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New & Noteworthy in Nutrition

Issue 40 May 20, 2003



This issue is dedicated to the memory of John Kevany, Professor Emeritus of Community Health in Trinity College, Dublin who sadly passed away last month. A true "nutrition champion", John combined a razor sharp intellect with a charming personality and an infectious sense of humor. Among his many contributions, John was an exemplary chairperson of the SCN's Advisory Group on Nutrition during the late 1980s. Most recently he was highly influential in the establishment of the Global Fund for AIDS, TB and Malaria and worked intensively with Ireland Aid on developing its HIV/AIDS strategy. For John, it was impossible to discuss international health without discussing poverty, inequality and justice. In a memorable 1996 editorial to the British Medical Journal, he called for "a much needed moral and social dimension to an international health ethos grown progressively dependent on technological innovation and free market economics". He will be greatly missed by all who were fortunate to have known him. Our deepest condolences to his family.

TABLE OF CONTENTS	
PAGE	
1	
2	
3	
5	
6	
7	

SOUTHERN AFRICA

"In a little town not far from where I live, children suck salt to make themselves thirsty. Their thirst makes them drink more water and this fills their stomachs and helps to suppress the hunger in their bellies. It is almost beyond belief that three years ago Zimbabwe was called the breadbasket of Africa" (excerpt from Zimbabwean farmer, Cathy Buckle's online journal, 22 February 2003, http://africantears.netfirm.com).

Zimbabwe. The humanitarian crisis in Zimbabwe continues to deteriorate at a dangerously rapid pace, according to the World Food Programme (WFP). There are increasing reports of children dropping out of school and families resorting to ever more desperate measures to cope. Levels of malnutrition and hunger-related diseases like pellagra are rising. According to the latest assessment, approximately 7.2 million people need food aid in Zimbabwe -- an increase of half a million since September. In February, 204,000 metric tons of WFP food aid was distributed to almost four million people in 49 out of Zimbabwe's 57 districts. The number of targeted beneficiaries rose to five million in March (www.wfp.org).

Famine? Despite recent predictions (including those reported in previous NNNs) that millions were facing potential starvation, few of the traditional signs of hunger have materialized, according to an 8 April article by Nicole Itano in Christian Science Monitor. No hordes of migrants looking for food, no hospitals filling with malnourished children, or graveyards filling with the dead. The WFP says that famine was averted last year because the organization did its job well, intervening before the crisis mushroomed (over the last year, 650,000 metric tons of food was distributed to some 10 million people -- the largest humanitarian response in the organization's history, though Iraq is expected to be bigger). Critics counter that the problem was never as large as was suggested, and that data on which assessments were made were flawed. There is some evidence that the food shortages did increase malnutrition: UNICEF data suggest that malnutrition in the worst areas generally declined, while it increased in the best areas -- a result, suggests Urban Jonsson, southern and eastern Africa director for UNICEF, of an appropriately targeted response.

AIDS and food crises. Do changes in child malnutrition and mortality rates capture what is happening in southern Africa? There is no doubt that AIDS is playing a role in exacerbating food crises, but by how much and in what ways? If vulnerability is being drastically undermined by AIDS, then traditional early warning systems and conventional responses need to be revisited. An excellent study by Nick Haan (WFP), Neil Marsland (SCF UK) and Leila Oliveira (FEWS NET), just released by the Southern Africa Development

New and Noteworthy in Nutrition (NNN) aims to highlight new research, new programs, initiatives and innovations, indeed anything that's new, noteworthy and relevant to nutrition. NNN is written and edited by Stuart Gillespie (s.gillespie@ifpri.org), produced by Bonnie McClafferty and Nik Harvey of IFPRI, and distributed three times per year (in January, May and September) via print, email and web-postings. We are very grateful to the United Nations Children's Fund, the Micronutrient Initiative, the World Food Programme and the World Bank for providing funds to support NNN. We would also like to thank individuals who have contributed news items. The material contained herein is the responsibility of the editor, and should not be attributed in any manner to any institution.

Community (SADC), is the first to shed some light on this. Digging into the data from emergency food security assessments conducted in Malawi and Zambia in August and December 2002 and Zimbabwe in August 2002, the study examines the relationship between HIV/AIDS and food security. It suggests that the impacts of HIV/AIDS on food security in the context of the 2002 food emergency are strong, negative, complex and require urgent and innovative responses that go well beyond relief. Households affected by adult morbidity, mortality and with a high demographic load are significantly more vulnerable to food security shocks than are other households. They suffer from marked reductions in agricultural production and income generation, leading to earlier engagement in distress coping strategies, and, ultimately, a decline in food security. AIDS-affected households will take longer to recover from food crises, and may never fully do so. The analysis further demonstrates that different morbidity, mortality and demographic profiles have different effects on food security processes and outcomes -with implications for early warning.

