

UNITED NATIONS SYSTEM'S FORUM ON NUTRITION

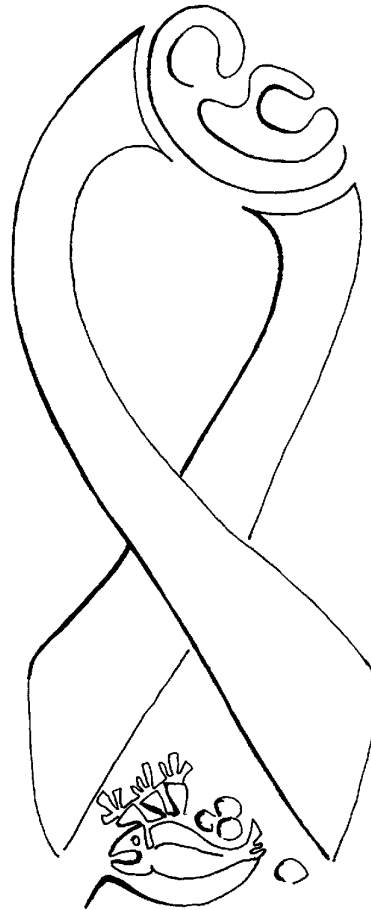


ADMINISTRATIVE COMMITTEE ON COORDINATION  
**SUB-COMMITTEE ON NUTRITION**

Number 17, December 1998

# SCN NEWS

A PERIODIC REVIEW OF DEVELOPMENTS IN INTERNATIONAL NUTRITION COMPILED FROM INFORMATION AVAILABLE TO THE ACC/SCN



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**THE UN SYSTEM'S FORUM FOR NUTRITION**  
**SUB-COMMITTEE ON NUTRITION**  
(ACC/SCN)

The Administrative Committee on Coordination (ACC), which is comprised of the heads of the UN Agencies, recommended the establishment of the Sub-Committee on Nutrition (SCN) in 1977, following the World Food Conference (with particular reference to Resolution V on food and nutrition). This was approved by the Economic and Social Council of the UN (ECOSOC). The role of the SCN is to serve as a coordinating mechanism, for exchange of information and technical guidance, and to act dynamically to help the UN respond to nutritional problems around the world.

The UN members of the SCN are FAO, IAEA, IFAD, ILO, UN, UNDP, UNEP, UNESCO, UNFPA, UNHCR, UNICEF, UNRISD, UNU, WFP, WHO and the World Bank. From the outset, representatives of bilateral donor agencies have participated actively in SCN activities. The SCN is assisted by the Advisory Group on Nutrition (AGN), with six experienced individuals drawn from relevant disciplines and with wide geographical representation. The Secretariat is hosted by WHO in Geneva.

The SCN undertakes a range of activities to meet its mandate. Annual meetings have representation from the appropriate UN Agencies, from 10 to 20 donor agencies, the AGN, as well as invitees on specific topics; these meetings begin with symposia on subjects of current importance for policy. The SCN brings certain such matters to the attention of the ACC. The SCN sponsors working groups on specialized areas of nutrition.

The SCN compiles and disseminates information on nutrition, reflecting the shared views of the agencies concerned. Regular reports on the world nutrition situation are issued and external resources to address nutrition problems are assessed. State-of-the-Art papers are produced to summarise current knowledge on selected topics. SCN News is normally published twice a year. As decided by the Sub-Committee, initiatives are taken to promote coordinated activities -- inter-agency programmes, meetings, publications -- aimed at reducing malnutrition, primarily in developing countries.

*SCN NEWS* No 17 was edited by Cathy Needham and Elizabeth Johnston  
The nutrition in emergencies section was compiled by Jane Wallace  
Illustrations by Lindsay Barrett and Jacqueline Hatch

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Your contributions to future issues would be most welcome.  
*SCN NEWS* aims to help the sharing of experience in nutrition.

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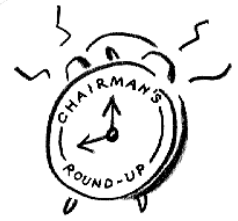
Chairman: Richard Jolly      Technical Secretary: Sonya Rabeneck  
Special Advisor to the Administrator      ACC/SCN c/o World Health Organization  
United Nations Development Programme      20, Avenue Appia  
One United Nations Plaza, New York, NY 10017, USA      CH-1211 Geneva 27, Switzerland  
Telephone: 1 212 906 5764, Fax: 1 212 906 6661      Telephone: 1 41-22 791 04 56, Fax: 1 41-22 798 88 91  
EMail: Richard.Jolly@undp.org      EMail: accscn@who.ch

*SCN NEWS* aims to provide information on issues of importance in the field of international nutrition.

*The status of quotes and other material is generally indicated in the text and/or sources.*

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*The findings, interpretations and views expressed in this publication are entirely those of the authors and do not necessarily reflect official policy or positions of the Joint United Nations Programme on HIV/AIDS (UNAIDS).*



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## message from the chair -

### SCN's Commission on Nutrition Challenges of the 21<sup>st</sup> Century completes report

This is being written in Chennai, India where the SCN's *Commission on Nutrition Challenges of the 21<sup>st</sup> Century* is meeting to discuss issues pertinent to South East Asia. The meeting is being held in the M. S. Swaminathan Research Foundation, with Professor Swaminathan himself hosting the meeting. Among the participants are nutrition experts from eight Asian countries as well as a group from India itself. FAO and UNICEF are also present, along with Philip James, chair of the Commission, and all members of the Commission. Mr. Rosenegger, the FAO country representative, took this opportunity to announce new FAO project support to the state of Tamil Nadu.

The meeting has been extremely lively with many frank and wide-ranging contributions. The Commission's plan now is to complete its draft report by December 20th, receive comments from SCN members in January and produce a final report in time for the SCN's 26<sup>th</sup> Session. We will also circulate a draft strategic plan for enhancing collaboration among the UN members of the SCN. Both the Commission report and the strategic plan will be available to the public after the SCN has met in April, 1999.

I must record here the tragic death in July of Dr. Mahbub ul Haq, the distinguished and visionary economist, founder of UNDP's Human Development Report and President of the Human Development Foundation in Pakistan. Dr. ul Haq had been a member of the SCN's Commission, which had already drawn enormously on the wealth of his experience and insights and the challenge of his ideas.

I take this opportunity to bid farewell and offer heartfelt thanks to two persons who have greatly contributed to the work of the SCN's Secretariat: Jane Wallace and Cathy Needham. Jane Wallace has been the creative editor of the Refugee Nutrition Information System (RNIS) Reports for the last five years and Cathy edited the SCN news for the past year and created the SCN web-site. We wish them well in their new careers in WHO.

I am delighted to announce that January will see the arrival of two new staff members at the SCN Secretariat in Geneva. Dr. Arabella Duffield will take over as RNIS Coordinator. Arabella recently completed her PhD at the London School of Hygiene and Tropical Medicine. Her

doctoral research, supervised by Professor Simon Strickland, was carried out in Indonesia on adult malnutrition. Judy Pojda will take over as SCN News Editor. Judy has a PhD in international nutrition and communications from Cornell University and trained as a broadcast and newsprint journalist at the Caribbean Institute of Mass Communication. I am sure you will join with me in welcoming Arabella and Judy into the SCN fold.

'Nutrition and HIV/AIDS' is featured in this newsletter. HIV continues its rapid and devastating spread in many areas of the world most notably sub-Saharan Africa. This feature addresses issues of HIV and Infant Feeding and the possible role of micronutrient deficiency on HIV progression. Adequate nutrition and food security must be recognised as important components in the fight against HIV/AIDS.

The 26<sup>th</sup> Session will take place in Geneva, 12-15 April 1999, hosted by the United Nations Office of the High Commissioner on Human Rights. The first day will be devoted to a Symposium on The Substance and Politics of a Human Rights Approach to Food Policies and Programming, with a keynote address by Mrs. Mary Robinson – we hope the various presentations will lead to lively debate.

The economic turmoil in East Asia in 1998 has had far-reaching repercussions in many countries. The nutritional impact on vulnerable groups is far from clear, since data on nutritional status are still only patchily available and not maintained on a month to month basis. By contrast, economic, financial and stock exchange statistics are maintained daily. Governments, put great emphasis on building strong economies, yet the issue of proper nutrition for the vulnerable segments of society receives nothing like the same priority. These groups need a voice, a loud international one, and we must be that voice. Public awareness of the importance of nutrition is crucial. Practical commitment to nutrition and food security as human rights are the bedrock for this. Only when these are established and understood will politicians find themselves under pressure to address the issue. Let us all make 1999 a year of "nutrition enlightenment" for everyone's benefit.

*Richard Tofts*



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# AGN PAGE

## The AGN and Current Members

Membership in the SCN's AGN implies much more than participation at the annual SCN session. AGN membership means participating in activities conducted by UN agencies. In addition AGN membership embodies a degree of regional representation in international food and nutrition related programs.

