vitamin A than stated on the label. This can be as much as one third less than the claimed amount, according to independent analyses. High-quality products have built-in overages to ensure they contain the labeled amount at the end of the shelf life of the product.

Benefits outweigh the costs

The cost of including high-quality vitamin A in a premix to fortify flour is not as prohibitive as it might seem at first sight. It only costs a few cents to add iron, B vitamins and vitamin A to the amount of flour consumed by an adult in a year.

Under current international market conditions and fortification regulations, fortification with iron and B vitamins adds about US$0.80–4.00 to the cost of a metric ton of flour (an increase of 0.2–1.0%, assuming that a metric ton of flour costs US$400). The actual cost depends on the fortification profile, the form of iron used and several local conditions such as import duties and taxes. Adding vitamin A at 50% of women's requirements (based on the WHO/FAO recommended values) increases the total cost of a metric ton of the fortified product by US$0.60–1.20 (0.15–0.3%). This is less than inflation in most countries. Considering that this measure can reduce infant mortality by 23–34% [7, 8] and maternal mortality by 40% [9] it is certainly worth the investment.

To ensure that fortification effectively benefits public health, governments should consult with all the partners early in the process to ensure that the costs are spread fairly. They should also strictly enforce minimal quality standards and monitor the performance of the program up to the consumer level.

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Review:

A tool to determine fortification levels

Developers of a mass-fortification program must carefully determine the levels of the micronutrients to be added, because it affects a large proportion of the population, and the daily intake of the fortified food cannot be controlled. The program should ensure that most of the people who eat the fortified food obtain the micronutrients that are deficient in their diet at intakes corresponding to the Estimated Average Requirement (EAR). At the same time, very few, if any, should have intakes at or above the Upper Tolerable Level of Intake (UL) of the added micronutrients. To comply with these requirements, developers need to characterize the baseline micronutrient intake through the current diet, as well as the usual consumption pattern of the foods that are being considered for fortification. If this information is lacking or incomplete, it can result in the use of fortification formulations that do not necessarily represent the needs of the target population.

To make it easier for developers to determine fortification levels (during production and at the sales point) and set standards for mass fortification (e.g. fortification levels at retail stores), Omar Dary and Michael Hainsworth of the A2Z Project, the USAID Micronutrient and Child Blindness Project at the Academy for Educational Development in Washington DC, have developed the "Food Fortification Formulator". It consists of a 29-page introductory brochure and a series of Excel spreadsheets, which can be downloaded from the website of the A2Z Project (http://www.a2zproject.org/node/49).

The brochure outlines the significance, requirements and specifications of a mass-fortification program. It also describes the ten steps involved in designing a program of this type:

1. Select an industrially produced food vehicle that is consumed in adequate amounts by a large segment of the target population, and that can be processed economically by a small number of manufacturers. Processing should not change the food's sensorial properties or impair the stability of the added micronutrients. It should also be amenable to supervision by food control authorities.
2. Define the nutritional objectives based on the dietary quality of the target population. They should ensure that any micronutrients lacking in the diet are added in adequate amounts, taking care that nutrients with possible adverse effects are not consumed excessively.
3. Find the appropriate combination of food vehicles. In most cases the nutritional objectives cannot be reached with a single fortified food or intervention.
4. Estimate usual intakes of the food vehicles for each gender and age group, as a basis for determining suitable fortification levels.
5. Determine the feasible fortification levels for each food. These are the levels that best provide the greatest number of target individuals with an adequate micronutrient intake without exposing those who eat large amounts of the food to the risk of excessive intake. They must also be compatible with the sensorial characteristics of the food being fortified.
6. Define the acceptable allowable cost that consumers and industries can afford, but does not distort the rules and practices of food trade.
7. Assess the potential nutritional impact of fortification on the target population. The amounts of added micronutrients must be adjusted to ensure that levels in the fortified food are efficacious, safe, technologically compatible and affordable.
8. Estimate the average, minimum and maximum levels of fortification at production. Food factories rely on these data as technical specifications for quality control and quality assurance.
9. Calculate regulatory parameters (legal average, as well as minimum and maximum tolerable levels) for standards and enforcement purposes, taking into consideration normal losses during storage and distribution.
10. Formulate the premix, so it contains adequate amounts of nutrients and other ingredients needed for fluidity and stability. It should supply the average selected fortification levels after being mixed with the food at the specified dilution.