So what are the implications for programming? The report suggests a "three-pronged attack". First, consumption-side support: chronic illness of the head of household and elderly headed households, in particular those headed by women, cross-checked with a wealth group analysis, are useful indicators for food aid targeting. But agencies will need to work with communities to ensure that AIDS-affected households receive their quota. School feeding programs have the combined benefit of ensuring that more children consume a healthy meal at least once per day, as well as reducing the dropout rate, promoting education and empowerment, and reducing unsupervised time of children -especially young girls, who can become vulnerable to increased exposure to HIV. Second, productivity enhancing support, including rapid introduction of interventions with a high food-access-to-labor ratio that are accessible to AIDSaffected households. And third, household and community safety nets: micro-enterprise service provision, savings schemes, community resource mobilization involving strengthening of social capital and fundraising. The report goes on to recommend priorities for policy, advocacy and research (www.sarpn.org.za/documents/d0000321/ index.php).

RENEWAL. The Regional Network on HIV/AIDS, Rural Livelihoods and Food Security is embarking on a new phase of work that aims to build bridges between humanitarian and development thinkers and practitioners around the issue of AIDS and its two-way interactions with chronic and acute food insecurity. Given the nature of the virus, and the different waves of AIDS impacts, this is seen as critical --short-term relief has to be embedded within a broader vision

of multi-level response. Key concepts and principles underlying RENEWAL's focus and approach are described in a recent paper (www.isnar.cgiar.org/renewal/pdf/RENEWALWP2.pdf).

CHILD GROWTH & DEVELOPMENT

Vir Birsa and colostrum in Bihar. Not the first Indian state to come to mind when looking for success stories, Bihar has now broken the mold. The Dular program being undertaken by state governments in Bihar and Jharkhand, with the assistance of UNICEF, has generated several innovative approaches to improving early childhood nutrition, care and development. Active in 8 of 60 districts, where it focuses on intensive upgrading of ICDS operations, including the collection of birthweight data and the monitoring of care practices, Dular has creatively addressed many of the past failings of the ICDS program in Bihar. Among other activities, Dular has instigated District Mobile Monitoring and Training Teams and Village Contact Drives.

But it is the approach it takes to challenging deeply embedded and nutritionally problematic beliefs that is particularly innovative. Delayed introduction complementary food to children, eating down during pregnancy, and the three days of "hell fasting ('narak upvas') that mothers go through following delivery of a baby -- are three that appear to be particularly intractable. So, what can be done? Well, in the case of the first, Dular has been working with households and with Hindu pundits to hold Anaprashna ceremonies -- when solid food is first fed to the child -- at age six months rather than a year old. To address eating down, the concept of "savaya" has been introduced. "Sava" in Hindi means one quarter. The concept of savaya, increasingly understood by women, their husbands and their mothers-in-law, means that women during pregnancy need to consume at least a quarter more food than they normally consume. To address the purification ritual of hell-fasting, Dular workers have turned to patriotism, claiming that purification also can take place through consumption after delivery of foods that are the colors of the Indian flag. This idea, known as "tiranga" or three colors, means that women should consume rice (white), legumes (orange), and vegetables (green). Additionally, to encourage the feeding of colostrum to newborns, the program utilizes the image of a locally popular 19th century freedom fighter, Vir Birsa, who fought against the British, and whose name rhymes with the Hindi term for colostrum. Though still young, Dular seems to be having an impact, definitely one to be followed. Thanks to Jim Levinson of Tufts University for contributing this inspiring story, and to Sangita Jacob of UNICEF, who is one of the main driving forces behind it (contact: jegough@unicef.org or sjacob@unicef.org).

Complementary feeding. For a number of reasons, progress in improving child feeding practices in the developing world has been remarkably slow, according to a recent paper by Marie Ruel, Ken Brown and Laura Caulfield. First, complementary feeding practices encompass a number of interrelated behaviors that need to be addressed simultaneously. Child feeding practices are also age-specific within narrow age ranges, which add to the complexity of developing recommendations and measuring responses. And, the lack of clear international recommendations for some aspects of complementary feeding has prevented the development of universal indicators to define optimal feeding. This paper is the first systematic attempt to address these problems. It puts forth a framework for the development of indicators and proposes a series of potential indicators to measure some of the most critical aspects of infant and young child feeding, along with approaches to validate them (www.ifpri.org/divs/fcnd/dp/papers/ fcndp146.pdf).