## Update on AGN Activities

Ricardo Uauy (AGN chair) participated as vice chairman of the WHO technical consultation on Nutrition and Healthy Ageing held in conjunction with Tufts University Human Nutrition Center in Boston. As part of a Symposium honouring Nevin Scrimshaw on his 80th birthday he delivered a presentation on the Evolution of Nutrition Policy: Past, Present and Future Approaches. At the International Paediatric Congress in Amsterdam he delivered a key note plenary address on the "Nutrition Challenges of the 21st Century: What role for Paediatricians?". He participated in the FAO/WHO consultation on Vitamin and Mineral Requirements held in Bangkok, Thailand and in the FAO/ILSI/WHO workshop on Development of Food Based Dietary Guidelines (FBDGs) for South America held in Quito, Ecuador.

Email: [uauy@abello.seci.uchile.cl](mailto:uauy@abello.seci.uchile.cl)

Kraisid Tontisirin was a consultant for UNICEF and the Asian Development Bank's regional technical assistance project on Reduction of Child Malnutrition in Eight Asian Countries and for Iran and UNICEF in the development of a Nutrition Plan for Iran. He chaired the Regional Expert Consultation of the Asia-Pacific Network for Food and Nutrition on Establishment of Food Insecurity and Vulnerability Information and Mapping Systems. He participated in the development of RDAs and Food Based Dietary Guidelines for SE Asia and recently shared experiences in Amman, Jordan as a resource person in the development of FBDGs for the Near East.

Email: [directnu@mahidol.ac.th](mailto:directnu@mahidol.ac.th)

Lawrence Haddad continued to direct the work of IFPRI's Food Consumption and Nutrition Division, the largest of IFPRI's four research divisions. He is working with researchers at the University of Natal and the University of Wisconsin on "Shocks, Income Dynamics and Social Capital in KwaZulu-Natal, 1993-1998" and with researchers at the University of Cape Town on "Public Works in South Africa: How Effectively Do They Reduce Poverty, Generate Employment and Build Capacity?" He completed drafts of papers on "Explaining Child Malnutrition in Developing Countries: A Cross-Country Analysis" (with Lisa Smith), "How does the Human Rights Perspective Help to Shape the Food and Nutrition Policy Research Agenda?" (with Arne Oshaug), and "Growing Urban Poverty and Undernutrition: Implications for Research and Poverty" (with Marie Ruel and James Garrett).

Email: [l.haddad@cgnet.com](mailto:l.haddad@cgnet.com)

Ruth K. Oniang'o, AGN vice chair, attended meetings in Durban, South Africa on Food Security and Governance sponsored by the Toda Institute. She was on a team to explore possibilities of food fortification on an OMNI/USAID mission to Uganda, Tanzania and Kenya. She attended a 2-day strategic meeting at IFPRI in Washington D.C., and from there proceeded to Thailand for the FAO/WHO consultation on Vitamin and Mineral Requirements. In Benin she presented a discussion paper at a meeting on postharvest technology sponsored by the International Institute for Tropical Agriculture and the Sasakawa Africa Association. In Kenya she is reviewing the National Food Policy and coordinated the FAO-sponsored Household Food Security meeting for Eastern and Southern Africa.

Email: [oniango@form-net.com](mailto:oniango@form-net.com)

Eileen Kennedy convened the Year 2000 Dietary Guidelines Advisory Committee. The eleven member committee is tasked with reviewing the current food based U.S Dietary Guidelines and making recommendations for change based on the latest scientific information. The U.S. Dietary Guidelines are the cornerstones of federal nutrition policy. She participated in a technical consensus conference on Preventing Iron Deficiency in Women and Children held at UNICEF Headquarters on October 7-9, 1998.

Email: [eileen.kennedy@usda.gov](mailto:eileen.kennedy@usda.gov)

Lilian Tendayi Marovatsanga assisted the SCN Secretariat in consultations for the strategic plan for Interagency Collaboration for UN Agencies in Nutrition. She presented a paper in Durban, South Africa on "Food Security: The Role of the Private Sector". In East Africa she participated in a mission to assess the possibilities of fortifying foods in the region. She is also part of a new program to strengthen the capacity of sub-Saharan Africa to ensure the availability of nutritionally-adequate, safe foods.

Email: [ifnfs@africaonline.co.zw](mailto:ifnfs@africaonline.co.zw)

The SCN would like to express its sincere appreciation to Sadia Chowdhury for her invaluable contributions over the past three years. Dr. Chowdhury, who joined the AGN in 1995, has taken a position as Senior Public Health Specialist for the World Bank in Washington, D.C.

Email: [schowdhury3@worldbank.org](mailto:schowdhury3@worldbank.org)

This brief summary illustrates that AGN membership is an integral part of the academic and professional life of all of us. In fact, it adds an important dimension to our national and regional work. The opportunity to contribute to the UN agencies' global effort in combating malnutrition is a privilege and a responsibility that demands hard work but offers important rewards for those who have an interest in the progress of international nutrition action.



# Nutrition and HIV/AIDS

Estimates by the Joint United Nations Programme on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) indicate that by the beginning of 1998 over 30 million people were infected with HIV, the virus that causes AIDS, and that 11.7 million people around the world had already lost their lives to the disease. The virus continues to spread, causing nearly 16,000 new infections per day. During 1997 alone that meant 5.8 million new HIV infections, despite the fact that more is known now than ever before about what works to prevent the spread

## OVERVIEW TO THE FEATURE

A body of literature is accumulating on the role of nutrition in decreasing not only the wasting that accompanies advanced HIV infection but also in preventing the progression of the disease. It is also possible that specific nutrients affect the transmission of the HIV virus. The first report in this feature outlines some of the key statements from the WHO/UNICEF/UNAIDS newly-released manuals on HIV and Infant Feeding. Citing firm evidence that HIV can be transmitted through breast milk, the manuals respond to the urgent need for guidance when advising infected mothers as well as formulating sound public health policies. With this in mind, the manuals identify the wide range of precautions and policy options needed to reduce the risk of HIV transmission through breast milk while insuring that the nutritional requirements of infants born to HIV-infected mothers are adequately met.

Breastfeeding and HIV infection are explored further on page 5. Citing the work in Durban, South Africa, the authors suggest that safe alternatives to breastfeeding should be considered in countries where infant mortality rates are considered moderate or low.

A description of possible alternatives to breastfeeding taken from the WHO/UNICEF/UNAIDS manual "A Guide for Health Care Managers and Supervisors" is also included. Although no global survey of alternative feeding choices has been completed, this paper outlines some of the possibilities that could be considered should a mother choose not to breast feed.

The role of micronutrients in the transmission and progression of HIV infection is summarised in the article by Henrik

Friis. While a number of nutrient deficiencies have been implicated in supporting the progression of HIV, the majority of research centres on vitamin A. The author suggests that micronutrient deficiencies may be responsible for some of the mother-to-child transmission rates attributed to breastfeeding.

A description of the impact of HIV/AIDS in Kenya is given on page 13. The importance of a coordinated effort to control this disease, including the provision of adequate nutrition, is emphasised.

The evolution of the UN policy on infant feeding and HIV transmission is traced by Lida Lhotska, page 15. This article describes how the 1992 approach was inadequate. The new policy is committed to promoting a mother's right to choose the best methods for feeding her child.

An example of a study to assess the need to fully inform HIV positive women of the risk of breastfeeding is outlined on page 17. This research is part of the larger Zvitambo project which has been previously described (SCN News #14).

A woman's decision to breast feed must be balanced against an infant's right to be breastfed. From a human rights perspective, the major issue is one of protecting the woman-infant unit from outside interference. This issue is briefly discussed by George Kent on page 18.

Issues of food security are highlighted on page 20. The loss of able-bodied men and women to HIV/AIDS leads to labour shortages and a decline in productive capacity with a subsequent decline in income. More needs to be done to protect these vulnerable households from food insecurity.

Finally, the UN pilot projects are presented on page 22. This initiative is aimed at assessing the feasibility of prevention of mother-to-child transmission of HIV in some of

the worst-affected countries suffering from the highest rates of HIV infection.

## **HIV AND INFANT FEEDING WHO/UNICEF/UNAIDS<sup>1</sup>**

In a concerted effort to stop the spread of HIV/ AIDS among young children and mothers, WHO, UNICEF and UNAIDS support the use of safe alternatives to breastfeeding for infants born to HIV positive women. Key statements from the three manuals developed to provide guidelines to decision makers are outlined below.