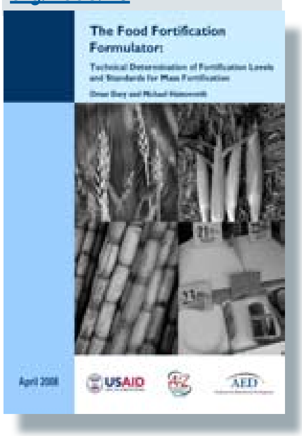
Computerized worksheets facilitate calculations

So far, the Formulator covers eight foods (salt, sugar, oil, refined wheat flour, high extraction wheat flour, maize flour without germ, whole maize flour, maize masa flour). Each spreadsheet has fifteen worksheet pages (introduction, summary, inputs, selecting levels, fortification parameters, premix formulation, food intake, technical information, EAR values, Recommended Nutrient Intake (RNI) values, UL values, conversion factors to estimate EAR values from RNI values, price of fortificants, intrinsic micronutrient contents, fortification formulas). Most worksheets contain reference values that can be modified by the user to better reflect specific conditions.

Users are required to complete the inputs worksheet at least. This shows how much the food to be fortified costs in the country, its estimated per-capita consumption, what proportion of the population consumes it, and whether the diet is moderate or low in mineral bioavailability. From the data provided, the Formulator estimates the probable distribution of the food intake for different gender and age groups based on

Mass fortification
The WHO/FAO guidelines on food fortification with micronutrients (see Nutriview 2007/1) define mass fortification as the addition of one or more vitamins and/or minerals to processed foods that are commonly consumed.

A PDF copy of this document, as well as the individual spreadsheets, can be downloaded from the A2Z website at: http://www.a2zproject.org/node/49



the principles of adult equivalent (i.e. proportional energy intake using as reference the requirements of adult males), suggests fortification formulations depending on the estimated food intake.

The user can adopt or modify these suggested fortification formulas based on the program's objectives, taking into consideration reference information about costs and additional intakes (as a percentage of EAR and RNI, as well as in absolute amounts and their approximation to UL values). Once the user has selected the fortification levels, the Formulator computes the parameters for quality control and regulatory purposes. It can also define the micronutrient content of premixes for different dilution factors.

The summary worksheet assembles all the basic information that is critical for the design, implementation, monitoring and evaluation of a mass-fortification program.

Although the Formulator has been designed for mass fortification, it may also be applicable to target fortification and market-driven fortification. The authors acknowledge that the Formulator can still be improved, and ask users to send them comments, corrections and suggestions.

Reference

1. *Dary O, Hainsworth M. The Food Fortification Formulator: Technical Determination of Fortification Levels and Standards for Mass Fortification. A2Z/USAID and AED. 2008.*

A. Bowley

News in brief:

NTD rate lower in South Africa after fortification

In October 2003, South Africa introduced mandatory fortification of maize meal and bread flour with folic acid, other B vitamins, vitamin A, iron and zinc. To determine whether this has had any influence on the prevalence of neural tube defects (NTD), Sayed et al. measured NTD prevalence among infants born in four provinces before and after the start of the program, and assessed the economic benefit achieved.

In the prefortification period (January 2003–June 2004) the provinces registered a prevalence rate of 14.1 NTD cases per 10,000 births. In the postfortification period (October 2004–June 2005) the rate was 9.8/10,000 births, a significant decline of 30.5%. There was no significant change in the prevalence of orofacial cleft. The economic benefit achieved from the prevention of NTD was 46 times greater than the cost of implementing fortification. Independent national surveillance systems also found significant reductions in perinatal death and infant mortality due to NTD (38.8% and 65.9% respectively).

1. *Sayed A-R, Bourne D, Pattinson R, et al. Decline in the prevalence of neural tube defects following folic acid fortification and its cost-benefit in South Africa. Birth Def Res (Part A) 2008; 82: 211–216.*

Supplements reduce risk of TB recurrence

Since the development of antibiotics for the treatment of tuberculosis (TB) in the 1940s, nutritional support has ceased to play a role in TB therapy, although patients with active TB often suffer from multiple micronutrient deficiencies. To see if micronutrient supplementation reduces mortality, morbidity and other adverse outcomes of TB therapy, Villamor et al. conducted a randomized, placebo-controlled trial in 887 micronutrient-deficient Tanzanian adults (471 HIV-positive, 416 HIV-negative) suffering from pulmonary TB [1]. Supplementation began at the same time as chemotherapy. Antiretroviral treatment was not available. The supplement contained the vitamins A, B complex (including folic acid), C and E, as well as selenium, in doses equivalent to 6–10 times the recommended daily allowance. Patients were monitored for a median of 43 months.

TB recurrence occurred in 45% fewer of the supplemented patients (63% fewer in HIV-positive individuals) compared with those on placebo. Incidence of peripheral neuropathy (a common side effect of TB chemotherapy) was reduced by 57% in supplemented patients irrespective of HIV status. HIV-negative participants had higher CD3 and CD4 cell counts (important for cellular immunity) after supplementation. Supplementation had no significant effect on overall mortality, weight gain, body composition or anemia in any patients, or on viral load in HIV-positive individuals.