Life cycle I. Everything you ever wanted to know about nutrition as a preventive strategy against adverse pregnancy outcomes is now available in a May 2003 *Journal of Nutrition* supplement. The papers -- grouped into sections on overviews, infection, metabolism, life and fitness, and fetus and infant -- were originally presented at the USAID-Wellcome Trust consultation held at Oxford University on July 18-19, 2002. The full text of all papers can be accessed by going to the web site *www.nutrition.org/current.shtml* then clicking on the final hyperlinked Supplement.

Life cycle II. Excessive maternal activity during pregnancy was found to be associated with smaller fetal size in a prospective observational study in rural India. The Pune Maternal Nutrition Study was carried out by researchers from the Agharkar Research Institute and KEM Hospital, Pune and University of Southampton, UK, in six villages, in Maharashtra. An activity questionnaire was used to classify women into light, moderate and heavy activity categories. Maternal activity was inversely related to maternal weight gain up to 28 weeks of gestation (P=0.002). Higher maternal activity in early, as well as mid gestation, was associated with lower mean birth weight (P=0.05 and 0.02, respectively) after adjusting for the effect of major confounding factors. There was no effect on the incidence of prematurity or stillbirth, or the duration of gestation (Eur. Jnl. Clin. Nutr. 57 (4), 531-542, April 2003).

Promoting EBF. A recent cluster randomized controlled trial in India by researchers from All India Institute of Medical Sciences, WHO and Johns Hopkins University has shown that promotion of exclusive breastfeeding until age 6 months through existing primary health-care services is

feasible, reduces the risk of diarrhea, and does not lead to growth faltering. The intervention, developed through formative research, involved eight communities, pairmatched on their baseline characteristics, with one of each pair randomized to receive the intervention and the other no specific intervention. Health and nutrition workers were trained in the intervention communities to counsel mothers for exclusive breastfeeding at multiple opportunities. Researchers assessed over 400 individuals in each group at three and six months. At three months, exclusive breastfeeding rates were 79% in the intervention and 48% in the control communities (P<0.0001). The 7-day diarrhea prevalence was lower in the intervention than in the control communities at three months (P=0.028) and six months (P=0.04). Anthropometry did not differ much between groups, and the intervention effect on all parameters did not differ between low-birthweight infants and that for all births (Lancet 361, 1418-23, 2003).

Implementing ENA. The Essential Nutrition Actions (ENA) is a group of evidence-based micronutrient and infant feeding interventions, operationalized by the BASICS II Project. The ENA are aligned around the following six priority behaviors, geared toward the fetus and young child during the first two years of life: 1) exclusive breastfeeding for six months, 2) adequate complementary feeding starting at about six months with continued breastfeeding for two years, 3) appropriate nutritional care of sick and severely malnourished children. 4) adequate intake of vitamin A for women and children, 5) adequate intake of iron for women and children, and 6) adequate intake of iodine by all members of the household. To facilitate the use of ENA by other countries and child survival organizations, BASICS II recently published "Tools for Operationalizing Essential Nutrition Actions", a comprehensive electronic toolkit intended for use by public health professionals who are working to implement largescale, community-based nutrition programs in the developing world. To access the toolkit online, visit www.basics.org/new /tools/ena/index.html.

NUTRITION POLICY

Nutrition rights. State governments in India are now bound by a Supreme Court Order to provide free school meals each day to more than a hundred million children. The scheme is seen as simultaneously improving the nutritional status of primary school children from low-income families and boosting school attendance. But despite the court order, according to a recent report by the BBC, so far only about a third of those children are actually getting the cooked meals they are entitled to. Some others are given uncooked rice to take home. There is significant statewide variation in implementation, but where it is being implemented, the

impact seems dramatic. One study in Rajasthan showed attendance was up 25% overall -- and 35% for girls. Jean Drèze of Delhi's School of Economics, who says caste barriers are also challenged because the children eat together, has little time for governments who claim they cannot afford it. "I can't think of a better use of public funds in India today than providing cooked meals for schoolchildren. It's really extremely important both for the well being of the citizens and the future of the nation. So for these purposes I'm sure money can be made available." Drèze points out that money is always made available for less important things where a political lobby is involved. "The problem here is that children don't have that kind of political influence".