- ◇ Worldwide, an estimated three million children under the age of 15 years have been infected with HIV to date, mother-to-child transmission - during pregnancy, delivery or breastfeeding - is responsible for more than 90% of HIV infection in children. The remaining 10% are infected through contaminated blood or sexual abuse.
- ◇ Mother-to-child transmission rates vary considerably. In the industrialised world, the risk of an infant acquiring HIV from an infected mother ranges from 15-25%, compared with 25-45% in developing countries. Differences in breastfeeding rates may account for much of this variation.
- ◇ Research shows that the risk of transmission is significantly higher if the mother becomes infected with HIV during pregnancy or while breastfeeding, and when the mother is in an advanced stage of the disease.
- ◇ Breastfeeding is thus a significant preventable mode of HIV transmission to infants, creating an urgent need to educate, counsel and support women and families so that they can decide how best to feed infants in the context of HIV.
- ◇ Faced with this need, health services should strive to prevent transmission through breastfeeding, for women known to be HIV-positive, while continuing to protect, promote, and support breastfeeding as the best infant feeding choice for HIV-negative women and those of unknown status.
- ◇ The most widely available antibody tests cannot determine whether an infant is infected with HIV until after the age of about 18 months. Feeding decisions must thus be made without firm knowledge of the infant's HIV status at birth.
- ◇ In many situations it is necessary to act on the assumption that infants of HIV-infected mothers are not infected at birth - which will be true in 80% of cases. When mothers receive antiretroviral therapy during late pregnancy, it can be assumed that over 90% of infants will be born uninfected.
- ◇ Early cessation of breastfeeding reduces the risk of transmission by reducing the length of time that an infant is exposed to HIV through breast-milk.
- ◇ Breastfeeding is normally the best way to feed an infant. However, when the mother is infected with HIV, it may be preferable to replace breast milk to reduce the risk of transmission to her infant.
- ◇ The risk of illness and death from replacement feeding should be less than the risk of HIV transmission through breastfeeding. Otherwise there is no advantage to replacement feeding.
- ◇ In some settings, consideration could be given to providing HIV-positive mothers with free or commercial infant formula and supporting its safe use.
- ◇ If free or subsidized breast-milk substitutes are to be offered, efficient distribution is essential to ensure they reach eligible mothers, but do not "spill over" to mothers who are HIV-negative or of unknown status.
- ◇ Where breastfeeding is the norm, women who do not breast-feed may be labeled as HIV-infected and stigmatized, resulting in a range of additional problems. Measures are thus required to provide social support to HIV-positive mothers who use replacement feeding.



- ◇ A woman's decision to breast-feed, and, if she opts not to breast-feed, her choice of breast-milk substitute, should not be influenced by commercial pressures. Once she has made a decision about the method that she feels is best for her and her infant, she needs support to carry out her decision as safely as possible.
- ◇ Prevention of mother-to-child transmission requires a complete package of care including strengthened

maternity and family planning services, with increased antenatal care, counseling and testing for HIV, possible use of antiretroviral drugs, and alternatives to breastfeeding.

1. Guidelines for Decision -Makers. 1998, 36 pages. WHO/FRH/NUT/CHD 98.1; A Guide for Health Care Managers and Supervisors 1998, 36 pages. WHO/FRH/NUT/CHD 98.2: A Review of HIV Transmission through Breast-feeding. 1998, 28 pages. WHO/FRH/NUT/CHD 98.3 The three documents listed above are available upon request from Randa Saadeh, WHO/NHD Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch

## **BREASTFEEDING AND HIV-1 INFECTION** *by Hoosen Coovadia and Raziya Bobat*

Recent reviews of the available published data on the subject of breastfeeding consistently show that breast-feeding protects against infections and reduces infant mortality, both in developing and developed countries. With the increasing spread of HIV infection the role of breastfeeding has however recently drawn more attention. Mother-to-child transmission (MTCT) of HIV, partly through breastfeeding, is thought to be an important factor in the increased infant mortality rates recently observed in countries like Zimbabwe. This led the UN steering group on MTCT to recommend that HIV-infected women be counselled about the various infant feeding options, and to the recommendation that those women who in due consideration of all alternatives opted not to breastfeed or limit the duration of their breastfeeding be supported in their choice. The recommendations carry the potential of compromising the universal practice of this method of infant feeding.

Most studies on breastfeeding were undertaken in the pre-HIV era. There is little information on whether breast-milk from HIV seropositive women is as protective against common infections and malnutrition in infants as that of HIV-uninfected women. However, a difficult problem with conducting studies to determine the benefits of breastmilk of HIV-infected women, is the ethical difficulty of randomising such women to either breastfeeding or formula feeding. One trial, based on a randomised design, is being done by Dr. Ruth Nduati's group in Kenya but results are not yet available. In the meantime a number of observational studies do have data on the impact of breastfeeding but also significant design problems that limit generalisation of their results.

Soon after the HIV epidemic resulted in sick infants appearing in our hospitals in Durban, South Africa, we started an observational cohort study of the short term

natural history of HIV infection and the influence of feeding on infant outcomes. This was not a randomised study because the mothers self-selected their feeding methods. We categorised feeding as exclusive breastfeeding, exclusive formula and mixed feeding. The study found that the HIV transmission in those exclusively breastfed was increased by 15% compared to those on exclusive formula (Table 1). These data must be interpreted with caution because the study was not randomised, and the number of infants in the exclusively formula fed group was small (n=21). Therefore the number of HIV infected infants in this group was small (n=5). A further limitation is

**Table 1 The association between method of feeding and HIV transmission in the infant.**

Feeding Method	Total n	HIV-infected n (%)	Non-HIV-infected n
Breast milk only	36	14 (39)	22
Breast milk and formula	76	24 (32)	52
Formula only	21	5 (24)	16
Total	131	43	90

Modified from AIDS 1997;11:1627-1633.

There was a non-significant stepwise increase in the transmission rate with duration of exclusive breastfeeding of one, two, and three months. Although the exclusively breastfed infants had a higher frequency of developing AIDS, they had a slower rate of progression from HIV to AIDS. These apparently opposing effects were probably the result of a balance between transmission of virus

through breastmilk and protective effects of breastfeeding. Mortality occurred in the infected infants only. While breastfeeding might have postponed the development of AIDS in infants who became HIV-infected, it is to be expected that HIV-infected infants would have worse survival than those without, a finding our study could not capture.

Table 2 shows the relationship between feeding method and morbidity. The frequency of failure to thrive and episodes of diarrhoea and pneumonia were not significantly different among the three feeding groups, in both the HIV-infected and uninfected infants.

**Table 2 Morbidity according to feeding practice and HIV-1 status in infants born to HIV-1-seropositive women.**

Morbidity	Breast-fed	Mixed Feeding	Formula Fed
Infected Infants			
Number <sup>§</sup>	14	22	1
Follow-up (months)	287	437	24
Pneumonia*	6.3	8.7	0
Diarrhoea*	10.5	13.5	0
Otitis media*	3.8	3.6	0
Failure to Thrive (%)	57.1	68.2	0
Uninfected Infants			
Number <sup>§</sup>	22	52	16
Follow-up (months)	537	1246	393
Pneumonia*	4.7	4.0	3.1
Diarrhoea*	4.1	6.6	2.3
Otitis media*	3.8	0.8	1.8
Failure to Thrive (%)	13.6	15.4	11.1

Modified from AIDS 1997;11:1627-1633.

<sup>§</sup> Number of children on whom adequate morbidity data were available.

\*Figures are given per 100 child months of follow-up.

Results from an Italian study among perinatally HIV-infected children (see Bobat et al (1) and WHO/UNAIDS/UNICEF(2) for a complete list of references) indicated that breastfeeding was of short term advantage; progression to AIDS was slower and survival longer in breastfed as opposed to formula fed HIV-infected children. This advantage of breastfeeding was lost by the time children reached 5 years of age. However, the interpretation of these data are limited since the data were retrospectively

collected and the duration of breastfeeding was not known. In a study of relatively privileged Zairian women, presumably unrepresentative of the majority of women in Africa, breastfeeding was found to protect infants from common childhood illnesses, in those born to both HIV-infected and HIV negative women. In a prospective study from Nairobi, breastfeeding by HIV-infected women, for longer than 15 months, was more often associated with growth retardation than breastfeeding for shorter periods. An increased HIV transmission rate and an increased mortality in exclusively breastfed HIV-infected infants was reported from Soweto, South Africa. The mortality rates in the breastfed infants have to be carefully interpreted as the sample size was insufficient to detect significant differences between breastfed and formula fed infants. Moreover, there were no adverse effects on growth or morbidity, and no increase in hospital admissions among breastfed over non-breastfed infants born to HIV seropositive women. It must be remembered that Soweto is also unlike most of Africa; socio-economic conditions are typical of those of a middle-income country with an infant mortality rate less than 30.

From an extensive review of the literature (2) it has been estimated that MTCT rates are from less than 15% to 40% or more. Little information is available on the association between duration of breastfeeding and risk of transmission. Although about 70% of all postnatal transmission occurs within the first 4-6 months, MTCT can occur as long as breastfeeding continues. In a recent analysis of international data (3), the risk of breastfeeding transmission was estimated to be 3% per year among infants who were documented to be HIV uninfected in the first 3 to 6 months of life.

The recent statement on "Infant Feeding and HIV" by WHO/UNAIDS/UNICEF(4) has supported "the use of safe alternatives for infants born to HIV positive women". While the findings from Durban and Soweto would support this policy, one should also realise that they were obtained in countries with an intermediate economy and an under five mortality rate between high and moderate. In such a setting it would be safe to assume that HIV-infected women can choose safe alternatives to breastfeeding, and it would make public health sense to offer all pregnant women counselling and HIV testing, and to advise those found to be positive that breastfeeding may not provide the anticipated degree of protection against common infections and growth failure, and is associated with a higher risk of transmission (1).