In their accompanying editorial, Benn et al. agree that micronutrient supplementation has the potential to become an effective, cheap, and easily administered component of TB therapy, but consider the current evidence too weak and contradictory to form the basis for recommendations [2]. They criticize the lack of vitamin D and zinc in the supplement.

1. *Villamor E, Mugusi F, Urassa W, et al. A trial of the effect of micronutrient supplementation on treatment outcome, T cell counts, morbidity, and mortality in adults with pulmonary tuberculosis. J Infect Dis 2008; 197: 1499–1505.*
2. *Benn CS, Friis H, Wejse C. Should micronutrient supplementation be integrated into the case management of tuberculosis? J Infect Dis 2008; 197: 1487–1489.*

Multiple micronutrients reduce anemia better than iron alone

Since 2001, the WHO recommends iron supplementation for all children aged 6–23 months in countries with a high prevalence of anemia. More recently, following evidence that supplementation with iron and folic acid could increase infant morbidity and mortality in malaria-endemic areas, it has modified its recommendation to include malaria control.

To investigate whether additional micronutrients can benefit anemia control in malarial areas, Ouédraogo et al. measured the effects on hemoglobin of three different supplements in anemic (mean hemoglobin: 90 g/L) children aged 6–23 months in rural Burkina Faso. On five days a week for six months, 96 children received 15 mg iron, 100 received iron plus 10 mg zinc, and 100 received a multimicronutrient supplement containing the vitamins A, B complex (including folic acid), C, D, E and K, as well as iron, zinc and other minerals. All regimens were combined with malaria management and deworming.

At the end of the study, the children on the multimicronutrient supplement had a mean hemoglobin value of 113 g/L, compared with 107 g/L in those on iron and 106 g/L in those on iron and zinc.

The authors conclude that, in this malaria-endemic area, anemia in young children responds better to supplementation with multiple micronutrients than to iron alone or iron plus zinc. However, the regimen used was insufficient to totally control anemia.

1. *Ouédraogo HZ, Dramaix-Wilmet M, Zeba AN, et al. Effect of iron or multiple micronutrient supplements on the prevalence of anaemia among anaemic young children of a malaria-endemic area: a randomized double-blind trial. Trop Med & Internat Health 2008; 13: 1257–1266.*

Vitamins A and B2 important for reducing anemia

Nearly half of all pregnant women in rural China are anemic and iron deficient. Many of them are also deficient in the vitamins A and B_2. To investigate whether supplementation with these vitamins, in addition to iron and folic acid, provides better results, Ma et al. treated 342 anemic pregnant women for two months. Eighty-eight of them (Group 1 = controls) took 60 mg iron (Fe) and 0.4 mg folic acid (FA) daily. Eighty-six (Group 2) took Fe/FA + 2 mg vitamin A, 85 (Group 3) took Fe/FA + 1 mg vitamin B_2, and 83 (Group 4) took all four micronutrients at the same dosages.

At the end of the intervention, prevalence of anemia and iron deficiency was reduced significantly more in the women who took vitamin A and/or vitamin B_2 than in the control group. Changes in hemoglobin levels from baseline were +17.2 g/L (Group 1), +19.3 g/L (Group 2), +21.2 g/L (Group 3) and +22.6 g/L (Group 4). Groups 2 and 4 showed a significantly better improvement in hemoglobin than Group 1. The women in these groups also reported a greater improvement in well-being than the controls.

This study confirms that vitamin A and vitamin B_2 have an additional effect on hematological parameters and anemia. It underlines the need for a comprehensive nutritional policy to tackle the anemia problem in pregnant women in rural China.

1. *Ma AG, Schouten EG, Zhang FZ, et al. Retinol and riboflavin supplementation decreases the prevalence of anemia in Chinese pregnant women taking iron and folic acid supplements. J Nutr 2008; 138: 1946–1950.*

GAIN invites expressions of interest

As part of its mission to combat malnutrition, the GAIN foundation in Geneva provides financial and technical support to food fortification projects in countries that have a micronutrient deficiency prevalence rate considered to be a national public health problem.

GAIN is now inviting eligible countries to express their interest for funding of their national fortification projects. These expressions of interest (EOI) must be submitted in the format provided, and reach the GAIN offices before March 6, 2009. Eligible EOIs will compete against each other for grants worth up to US$2.5 million. Applicants should therefore pay very close attention to the list of eligibility criteria. Only projects that comply with ALL of them will be considered for further review and development. Grants will go to those projects that offer the greatest opportunity for having a significant and sustainable public health impact.

For a detailed description of the eligibility criteria and project evaluation factors, to download the application form and to see the addresses to which applications must be submitted, please consult the GAIN web page at: http://www.gainhealth.org/2009EOIFFP.

Note: If you are reading this document on screen, clicking on any URL should take you directly to the corresponding web page.

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