Mainstreaming nutrition. This year's UN System's Standing Committee on Nutrition (SCN) symposium held in March in Chennai, India, and hosted by the M.S. Foundation Swaminathan Research focused "Mainstreaming Nutrition to Improve Development Outcomes". Going well beyond rhetoric, presenters provided strong evidence of the interactions between malnutrition and other failures of development, and pointed the way for more proactive engagement between the nutrition and broader development communities. Growing knowledge of the profound impact that good nutrition has on a range of development goals -- including reductions in mortality, poverty, disease, and improvements in learning ability and productivity -- needs to be better reflected in 'nutritionaware' development policy. Malnutrition reduction is a sine qua non for true progress towards the Millennium Development Goals (MDGs).

Millennium Project. A Hunger Task Force has been constituted to create an actionable plan by December 2004 for reaching the hunger MDG. This will involve a series of commissioned papers, development of hunger typologies, identification and mapping of hunger 'hotspots' and the prioritization of interventions based on impact, cost, and political acceptability. The task force is chaired by Pedro Sanchez, World Food Prize laureate and director of Tropical Agriculture at Columbia University's Earth Institute.

Rice price and nutrition. A study by Harriet Torlesse and colleagues from Helen Keller International addresses the paucity of data on the mechanisms and the magnitude of the effects of macroeconomic food policies such as food price policies on nutritional status. Data collected by the HKI Nutritional Surveillance Project on a total of 81,337 children aged 6–59 months in rural Bangladesh between 1992 and 2000 were used to examine how changes in rice price affect child underweight. Rice consumption per capita declined only slightly during the period but rice expenditure per capita varied widely due to fluctuations in rice price. Rice

expenditure was positively correlated with the percentage of underweight children (P = 0.001). Households were found to spend more on non-rice foods as their rice expenditure declined, and non-rice expenditure per capita was negatively correlated with the percentage of underweight children (P =0.001). Expenditure on non-rice foods per capita increased with the frequency with which non-rice foods were consumed (P < 0.05) and with the diversity of the diet (P <0.001). The findings suggest that the percentage of underweight children declined when rice expenditure fell because households were able to spend more on non-rice foods and thereby increase the quantity and quality of their diet. The authors hypothesize that macroeconomic food policies that keep the price of food staples low can contribute toward reducing child underweight (J. Nutr. 133, 1320-1325, May 2003).

Cost of iron deficiency. A recent paper by Sue Horton of the University of Toronto and Jay Ross of the Academy for Educational Development examines the evidence for a causal relationship between iron deficiency and a variety of functional consequences with economic implications (motor and mental impairment in children and low work productivity in adults). Illustrative calculations for 10 developing countries suggest that the median total losses (physical and cognitive combined) amount to some 4% of GDP. Using a cost of \$1.33 per case of anemia prevented, from one of the few effectiveness studies of national fortification, the median benefit-cost ratio for long-term iron fortification programs was found to be 6:1 for the 10 countries examined, rising to 36:1 when the discounted future benefits attributable to cognitive improvements are included. This paper improves on previous work by including a much more thorough survey of the quantitative magnitudes involved, and by incorporating effects of iron deficiency on cognition. However, the authors state that more research is needed to verify the accuracy of the assumptions needed for this type of analysis (Food Policy 28, 51-75, 2003).

AIN gains. The Atención Integral a la Niñez (Integrated Attention to the Child, or AIN) program is the national growth monitoring and promotion strategy of the Ministry of Health of Honduras. The objective of the AIN midterm survey was to provide information on program participation and knowledge, attitudes, and practices at the household level. Results showed that in spite of having poorer living conditions, lower overall socioeconomic status, less access to health services, lower maternal education levels, and more live births per month than caretakers surveyed in control communities, AIN caretakers have made impressive strides since the baseline survey in 1998. Variables that showed increased rates included exclusive breastfeeding among

children under six months of age and the use of oral rehydration therapy among children with diarrhea. The survey also found that coverage of the AIN program is almost universal in the Honduras communities surveyed, with 92% of children under two years of age enrolled. The report prepared by Van Roekel and colleagues is available from the BASICS II website