However in less well developed countries there are to date insufficient data to suggest that the same would





apply to their population, and a more cautious individual approach is needed. In many developing countries there will be many HIV-infected women who cannot afford to formula-feed or who will choose to breastfeed after the risks and benefits are presented to them. In these societies HIV-infected women who deviate from the cultural norm of breastfeeding also risk exposing their HIV status and becoming prey to the attendant negative social implications. It is important that these problems be dealt with to enable women in such settings to make informed choices regarding infant feeding.

In a simulation exercise on infant survival, HIV infection and feeding alternatives in developing countries, Kuhn and Stein(5) conclude that "avoidance of all breastfeeding by the whole population always produces the worst outcome". While simulation models are limited in their predictive power by the quality of the data that feeds the assumptions used in it, the model outcomes should at least lead to caution.

Child care practitioners consider breastfeeding to be one of the principal elements in maternal and child health, preserved through long standing campaigns to protect mother-infant well-being, particularly in developing countries. However recent trends suggest that initiation and duration of breastfeeding is on the decrease in developing countries. In Durban, breastfeeding initiation rates which were 82% in 1996/1997 are now 71%.

Breastfeeding is believed to be so pre-eminent in human nutrition because of its well recognised nutritional, immunological, social and nurturing benefits. Given these benefits, it is important that breastfeeding should continue to be promoted as the standard of infant feeding. In developing countries the recommendations encouraging that HIV- infected women be informed about the risks and benefits of the different feeding options should be implemented cautiously, in well controlled settings, and their effects should be monitored thoroughly prior to exposing the general public to health programmes that might be well meant, but hold the potential of serious adverse outcomes. Last, while most data on the importance of HIV transmission through breastmilk were obtained by

**Table 3 Possible alternatives to formula feeding.**

	<i>Efficacy against HIV</i>	<i>Feasibility</i>
Heat treatment of breast milk	Good	Difficult
Exposure of breastmilk to room temperature	Not well known	Difficult
Wet nursing by known HIV-negative wet nurse	Good	Difficult; also there is risk that HIV infected infant infects nurse
Shortened breastfeeding period and supplemental feeds with e.g. modified animal milk	Should be reasonable	Should be reasonable
Use of antiretrovirals by mother	Unknown	Cost and level of development of health service problematic
Use of antiretrovirals by infant	Unknown	Cost and level of development of health service problematic
Modified animal milk from birth (home made formula)	Good	Should be reasonable

comparison of populations that either formula fed or breastfed, it should be recognised that there are alternatives to formula feeding (Table 3). It will be important to assess their feasibility and impact of HIV transmission, infant outcome and mother well-being, especially in developing countries where formula feeding is problematic.

**References**

1. Bobat RA, Moodley D, Coutsooudis A, Coovadia HM. Breastfeeding by HIV-1 infected women and outcome in their infants: a cohort study from Durban, South Africa.. *AIDS* 1997; 11:1627-1633.
2. HIV and Infant Feeding. A review of HIV transmission through breastfeeding. UNICEF, UNAIDS, WHO, Geneva, 1998.
3. Leroy V, Newell ML, Dabis F. International multicentre pooled analysis of late postnatal mother-to-child transmission of HIV infection. *Lancet* 1998;352:597-600.
4. HIV and Infant Feeding. A Guide for Health Care Managers and Supervisors. UNICEF, UNAIDS, WHO, Geneva, 1998.
5. Kuhn L, Stein Z. Infant survival, HIV infection and feeding alternatives in less developed countries. *American Journal of Public Health* 1997;87:926-931.

Hoosen Coovadia, Head, Department of Paediatrics and Child Health, Faculty of Medicine, University of Natal, Private Bag 7, Congella, 4013 South Africa. Tel: +27 31 260 4345 Fax: +27 31 260 4388 Email: mackrory@med.und.ac.za and Raziya Bobat, Principal Specialist/ Senior Lecturer, Department of Paediatrics and Child Health, University of Natal, Private Bag 7, Congella, 4013. South Africa. Tel: +27 31 260 4348 Fax: +27 31 260 4388 Email: bobat@med.und.ac.za

## FEEDING OPTIONS FOR HIV-POSITIVE MOTHERS

The following is adapted from "*HIV and Infant Feeding: A guide for health care managers and supervisors*"<sup>1</sup>

From birth to six months, milk in some form is necessary for an infant. If not breastfed, an infant needs about 150 ml of milk per kg of body weight a day. So, for example, an infant weighing 5 kg needs about 750 ml per day, which can be given as five 150 ml feeds a day.

### Breast milk substitutes

#### 1. Home-prepared formula

Home-prepared formula can be made with fresh animal milks, with dried milk powder or with evaporated milk. Safe use of formula with any of these types of milk involves modification of the protein and salt content to make it suitable for infants. Care is needed during preparation to avoid over-concentration or over-dilution. Micronutrient supplements are recommended, because animal milks may provide insufficient iron and zinc and may contain less vitamin A, C and folic acid. If micronutrient supplements are unavailable, complementary foods rich in iron, zinc, vitamin A and C and folic acid should be introduced at four months of age. However, it is unlikely that they will provide sufficient amounts of the required nutrients.

##### *Modified animal milks*

Cow milk has more protein and a greater concentration of sodium, phosphorous and other salts than breast milk. Modification involves dilution with boiled water to reduce the concentration. Dilution reduces the energy concentration so sugar must be added. The milk, water and sugar should be used in the following proportions and then boiled to make up 150 ml of home-prepared formula: 100 ml of cow milk with 50 ml of boiled water and 10 g (2 teaspoons) of sugar.

Feeding an infant for six months requires, on average, 92 litres of animal milk (500 ml per day).

Goat milk is similar in composition to cow milk and so needs to be modified in the same way. It is deficient in folic acid which infants need to be given as a micronutrient supplement. Camel milk is very similar in composition to goat milk and should be modified and supplemented in the same way.

Both sheep and buffalo milk have more fat and energy than cow milk and the protein content of sheep milk is very high. Using either of these milks for infants would therefore require more dilution than cow milk. The following proportions are appropriate: 50 ml of milk with 50 ml of

water and 5 g sugar.

##### *Dried milk powder and evaporated milk*

The full cream variety of dried milk powder or evaporated milk should be used. Normally, reconstitution involves adding a volume of boiled water to a measure of powdered or evaporated milk, as instructed on the container or packet. To make up a milk formula that is suitable for infants, however, the volume of water added needs to be increased by 50 per cent relative to the amount recommended for general consumption, and 10 g of sugar added for each 150 ml of the feed. This is the equivalent of the recipe for the modification of cow milk.

Home-prepared formula could be considered as an option by HIV-positive women when:

- \* The supply of animal milk or other milk is reliable and the family can afford it for at least six months
- \* The family has the resources to prepare it hygienically and can make the required modifications accurately
- \* Micronutrient supplementation is possible.
- \* Commercial infant formula is not available or is too expensive for the family to buy and prepare

#### 2. Unmodified cow milk

During the first few months of life, feeding with unmodified cow milk can cause serious problems leading to dehydration and death. Infants need to be offered extra water (that has been boiled and cooled) and monitored carefully for dehydration if they have fever, respiratory infection or diarrhoea. To ensure that the infant gets enough milk and that water does not displace milk, drinks of water should be offered after feeds.

Unmodified cow milk could be considered as an exceptional option by HIV-positive women when:

- \* The supply of cow milk is reliable and the family can afford it for at least six months
- \* The family lacks the resources, time and fuel to modify cow milk to make home-prepared formula
- \* The family will be able to offer extra water and monitor for dehydration
- \* Micronutrient supplementation is possible
- \* Commercial infant formula is not available or is too expensive for the family to buy and prepare

#### 3. Commercial infant formula

Commercial infant formula, based on modified cow milk or soy protein, is closest in nutrient composition to breast



milk, though it may lack some substances such as long-chain essential fatty acids present in breast milk. It is usually adequately fortified with micronutrients, including iron.

Formula is usually available as a powder to be reconstituted with water. The instructions on the tin for mixing the formula should be followed exactly to ensure that it is not too concentrated or diluted. Over-concentration can overload the infant with salts and protein, which can be dangerous, and over-dilution can lead to malnutrition.

Feeding an infant for six months requires on average 40 x 500 g tins (44 x 450g tins) of formula. Up to at least four and usually six, months of age, infants who are fed on commercial infant formula do not need complementary foods if they are gaining weight adequately.

Commercial infant formula could be considered as an option by HIV-positive women when:

- \* The family has reliable access to sufficient formula for at least six months
- \* The family has the resources - clean water, fuel, utensils, skills and time - to prepare it accurately and hygienically.

## Modified Breastfeeding

### 1. Early cessation of breastfeeding

Early cessation of breastfeeding reduces the risk of HIV transmission by reducing the length of time during which an infant is exposed to HIV through breast milk. The optimum time for early cessation of breastfeeding is not known. However, it is advisable for an HIV-positive woman to stop breastfeeding as soon as she is able to prepare and give her infant adequate and hygienic replacement feeding. The most risky time for artificial feeding in environments with poor hygienic conditions is the first two months of life, and family circumstances will therefore determine when the mother is able to stop breastfeeding and start replacement feeding.