 $(www.basics.org/publications/abs/abs_ainmidterm.html)$

OBESITY

The cancer link. Losing weight could prevent one of every six cancer deaths in the US -- more than 90,000 each year, according to a sweeping study that links fat and cancer more convincingly than ever before. Researchers spent 16 years evaluating 900,000 people who were cancer-free when the study began in 1982. They concluded that excess weight may account for 14 percent of all cancer deaths in men and 20 percent of those in women. The study is 10 times greater than the largest previous research on the topic, and big enough to back up a fat connection not only in cancers, where it has been known for some time, but in eight where it hadn't been widely documented. Earlier studies have found that excess weight contributes to cancers of the breast and uterus, colon and rectum, kidney, esophagus and gall bladder. This one also linked it to cancers of the cervix and ovary, multiple myeloma, non-Hodgkins lymphoma, pancreas, liver, and, in men, the stomach and prostate. There are two big reasons the overall link is stronger in women than in men -- more women are obese, and breast cancer is one of the most common cancers. Too much body fat can influence cancer and cancer mortality a number of ways. It increases the amount of estrogen in the blood, increasing the risk of cancers of the female reproductive system. It increases the risk of acid reflux, which can cause cancer of the esophagus. And it raises levels of insulin, prompting the body to create a hormone that causes cells to multiply. Obesity also makes cancer harder to diagnose and treat. Attitudes must change about weight the way they did about smoking, said lead researcher Eugenia Calle of the American Cancer Society. "We've developed a culture where you have to work really hard to eat right and exercise. We're kind of stacking the deck against ourselves" (New England Journal of Medicine 348 (17), 1625-38).

Beer, bellies and bemused Brits. In a prospective study of several thousand middle-aged British men, Goya Wannamethee and Gerald Shaper of the Royal Free and University College Medical School, London examined the relation between alcohol intake and body weight over five years of follow-up. Mean body mass index and the prevalence of men with a high BMI (≥ 28) increased significantly from the light-moderate to the very heavy

alcohol intake (\geq 30 g/day) group even after adjustment for potential confounders. Similar patterns were seen for all types and combinations of alcohol (*Am. Jnl. Clin. Nutr.* 77 (5), 1312-17).

If "you are what you eat", then the British seem to be undergoing an identity crisis. New research for the National Farmer's Union shows most Britons have lost touch with where their food comes from. Nearly 90% don't know that beer is made from barley, a fifth don't know yogurt is made from milk and more than one in 10 people think rice is grown in the UK. Two-thirds have never met a farmer (www.cobritishfarming.org.uk).

The second Asian burden. Delegates to the ninth Asian congress of nutrition said in New Delhi in March that changes in diet coupled with increasingly inactive lifestyles have sparked off epidemics of obesity in several Asian countries, "The risk of obesity in India is highest in the 20% of the population that consumes 80% of visible dietary fat", said Umesh Kapil, professor of human nutrition at the All India Institute of Medical Sciences, New Delhi. School surveys in Indian cities show that 30% of adolescents from India's higher economic groups are overweight. And a Sri Lankan study has shown that 14% of urban schoolchildren are overweight, two-thirds of whom are from families with high income. Although India's cereal production has soared, the cultivation of pulses, fruits, and vegetables has stagnated. Indian nutritionists say the consumption of fruits and vegetables in India is abysmally low -- less than 150 g a day, against the recommended 400 g. In Malaysia, too, doctors are blaming high fat intake and sedentary lifestyles for fuelling urban and rural rises in obesity. A study involving 12,000 children showed that 80% of their leisure time was spent watching television or on indoor games. "We're heading for a disaster", said M Noor Ismail from the department of nutrition at the University Kebangsaan Malaysia. A national survey had shown that a fifth of adults are overweight and 6% are obese (Brit. Med. Jnl. 326, 515, 8 March).

Newly published by SAGE New Delhi, "The Double Burden of Malnutrition in Asia: Causes, Consequences and Solutions" by Stuart Gillespie and Lawrence Haddad is based on a comprehensive regional nutrition assessment commissioned by the Asian Development Bank. Available from www.ifpri.org/pubs/otherpubs/doubleburden.htm.

So that's how it's done...A new look at 107 studies by researchers at Stanford and Yale, published in the *Journal of the American Medical Association* (JAMA), attempted to find the scientific reasons for the weight-loss success some people achieve with the Atkins plan. Conclusion: people lose weight when they eat less! Dieters on the plan basically ingest fewer calories (*www.jama.ama-assn.org*).

Coexisting obesity and food insecurity. A December 2002 position paper of the American Dietetic Association reviews two studies that show a significant coexistence of overweight with food insecurity in the US, after adjusting for confounders. Food-insecure households are more likely to contain an overweight adult; this is particularly strong for women (www.eatright.org/images/journal/1202/adar.pdf).

Supersize, no surprise. The bigger the meal portion put in front of young children, the bigger the bite size and bigger the intake. That's the finding of a study by Orlet Fisher and colleagues in the US, and one probable reason for rocketing child obesity rates in the US. They found that a doubling of entrée portion size increased entrée energy intake by 25% among preschoolers. Let kids select their own portion size, suggest the authors (*Am. J. Clin. Nut. 77 (5), 1164*).

MICRONUTRIENTS

Not just more, but better food. Since 1995, scientists from four Future Harvest Centers of the Consultative Group on International Agricultural Research (CGIAR) and partner organizations have been evaluating the feasibility of using plant breeding techniques to produce new varieties of staple crops with high zinc, iron, and beta-carotene content. Results to date suggest that this approach is feasible. Agricultural scientists have determined that it is possible to increase micronutrient densities through conventional plant breeding by a multiple of two for iron and zinc and more for betacarotene. In order to expand this approach, now coined biofortification, the full membership of the CGIAR has embraced plant breeding for improved nutrition as one of two CGIAR Challenge Programs. The Biofortification Challenge Program seeks to bring the full potential of agricultural and nutrition science to bear on the persistent problem of micronutrient malnutrition. Activities got underway formally in March with the first meeting of the project advisory committee (PAC) and the selection of the Howarth Bouis as Program Director. The International Center for Tropical Research (CIAT) in Cali Colombia and The International Food Policy Research Institute (IFPRI) in Washington DC are the convening organizations of the Biofortification Challenge Program research agenda. (For contact Bonnie information, McClaffertvB.McClafferty@CGIAR.org)

Power drink. According to a study by Deborah Ash and colleagues from Cornell, Harvard and the Tanzanian Food and Nutrition Center, consumption by school-aged children in Tanzania of a multimicronutrient-fortified beverage significantly improved hematologic and anthropometric measurements and significantly lowered the overall prevalence of anemia and vitamin A deficiency. At the 6-

month follow-up, among children with anemia at baseline, 69% in the nonfortified group and 55% in the fortified group remained anemic at follow-up, a cure rate of 21%. The prevalence of children with low serum retinol concentrations dropped significantly from 21% to 11% in the fortified group compared with a nonsignificant change in the nonfortified group. Mean incremental changes in weight (1.8 compared with 1.2 kg), height (3.2 compared with 2.6 cm), and BMI (0.9 compared with 0.5) were significantly higher in the fortified group than in the nonfortified group (*Am. Jnl. Clin. Nut. 77 (4), 891-898, April 2003*).

A related study by Diklar Makola and coworkers tested the effect of a micronutrient-fortified beverage containing 11 micronutrients (iron, iodine, zinc, vitamin A, vitamin C, niacin, riboflavin, folate, vitamin B-12, vitamin B-6 and vitamin E) on the hemoglobin, iron and vitamin A status of pregnant women in Tanzania. A group of 259 pregnant women with gestational ages of 8 to 34 weeks were enrolled in a randomized double-blind controlled trial in which study women received eight weeks of supplementation. The supplement resulted in a 4.2 g/L increase in hemoglobin concentration and a 3 µg/L increase in ferritin and reduced the risk of anemia and iron deficiency anemia by 51 and 56%, respectively. The risk of iron deficiency was reduced by 70% among those who had iron deficiency at baseline and by 92% among those who had adequate stores (J. Nutr. 133, 1339-46).

LBW and iron. Antenatal folic acid-iron supplements modestly reduce the risk of low birth weight, while multiple micronutrients confer no additional benefit -- the main finding of double blind cluster randomised controlled trial in a rural community in south eastern Nepal by researchers from Johns Hopkins University and the Nepal Nutrition Intervention Project-Sarlahi. (*BMJ*, 326: 571-574, March 15, 2003, available at http://bmj.com/cgi/reprint_abr/326/7389/571.pdf)

Zinc benefits. Three important reviews have been published in the *Journal of Nutrition* May 2003 supplement comprising papers of the 11th International Symposium on Trace Elements in Man and Animals. In the first, Bob Black of Johns Hopkins University, reviewed randomized controlled trials of zinc supplementation among children. In six of nine trials that evaluated prevention of diarrhea, significantly lower incidence of diarrhea (18% less) occurred in the zinc group than in the controls. In five trials, a lower rate of pneumonia infection was found in the zinc-supplemented groups, and there was some indication of a preventive effect in three trials with a clinical malaria outcome. Zinc was also found to have a therapeutic benefit in seven trials of acute diarrhea and five of persistent diarrhea. Studies to evaluate

the effect of zinc supplementation on mortality are under way, but a recently published study from India identified a 68% reduction in mortality in small-for-gestational-age term infants that were supplemented with zinc from 1 to 9 months of age. The important effects of zinc deficiency are now clear, and nutrition programs should address this prevalent problem, concludes Black (*J. Nutr. 133, 1485S-1489S*).