Early cessation of breastfeeding is also advisable if an HIV-positive mother develops symptoms of AIDS.

Early cessation of breastfeeding could be considered as an option by HIV-positive women who:

- \* Find it difficult for social or cultural reasons to avoid breastfeeding completely
- \* Develop symptoms of AIDS during the breastfeeding period
- \* Can provide adequate replacement feeds, and can prepare and give these hygienically, only after their infants are a few months old.

### 2. Expressed and heat-treated breast milk

Heat treatment of expressed breast milk from an HIV-positive mother kills the virus in the breast milk. Heat-treated breast milk is nutritionally superior to other milks but heat treatment reduces the levels of the anti-infective factors.

To pasteurise the milk in hospital, it should be heated to 62.5C for 30 minutes (the Holder pasteurisation method). At home, it can be boiled and then cooled immediately by putting it in a refrigerator or standing the container in cold water.

To minimise contamination, heat-treated breast milk should be put in a sterilised or very clean container and kept in a refrigerator or in a cool place before and after heat treatment.

Expressing and heat-treating breast milk is time consuming and women may not find it a practical option for long-term infant feeding at home. However, if they are motivated and have the time, resources, and support, they may wish to consider this option. It may be most useful for sick and low-birth-weight babies in a hospital setting.

## Other breastmilk

### 1. Breast-milk banks

In some settings, milk is available from breast-milk banks. Breast-milk banks are generally used as a source of breast milk for a short time, for example, for sick and low-birth-weight newborns. They are not usually an option for meeting the nutritional needs of infants for a long period.

Given the risk of HIV transmission through unpasteurised pooled breast milk from unscreened donors, breast-milk banks should be considered as an option when:

- \* They are already established and functioning in accordance with standard procedures and safety precautions
- \* It is certain that donors are screened for HIV and that the donated milk is correctly pasteurised (using the Holder method.)

### 2. Wet-nursing

In some settings there is a tradition of wet-nursing in the family context, where a relative breastfeeds an infant. However, there is a risk of HIV transmission to the infant through breastfeeding if the wet-nurse is HIV-infected. There is also a potential risk of transmission of HIV from the infant to the wet-nurse, especially if she has cracked nipples.

Wet-nursing should be considered only when:

- \* A potential wet-nurse is informed of her risk of acquiring HIV from an infant of an HIV-positive mother
- \* The wet-nurse has been offered HIV counselling and testing, voluntarily takes a test and is found to be HIV-negative
- \* The wet-nurse is provided with the information and is able to practise safe sex to ensure that she remains HIV-negative while she is breastfeeding the infant
- \* Wet-nursing takes place in a family context and there is no payment involved
- \* The wet-nurse can breastfeed the infant as frequently and for as long as needed
- \* The wet-nurse has access to breastfeeding support to prevent and treat breastfeeding problems such as cracked nipples.

### *Unsuitable breast milk substitutes*

Skimmed and sweetened condensed milk are not recommended for feeding infants under six months of age. Skimmed milk has had all of the fat removed and does not provide enough energy.

Fruit juices, sugar-water and dilute cereal gruels are sometimes mistakenly given instead of milk feeds, but these and milk products such as yoghurt, are not recommended for replacement feeding for infants under six months of age.

Editor's note: The SCN Secretariat would like to hear from researchers in developing countries who have conducted studies to assess the feasibility of alternative infant feeding methods for babies of HIV infected mothers who are not breastfed.

### **SIX MONTHS TO TWO YEARS**

After the age of six months, breast milk should normally be an important component of the diet, providing up to half or more of nutritional requirements between the age of 6 and 12 months and up to one-third between the age of 12 and 24 months. An infant who is not breastfed needs replacement feeding which provides all the required nutrients.

After six months of age, replacement feeding should preferably continue to include a suitable breast-milk substitute. In addition, complementary foods made from appropriately prepared and nutrient-enriched family foods should be given three times a day. If suitable breast-milk substitutes are no longer available, replacement feeding should be with appropriately prepared family foods which are further enriched with protein, energy and micronutrients and given five times a day. If possible other milk products, such as unmodified animal, dried skimmed milk, or yoghurt should be included as a source of protein and calcium; other animal products such as meat, liver and fish should be given as a source of iron and zinc; and fruit and vegetables should be given to provide vitamins, especially vitamin A and C. Micronutrient supplements should be given if available.

Health workers need to discuss with families how to prepare an adequate diet from local foods and how to make sure that the infant eats enough.

1.UNICEF/UNAIDS/WHO HIV and Infant Feeding. A Guide for health care managers and supervisors. 1998. For further information, please contact from Randa Saadeh, WHO Nutrition in Health and Development.. Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch

## **BREASTFEEDING AND PERINATAL HIV TRANSMISSION IN THAILAND**

*by Usa Thisyakorn*

The HIV epidemic in Thailand, has caused a large and growing pediatric AIDS epidemic due almost entirely to perinatal transmission. The rate of perinatal HIV transmission studied at the beginning of the epidemic in Thailand varied between 25-42%. The higher transmission rate (42%) was observed in the northern part of Thailand where the majority of HIV-infected mothers breast-fed their babies. The transmission rate in the same area dropped to 21-28% after breastfeeding had been discouraged in HIV-infected mothers.

Breastfeeding by mothers known to be HIV-infected is actively discouraged in Thailand. Child mortality caused by infectious diseases is comparatively low in Thailand, consequently the discontinuation of breastfeeding is unlikely to result in substantial increases in infant disease-related mortality. However, most children who are at risk of acquiring HIV come from areas of the world where finding safe and economically feasible alternatives to breast milk is difficult. Strategies of infant feeding for HIV-infected mothers in these areas are urgently needed.

Usa Thisyakorn is Deputy Director, The Thai Red Cross AIDS Research Centre, 1871 Rama IV Road, Bangkok, Thailand. Tel. 662-256-4107 to 9 Fax: 662-254-7577



## THE POSSIBLE ROLE OF MICRONUTRIENTS IN HIV INFECTION

by Henrik Friis

Wasting and failure to thrive have long been known to be important features of HIV infection: for example, wasting is one of 3 major symptoms that define AIDS in the WHO clinical case definition of AIDS. However, in recent years the role played by nutritional deficiencies in early stages of HIV infection has also been investigated, and it has become clear that early HIV infection is accompanied by a range of micronutrient deficiencies. These deficiencies may contribute to the impairment of immune function seen in HIV infection, and may also affect viral replication and pathogenicity.

The potential for micronutrient deficiencies to act as co-factors in HIV transmission and progression is most obvious in poor populations with inadequate dietary intake and a high infectious disease burden. But since micronutrient deficiencies may be precipitated by HIV infection *per se*, a role for micronutrients is likely even in affluent populations (see Friis and Michaelsen (1) for a complete list of references). Micronutrient deficiencies could be co-factors in the progression of HIV infection to AIDS and death, in the sexual transmission of HIV, and in mother-to-child transmission of HIV.

### HIV progression

The time from HIV infection to AIDS varies within as well as between populations, and has been reported to be shorter in developing than in industrialized countries, even prior to the antiretroviral era. These differences in rate of progression may be due to a number of factors, such as genetic and virological characteristics, concurrent infections, standards of health care, as well as micronutrient intake and status. The fact that many factors may contribute to disease progression makes the identification of single causes difficult. However, there is evidence from longitudinal studies that micronutrients play a role in HIV disease progression. In the USA, HIV-infected men with high intakes of vitamins A, thiamin, riboflavin, niacin, B<sub>6</sub>, and possibly C, had less disease progression and/or mortality. However, very high intakes of vitamin A (more than 4 times RDA) and zinc were associated with increased progression and mortality. In another similar study, high intakes of riboflavin, vitamin E and iron, and possibly vitamin A, C and thiamin were associated with reduced disease progression. These studies were performed in populations with high dietary and supplemental intakes of micronutrients, and their results therefore do

not permit inferences about the effects of micronutrient deficiencies. Unfortunately, no studies on the effects of dietary or supplemental micronutrient intake on the progression of HIV infection have been reported among adults in developing countries. However, data from a randomised, controlled vitamin A trial among pre-school children with acute pneumonia in Tanzania have just been presented at the recent *Third International Symposium on Global Strategies to Prevent Perinatal HIV Transmission* (Valencia, 9-10 November 1998). Although there was no effect of vitamin A on morbidity or mortality in the acute phase, it prolonged life expectancy among those with HIV infection, suggesting that vitamin A may play a role in slowing the course of HIV infection in children.

In a study from Malawi, serum retinol among pregnant HIV-infected women was found to be inversely related to maternal mortality. Similarly, the mortality among their infants before 12 months was 93% in infants of women with very low serum retinol, compared to 14% in infants of vitamin A replete women. It is worth noting that a proportion of these infants probably died because of other infections induced by vitamin A deficiency, but also that low retinol levels have been associated with advanced HIV infection in the mother, and increased HIV transmission to their infants. More serious HIV infections in the infants of retinol deficient mothers is therefore a likely contributing factor to the high infant mortality rate seen in their offspring, and among the mothers themselves.