In the second, Saskia Osendarp, Clive West and Bob Black discusses preliminary findings of eight randomized, controlled intervention trials performed recently in less-developed countries. Preliminary findings indicate maternal zinc supplementation has a beneficial effect on neonatal immune status, early neonatal morbidity and infant infections. With respect to labor and delivery complications, gestational age at birth, maternal zinc status and health and fetal neurobehavioral development, evidence is conflicting and more research is required (*J. Nutr. 133, 817S-827S, March 2003*).

Finally, Maureen Black reviews the evidence linking zinc deficiency to children's cognitive and motor functioning, and finds that while it suggests a relationship among the most vulnerable children, it lacks a clear consensus, again highlighting the need for additional research (*J. Nutr. 133, 1473S-76S*).

Keep them apart. Supplementation with iron and zinc was less efficacious than were single supplements in improving iron and zinc status, with evidence of an interaction between iron and zinc when the combined supplement was given. These were the main findings of a community-based randomized controlled trial in Indonesian infants by Torbjörn Lind and colleagues from Umeå University, Sweden, University of California, Davis (USA), Gadjah Mada University, Indonesia and the International Centre For Diarrhoeal Disease Research, Bangladesh (*Am. Jnl. Clin. Nut.* 77 (4), 883-890, April 2003).

Micro overload. Following a major review of 31 vitamins and minerals, the UK's Food Standards Agency say high levels of certain micronutrients taken over a long period may have irreversible harmful effects. They have also proposed a ban on chromium picolinate, which is found in some diet supplements, amid fears it can cause cancer. Five substances were cited as potentially causing permanent damage if taken in large quantities over a long period: beta-carotene (linked to an increased risk of lung cancer in smokers and people exposed to asbestos), manganese (linked to muscle and nerve disorders in older people), nicotinic acid (linked to cell damage), phosphorus (may damage organs and tissue) and zinc (may damage the immune system). It also advised people against exceeding daily doses of 10 mg per day of

vitamin B6, 1000 mg of vitamin C, 1500 mg of calcium or 17 mg of iron per day (www.foodstandards.gov.uk).

Iodine networking. The new Network for Sustained Elimination of Iodine Deficiency (see NNN 37) is off to a quick start. Following the 2002 Salt Producers Meeting in Miami, where salt industry CEOs from 14 countries committed themselves to galvanizing national political will for sustaining salt iodization through Country Watches, the Network held a harmonization workshop in Cape Town to launch a network of resource laboratories for iodine determinations. Twelve resource laboratories. 2-3 in each of the WHO regions, are organizing their networks for providing quality assurance service in their respective areas. The governments of Panama, Zimbabwe, Bhutan, Macedonia, Peru and Thailand have made requests for assessments of national progress toward optimum iodine nutrition, and the Network partners are organizing a joint response in each case (www.IodinePartnership.net).

Fortification in South Africa. On April 1, South Africa's Department of Health launched its National Food Fortification Programme, aimed at reducing and preventing micronutrient malnutrition in the country. The legislation follows alarming statistics of malnutrition, including reports that as many as one in four South African children are chronically undernourished. The Minister of Health, Manto Tshabalala-Msimang, also says that malnutrition affects the adverse effects of HIV/AIDS on sufferers. This new legislation requires all suppliers of staple food products to add specific amounts and types of micronutrients (vitamins and minerals) to the white and brown bread flour (and thus bread baked with it) as well as maize meal. The Micronutrient Initiative (MI) and UNICEF provided technical assistance throughout this process.

THE BACK PAGE (EARLY BIRD VERSION)

Linking research and action. A new series of briefs on linkages between food policy research and food assistance, produced by IFPRI and the World Food Programme. is available at: www.ifpri.org/divs/fcnd/briefs.htm#wfp.