Recently, low serum selenium – but none of a number of other micronutrients – was shown to be associated with approximately 10 times increased risk of mortality in three different USA cohort studies involving HIV-infected men. The association between host selenium deficiency and HIV progression could reflect impairment of immune functions and increased viral replication due to selenium deficiency.

### HIV transmission

Like their possible role in the progression of HIV infection, the role of micronutrient deficiencies in sexual HIV transmission is difficult to study. Just like the progression of HIV infection, HIV transmission is determined by a complex of cultural, socio-economic, behavioural and biological factors. However, some data suggest that micronutrient deficiencies may affect the infectiousness of HIV-

infected individuals: in a recent study from Kenya HIV-infected women with low serum vitamin A were more likely to shed HIV in vaginal secretions. There are as yet no epidemiological data to support the hypothesis that uninfected individuals with deficiencies of vitamin A (known to be essential to epithelial integrity) and other micronutrients are more susceptible to HIV, or to genital infections that are known risk factors for HIV.

The rates of mother-to-child HIV transmission were higher in developing (25-30%) than in industrialized countries (14-25%) prior to the routine use of antiretrovirals. Although differences in breastfeeding practices and antenatal care are important contributors to this difference in transmission rate, micronutrient deficiencies in women of reproductive age in developing countries, exacerbated by the nutritional stress of pregnancy and lactation, may play a role. Studies from Kenya have shown that low serum vitamin A in pregnant and lactating women was associated with the presence of HIV in vaginal secretions and breast milk. This suggests that maternal vitamin A deficiency increases the HIV exposure of the infant as it passes through the birth canal and during breastfeeding. Additionally, maternal micronutrient deficiencies may reduce the micronutrient status of the foetus or infant, thereby affecting immune functions and susceptibility of the unborn or young breastfed child to HIV. In accordance with these results, a study from Malawi showed that women with low compared to normal serum vitamin A at the first visit to the antenatal clinic had a four-fold increased risk of having an HIV-infected child. However, the association between vitamin A deficiency and HIV progression or transmission could be due to the confounding effect of either advanced disease or a co-existing micronutrient deficiency.

Randomised, controlled trials are ongoing to assess the cause and effect relationship between micronutrient deficiency and mother-to-child HIV transmission. Data from trials using vitamin A alone or in combination with vitamins and minerals are now emerging. A study on daily vitamin A supplementation to pregnant HIV-infected women in Malawi was recently presented in Valencia: however, no effect on mother-to-child transmission was found. Whether the lack of effect was due to co-existing deficiency of zinc, considered to be essential for mobilization of vitamin A from the liver, is not clear, but seems unlikely

as there was a significant effect on birthweight. A study among HIV-infected women in Tanzania using multi-vitamins (six B vitamins and C and E at approximately 10 times the RDA – but no vitamin A) showed reduced risk of abortion, stillbirth, prematurity, small-for-gestational age, and an increase in the T-helper cell count and haemoglobin concentration of the mother (2). Data on the effect of mother-to-child transmission are expected soon. However, the question of the effect of other deficiencies, and the role of interactions between multiple deficiencies which usually co-exist, will remain unanswered by these trials, and single nutrient interventions may fail in the presence of another deficiency. Multiple nutrient interventions or factorial designs may therefore be required to define whether nutritional intervention can reduce HIV transmission.

### Potential public health measures

Data from observational studies suggest that several vitamins and selenium may decrease the progression of HIV infection or its transmission. On the other hand, the role of micronutrients is complex, and excess intake – particularly vitamin A – could be harmful. Randomised, controlled supplementation trials are urgently needed to clarify the relationship between potentially beneficial micronutrients and HIV progression and transmission. If supplementation with one or a combination of micronutrients can be proven, then developing countries could have affordable, cost-effective and safe public health interventions at hand.

### References

1. Friis H and Michaelsen KF (1998). Micronutrients and HIV infection: a review. *European Journal of Clinical Nutrition* 52:157-63.
2. Fawzi WW, Msamanga GI, Spiegelman D, Urassa E, McGrath N, Mwakagile D, Antelman G, Mbise R, Herrera G, Kapiga S, Willet W, Hunter DJ (1998). Randomised trial of effects of vitamin supplements on pregnancy outcomes and T-cell counts in HIV-1-infected women in Tanzania. *Lancet* 351:1477-82.

Henrik Friis, Associate Research Professor, Research Department of Human Nutrition, The Royal Veterinary and Agricultural University, Rolighedsvvej 30, DK-1958 Frederiksberg C, Denmark and Danish Bilharziasis Laboratory, Denmark Tel:+45 35 28 24 85 Fax:+45 35 28 24 83 Email: hfriis@dadlnet.dk





## **HIV/AIDS: THE KENYAN CASE**

### **by Ruth Oniang'o and Agnes Kimokoti**

The first report of Acquired Immune Deficiency Syndrome (AIDS) in Kenya was in 1984. The AIDS epidemic has continued to expand and by September 1997 over 76,000 AIDS cases had been reported. About 1.3 million Kenyans are estimated to be infected with human immunodeficiency Virus (HIV). Of these, 77,950 are estimated to be children. One of the major impacts of AIDS in Kenya is the reduction in life expectancy and increased child morbidity and mortality which threatens child survival. Other impacts include the effect of AIDS on women as traditional primary care providers (1).

For various reasons not all AIDS cases in Kenya are reported:

- \* Some people never seek hospital care for AIDS;
- \* Doctors may not want to record a diagnosis of AIDS because of the stigma attached to it;
- \* Individuals with HIV infection may die of other diseases before they are ever diagnosed as having AIDS;
- \* Some rural health care facilities may not have the capability to test for HIV infection.

#### **The Economic Impact of AIDS**

The loss of young adults in their most productive years of life affects overall economic output. AIDS is more prevalent among the economic elite, the best-educated people with the highest-paying jobs. Also, the private cost of AIDS is high and includes expenditures for medical care, drugs and funerals. Since most of these extra expenditures are financed out of savings, the reduction in investment could lead to a significant reduction in economic growth. The result is that families become poorer and their standard of living declines.

Secondly, the impacts on agriculture are likely to vary by agricultural system. In rainy areas, where a variety of crops are planted throughout the year, families can cope relatively well with the loss of a few labourers. They may reduce the area cultivated and cut back on the number of crops planted, but may still be able to produce an adequate amount of food. In dry areas, where farming depends on one or two crops that must be planted and harvested at specific times of the year the impacts are likely to be more severe. In such areas the loss of a few workers at the crucial periods of planting and harvesting can significantly reduce the size of the harvest and food security may be compromised. The aspect that is most devastating to agricultural production is, however, the diversion of available labour to caring for those who stay

ill for long periods of time. Where the deceased was the most productive member of the family, coping with the aftermath and shock takes considerable time and energy. Also, a loss of agricultural labour is likely to cause farmers to switch to less labour-intensive crops. In many cases, this may mean switching from export crops to food crops. Thus, AIDS is affecting production of cash crops as well as food crops.

#### **HIV/AIDS Related Morbidity and Mortality**

Once a person is infected with HIV, survival depends on how long the body's immune system is able to fight the virus. Poor nutrition and infections such as sexually transmitted diseases (STDs), tuberculosis (TB) and other opportunistic infections may accelerate progression to AIDS. Additionally, distance from health facilities, unavailability of diagnostic equipment, high cost of drugs, limited health worker skills, and poor attitudes towards AIDS patients may also contribute to the accelerated AIDS mortality.

The above observations suggest that good nutrition and prompt treatment of infections in HIV infected individuals may delay the onset of AIDS. This is particularly relevant to Kenya where expensive treatments of AIDS are unaffordable. Promoting the survival of HIV infected individuals is one of the ways to prevent children from becoming orphans at a very young age (1).

#### **Control Programme of AIDS and STDs in Kenya**

The government has tried to control AIDS and STDs nationally by creating the National AIDS and STDs Control Programme (NAS COP) within the Ministry of Health. The programme adopts a multi-sectoral approach to mobilise a widespread effort against AIDS. The plan calls for action in six primary areas: prevention of sexual transmission of HIV, prevention of HIV transmission through blood and blood products, mitigation of the socio-economic impacts of HIV/AIDS, epidemiological surveillance, co-ordination of research, and management and co-ordination of the multi-sectoral AIDS control programme. In addition to these government efforts, a number of NGOs and private sector programmes also contribute to the fight against AIDS (2, 3).

#### **What Needs to be Done**

Much is being done today in Kenya to care for HIV/AIDS patients and to educate people about the dangers of AIDS. However, HIV is still spreading rapidly in most parts of Kenya. Early initiation of sexual activity among adoles

cents has been observed in Kenya as reported in studies by the Centre of Adolescent Studies (CAS) and the African Medical and Research Foundation (AMREF). The situation is quite worrisome since there is little evidence of behavioural change towards safe sex approaches (1)

Women are increasingly finding themselves as single parents with the dual responsibility of care provider and income generator for the family. Rehabilitation programmes and training in income generating activities for such women, especially in rural areas, will need to be expanded to cover a wider population. The number of young widows is increasing at an alarming rate as a result of deaths of young productive spouses (4). These young widows may enter new sexual relationships with serious implications regarding the expansion of the epidemic if they are infected with HIV.

One of the worst impacts of AIDS deaths of young adults is an increase in the number of orphans. These children lack the proper care and supervision that they need at this critical period of their lives. In fact, there is a tremendous strain on social systems to cope with such a large number of orphans. At the family level there is increased burden and stress for the extended family that has the traditional mandate to care for these orphans. Many grandparents are left to care for young children. Some families are headed by children as young as 10-12 years old. At the community and national level there is an increased burden on society to provide services for these children, including orphanages, health care and school fees. Many children go without adequate health care and schooling, increasing the burden on society in future years. There is an increase in the number of street children, particularly in urban areas (1).

In order for prevention efforts to succeed, a number of changes are required. Among the most important:

- \* Strong political commitment by all leaders.
- \* Adoption of a multi-sectoral approach to AIDS interventions. All sectors of society must be involved in the solution to this problem including government, NGOs, private sector organisations, religious organisations, unions, professional societies and others.
- \* Strengthening of STD treatment at all levels as a strategy to decrease progression of HIV to AIDS. This is quite important because at the moment, government hospitals are inadequately stocked with drugs of almost every kind.
- \* Establishment of an effective national co-ordinating body with strong leadership and the backing of the Office of the President, international donor agencies, NGOs and all

Kenyans. This is necessary in order to effectively co-ordinate a multi-sectoral approach to AIDS prevention.

- \* Introduction of AIDS education into school curricula in order to inform adolescents on how to stop the spread of AIDS. In this regard, religious leaders should be sensitised to see the seriousness of this issue so that they can co-operate in accepting AIDS education to be taught in schools. This has been quite a serious bone of contention in this country.
- \* Proper and timely advice for HIV positive pregnant women regarding breast feeding, with the guidance of WHO and UNICEF.
- \* Provision of adequate nutrition to strengthen the immune system and delay the progression of AIDS
- \* Strengthening of HIV/AIDS/STDs surveillance and research programmes.
- \* Increased AIDS education and advocacy for behaviour change. Existing multi-media networks and inter-personal communication should be utilised to disseminate messages on positive behaviour change. Women and children should be involved in the design and dissemination of AIDS messages. Participatory advocacy and inter-personal communication should be utilised to enhance discussion of sensitive issues. The rural people should be reached by increased use of electronic and folk media as well as outdoor messages.

Nutrition as a factor in HIV/AIDS cannot be considered in isolation. It needs to be considered as part of a comprehensive package of approaches to control and prevent HIV infections. This is a difficult request in a country such as Kenya which is experiencing serious deterioration to the economic status.

#### References

1. GoK/UNICEF Situational Analysis of Women and Children in Kenya, (Draft-unpublished) 1998.
2. NASCOP, AIDS in Kenya. Background, Projections, Impact, Interventions. Fourth Edition, Nairobi, 1998.
3. GoK, Kenya Development Plan 1997-2001, Nairobi: The Government Printer, 1997.
4. Ndolo, MH A Comparative Review of the Epidemiological Trends of HIV/AIDS and Tuberculosis in Kenya and the Implications for the Control of Tuberculosis, (MPH thesis, University of Wales College of Medicine. Welsh Combined Centre for Public Health), 1996.

Ruth Oniang'o, Food Science and Nutrition, Jomo Kenyatta University College of Agriculture and Technology, P.O.Box 62000, Nairobi, Kenya Tel:254 151 22646/9 Fax:254 151 21764 Email: oniangoo@iconnect.co.ke Agnes Kimokoti, Senior Lecturer, University of Nairobi, P.O.Box 30197, Nairobi. c/o Email: oniangoo@iconnect.co.ke





**INFANT FEEDING IN THE AGE OF AIDS:  
A DECADE-LONG EVOLUTION OF POLICY AND PRACTICE**  
by Lida Lhotska

The possibility that HIV could be transmitted from mother to child has been known for more than a decade. But even now, with so many questions still unanswered, it is a terribly difficult issue for health care professionals and policy makers. Transmission can occur at any stage: in utero, during birth and after birth through breastfeeding. Recently, trials in Thailand using the anti-retroviral drug AZT have shown a dramatic reduction in vertical transmission before and during birth. These reductions only increase the need to ensure that a newborn who has escaped infection thus far will avoid infection through breastfeeding.

In 1985, early evidence that HIV could be transmitted through breastfeeding came as a shock, though it really shouldn't have. It was already known that HIV is passed through bodily fluids, and breastmilk is one of them. However, breastmilk has always been seen as an extremely healthy and natural substance, and breastfeeding as a way to provide irreplaceable benefits for both mothers and babies. To learn that breastfeeding could actually pose a danger was profoundly disconcerting.

I don't think that in those early days many people immediately began to rethink strategies because the evidence was still anecdotal. It was not yet clear how – or when – transmission occurred.

But as the number of HIV-positive babies increased, the need to establish a policy and guidance for mothers grew. In 1992, WHO and UNICEF had a technical consultation that established the fact that HIV could be transmitted through breastfeeding. Aside from the science proving such transmission, there were other hard facts to face: Most of the women in the world had no access to HIV testing; the overwhelming majority of women who tested positive could not afford breastmilk substitutes; and the combination of fear and lack of information could easily lead to panic. Moreover, if people reacted by abandoning breastfeeding, the resulting deaths of children from diarrhoea, malnutrition and other diseases would certainly number in the thousands daily. And to complicate matters even further, it was known that in certain settings and circumstances, the risks posed by artificial feeding, even when a mother tested positive for HIV, could outweigh the still uncertain risk of transmitting the virus.

It was certainly not possible to change circumstances in poor countries rapidly enough to make artificial feeding safe for infants who needed it. So the expert group on HIV and infant feeding established by WHO and UNICEF was careful in choosing the settings in which they advised alternatives to breastfeeding. The group considered such criteria as infant mortality and malnutrition rates, as well as access to adequate hygiene. Yet, in retrospect, the 1992 approach was inadequate, with an implicit, though unintended, double standard, suggesting that in poor countries, mothers should continue to breastfeed. Population-wide recommendations gave way to policies and strategies that enabled health workers to counsel mothers.

In 1997, the UNAIDS Secretariat issued a policy statement promoting a mother's right to choose the best method for feeding her child. The statement was followed in 1998 by guidelines for policy makers and health care managers who deal with the issue of HIV and infant feeding, highlighting the need to respect and fulfil women's rights.

The current policy has been greatly influenced by actions over the past five years to integrate into programming two important human rights conventions – the Convention on the Rights of the Child and the Convention on Elimination of All Forms of Discrimination against Women. It is one thing to read the documents, however; another to internalize the ideas; and still another to turn principles into practice. Throughout the 1990's people have increasingly sought to ensure that all the rights outlined by the two conventions are protected, respected and fulfilled. So too in the area of HIV and infant feeding have we come to insist that individual rights be considered. These rights cover voluntary and confidential counselling and testing, informed choice about infant feeding and personal decision-making about reproductive health.

This rights approach needs to be supported by concrete measures. For example, once we recognize that women have the right to informed choice, we have to provide the information. And if we value a child's right to the highest attainable standard of health, we have to specify what that means in the case of HIV and infant feeding. One enormous difficulty we face is the limitations of current tests. Those most widely available do not always establish whether a child is infected at the time of birth, because the

infant carries the mother's antibodies for up to 18 months. Mothers, therefore, cannot base their decisions about infant feeding on sure knowledge of the child's HIV status.

HIV poses special challenges to health workers, who have traditionally been trained to dispense advice. If a person comes in with the flu, it's easy. You simply say, take this aspirin, get some rest, you'll get better. With HIV, there is no straightforward, consistent advice that works for everyone. Determining what is best requires an individual assessment of various risks, as well as crucial information often known only by the mother. Suddenly, health workers find themselves in the unfamiliar role of counsellors. I hope that, with appropriate training, they can help a woman to consider all aspects of the situation, to understand her options, and to assess the potential dangers posed by artificial feeding. Most of all, I hope that health workers will understand that the woman receiving their counselling and care is going through a very traumatising experience.

Ultimately, the decision of what to do must be in the hands of mothers, who want more than anything to do what is best for their babies. Feeding is one area that mothers can control. Each mother will struggle to make the best feeding choice possible and to minimise the risk to her baby – even as she considers a whole range of circumstances, such as the effect of using commercial formula on other children in the family and on household food security.

It's a painful choice: by breastfeeding, she might be introducing a risk that could lead to her baby's death; by not breastfeeding, she could be causing harm to that very child while also endangering the rest of the family. Whichever choice she makes, the mother must be supported.