Caring for severely malnourished. A low-cost illustrated manual, prepared by Ann Ashworth and Ann Burgess, has recently been published by Teaching Aids at Low Cost (TALC) and Macmillan. Aimed at nurses and other pediatric health workers, and their trainers and supervisors, the manual is based on guidelines developed by the World Health Organization and on training modules for nurses in Africa prepared by the London School of Hygiene and Tropical Medicine and the University of the Western Cape, South Africa. Development of the manual was funded by the

FANTA project (www.fantaproject.org). A CD-ROM containing the book, the training modules, a set of TALC slides and links to relevant websites is also available from TALC (email: info@talcuk.org). On the same subject, MK Bhan and colleagues have recently had published "Management of Severely Malnourished Child: Perspective From Developing Countries" (Brit. Med. Jnl. 326 (7381), 146-151, January 18).

Cutting hunger. The Partnership to Cut Hunger and Poverty in Africa unveil its new website: www.africanhunger.org. The aim is to build the website into a "one-stop" shop for news and links to organizations, important documents and discussions on African agricultural and rural development. One particularly active working group focuses on AIDS and agriculture.

Halving hunger. The Panos report "Food for All -- Can Hunger Be Halved?" examines different approaches to increasing food production and ensuring that the poor have access to adequate food. It also discusses pro and con arguments about whether the WTO agreements help or hinder developing-country efforts to achieve food security. Visit www.panos.org.uk/food for all.htm.

Mapping anemia. Worldwide data on anemia have been mapped by the Iron Deficiency Project Advisory Service (IDPAS), with countries categorized by prevalence, basic information on anemia, and the actions that can be taken to reduce it. The mappers are encouraging people to send any new data they have to keep the maps current (www.micronutrient.org/idpas/ACotherresources.html).

Networking on AIDS. The International AIDS Economics Network (IAEN) has launched the Global Dialogue Series to provide timely information and facilitate better communication between policymakers making funding decisions and program implementers worldwide. For more information, visit www.iaen.org/globdial/dial1.php.

Time to act. Material from the 1999-2002 joint World Bank/UNICEF nutrition assessment is now becoming available. The executive summary of a forthcoming book "Combating Malnutrition: Time to Act", by Stuart Gillespie, Milla McLachlan and Roger Shrimpton, is available from the Bank (contact: mmclachlan@worldbank.org), along with a compendium of five nutrition policy theme papers brought out by UNICEF. Themes include how nutrition improves, micronutrient deficiency control, use of the UNICEF conceptual framework, institutionalization of nutrition and consequences of malnutrition (contact: wdemas@unicef.org).

Nutrition transition. A new book, "Diet and Disease in the Developing World", by Benjamin Caballero of Johns Hopkins University and Barry Popkin, University of North Carolina, has been published, containing numerous illustrative figures and tables and two case studies, on China and Brazil.

Nutrition and AIDS. Since late last year, the Regional Center for Quality of Health Care, based in Uganda, AED and UNU have been working with a number of institutions in eastern and southern Africa to develop the capacity of university tutors in nutrition and HIV/AIDS. A toolkit (containing, lecture notes, PowerPoint presentations, reference materials and case studies) is being prepared. Supported by UNICEF and USAID, national nutrition guidelines for care and support of people living with HIV/AIDS are being developed, using a handbook developed by RCQHC and the FANTA Project (www.fantaproject.org/downloads/pdfs/rcqhc03.pdf).

Also, just released by WHO and FAO: "Living Well with HIV/AIDS", a manual aimed at providing home care agents and local service providers with practical recommendations for a healthy and well balanced diet for people living with HIV/AIDS. It deals with common complications that people living with HIV/AIDS are experiencing at different stages of infection and helps provide local solutions that emphasize using local food resources and home-based care and support. (www.who.int/hiv/pub/prev care/pubfao/en/)

Nutrition and agriculture. Just published by the FAO Food and Nutrition Division, "Agriculture, Food, and Nutrition for Africa -- A Resource Book for Teachers of Agriculture" is a collection of source materials drawn mainly from English-speaking African countries aimed at enabling teachers at all levels to introduce food and nutrition components to their training programs (www.fao.org/es/ESN/publications/newbooks/AFRICA/AFRICA.HTM).

Nutrition and gender. An abstract of the forthcoming research report, "The Importance of Women's Status for Child Nutrition in Developing Countries", by Lisa Smith and colleagues at IFPRI and Emory University, is available at www.ifpri.org/pubs/abstract/131/ab131.pdf.

Nutrition data. For up-to-date country-specific nutrition data from UNICEF, check http://childinfo.org/eddb/malnutrition/database1.htm.