This support may entail providing what she needs to carry out her decision – including, in some cases, uninterrupted access to adequate replacement feeding for the baby. It has long been known that the ideal nutrition for babies is exclusive breastfeeding for about the first six months followed by the addition of complementary foods, but we now recognise that for babies of HIV-positive mothers, avoidance of breastfeeding may save the child's life. We need to ensure that such mothers have access to a

suitable breastmilk substitute for the first six months and to additional nutrients later on.

In the process, UNICEF would like to see two 'safety catches': one, that adequate supplies of substitutes be available to all the women who need them; and two, that provision of these supplies not cause 'spillover', or the unnecessary use of artificial feeding by HIV-negative mothers and those of unknown status. It is difficult to strike a balance between reaching everyone in need with replacement feeding and ensuring that the rapidly implemented programme does no unintended harm. We are working with governments that are ready to try this approach carefully and whose experiences may lead to an effective global response.

Even before the HIV-breastfeeding connection was established, we acknowledged that there might be a limited number of children who may need breastmilk substitutes to protect their own or their mothers' health. But particular caution must be exercised in cases where manufacturers donate infant formula. The International Code of Marketing of Breastmilk Substitutes and subsequent resolutions by the World Health Assembly clearly state that supplies are not to be donated through the health care system. Each nation needs to develop distribution channels that comply with the Code.

The Code is even more crucial in the face of HIV/AIDS because it is the only agreed-upon way to fight inappropriate promotion of breastmilk substitutes and supplies to the general public or through the health care system. We would, therefore, like to see an acceleration of Code implementation and enforcement in all countries to protect against such promotion, and to ensure that governments meet their obligations under the Convention on the Rights of the Child, which calls for correct information to the public – especially parents.

As research and thinking evolve, so will policy guidance. But its basis and purpose, to help parents and governments ensure that the best interests of every child is protected, remain unchanged.

Lida Lhotska is Project Officer, Infant Feeding and Care, UNICEF Nutrition Section.

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## **INFORMING ZIMBABWEAN WOMEN ABOUT THE TRANSMISSION OF HIV THROUGH BREASTFEEDING - THE ZVITAMBO SUB-STUDY**

*by Lorrie Gavin and Jean Humphrey*

Investigators from the ZVITAMBO project in Zimbabwe (see SCN Newsletter #14, July 1997) are undertaking a new sub-study in an attempt to operationalise recently revised UN policy about informing women in developing countries on the risk of transmitting HIV to their children through breastfeeding. Until recently, global policy was to encourage HIV-positive women living in developing countries to continue to breastfeed. With the acknowledgement that approximately one-third of HIV-infected infants acquired HIV while breastfeeding, HIV-infected women in developing countries are now advised to be 'fully informed' about the risks of transmitting HIV through breastfeeding so that they can make their own choice about how to feed their children (UNAIDS/UNICEF/WHO 1998). This is likely to be new information for many women in developing countries; among ZVITAMBO mothers, approximately one-half report that before joining ZVITAMBO they did not know that HIV can be transmitted through breast feeding.

This new study must address a wide range of social, cultural and economic issues in two complex behavioral areas: infant feeding practices and social response to HIV/AIDS. It will be targeted at African women, a population which frequently lacks decision-making autonomy and may be at risk of negative consequences if found to be HIV-positive. Counselling a woman about HIV and breastfeeding may pose unique challenges because an HIV-positive mother who chooses replacement feeding<sup>1</sup> must consider the impact of HIV infection on her child as well as herself; weigh the risks of replacement feeding against the risks of breastfeeding; consider nearly-immediate disclosure of her HIV status to her husband and/or other family members; risk social stigmatisation and/or other negative consequences; and acquire a new set of infant feeding skills that will enable her to safely provide replacement feeding to her child for a prolonged period of time. Since replacement feeding can also pose a significant threat to child health, there is concern that the dissemination of information about HIV and breastfeeding will lead to a shift away from breastfeeding among HIV-negative women or women who do not know their HIV status. Thus, the project has three objectives:

\* Develop an intervention to educate and counsel women about HIV and breastfeeding. Ethnographic research will be conducted to better understand the context within which women decide how to feed their child. In Zimbabwe, breastfeeding is a nearly universal practice with 93% of children receiving breast milk at 6 months of age (UNICEF 1998). Breastfeeding also has important social meaning, for example; it has traditionally been used as a 'yard stick' to

measure a married woman's chastity and fidelity (Cosminsky 1993). We will consider various counselling modalities to determine how to best structure the intervention.

\* Monitor the impact of the intervention. The project will assess the intervention by determining whether there is a change in women's knowledge of the risk of transmitting HIV by breast feeding. It will also monitor the actual infant feeding practices of HIV-positive and HIV-negative women at 3-monthly intervals over the first year postpartum. (The infant feeding practices of HIV-negative women will be monitored so that any shift away from breastfeeding can be quickly identified.) Other consequences of the intervention (e.g., negative life events) will also be monitored, while a qualitative component will provide in-depth information about the process by which infant feeding decisions were made among women who received the intervention.

\* Disseminate results and provide guidance to the Government of Zimbabwe. The project will be implemented in close collaboration with government health officials in Zimbabwe, and results will be disseminated widely among health care providers throughout the country.

We expect to offer the counselling to at least 5000 of the 14,000 mother-baby dyads recruited into ZVITAMBO over the next year. We hope that lessons learned from this effort will be useful to others as they attempt to implement the revised UN guidelines on HIV and breastfeeding.

The United Nations (1998) defines 'replacement feeding' as the process of feeding a child who is not receiving any breast milk with a diet that provides all the nutrients the child needs. Feeding options for an HIV-positive mother include providing breastmilk substitutes (commercial or home-prepared infant formula) and modified breastfeeding (early cessation or express and heat-treated breastmilk).

### **References:**

1. Cosminsky S, Mhloyi M & Ewbank D (1993). Child feeding practices in a rural area of Zimbabwe, *Social Science and Medicine*. Vol. 36(7): 937-947.
2. UNAIDS/UNICEF/WHO (1998). HIV and Infant Feeding: Guidelines for decision-makers. Draft. WHO/FRH/NUT/CHD/98.1.
3. UNICEF (1998). *The State of the World's Children 1998*. Oxford University Press, NY, NY.

Jean Humphrey, Principal Investigator, The ZVITAMBO Project, 21 Van Praagh Avenue, Harare, Zimbabwe Tel: 263-4-781-532 Email: zvitambo@icon.co.zw

## **WOMEN'S RIGHTS TO BREASTFEED vs. INFANTS' RIGHTS TO BE BREASTFED** **by George Kent**

What is the relationship between the mother's interest in breastfeeding and the infant's interest in being breastfed? How do the mother's rights relate to the infant's rights?

Infant care and feeding are affected by many different parties, including the infant, the parents, siblings, the extended family, the community, health professionals, employers, infant formula manufacturers and sellers, local government, national government, and others. Each party has its own interests and its own capacities to press for outcomes preferable to itself. At times infants are not nurtured properly because of the pull of others' interests. They are all concerned, more or less, with the infant's health, but they also have other interests such as profits, increased leisure time, and having opportunities to do other things. Where these parties do not all have preferred outcomes that are consistent with one another, there is conflict among them.

At times the mother and the infant may have conflicting interests. The conflict is raised in clear relief when it is argued that the infant has a right not only to be well nourished but, more specifically, that the infant has a right to be breastfed. Such a right could clash with the woman's right to choose how to feed her infant.

Article 3 of the Convention on the Rights of the Child says that "In all actions concerning children . . . the best interests of the child shall be a primary consideration". Combining this with the observation that breastfeeding is better than alternative methods of feeding, some breastfeeding advocates argue that infants have a right to be breastfed. However, this appears to be a minority view.

While it is true that actions must be based on consideration of the best interests of the child, that is not the only consideration. Moreover, it is assumed that normally the parents judge what is in the child's best interests. The state should interfere in the parent-child relationship only in extraordinary situations, when there is extremely compelling evidence that the parents are acting contrary to the best interests of the child.

The infant has great interests at stake, but few resources to be used to press for preferred outcomes. Given the infant's powerlessness, it is sensible to use the law to help assure that the best interests of the infant are served. However, while it is surely appropriate to use the law to protect the infant from outsiders with conflicting interests, it is not reasonable to use the law to compel an unwilling mother to breastfeed. Thus, for the purposes of framing appropriate

law, the woman and infant can be viewed as generally having a shared interest in the infant's well being. From the human rights perspective, the major concern is with protecting the woman-infant unit from outside interference.

The prevailing view is that women must remain free to feed their infants as they wish, presumably in consultation with other family members, and that outsiders are obligated to refrain from doing anything that might interfere with a freely made, informed decision. It is assumed that they have appropriate and accurate information available to them. This is the approach taken in the International Code of Marketing of Breastmilk Substitutes. The code is not designed to prevent the marketing or use of formula, but to assure that parents can make a fully and fairly informed choice on how to feed their infants.

Rather than have the state make decisions for them, citizens in a democracy prefer assurances that nothing impedes them from making good decisions. To the extent possible we should be free to choose, and that includes being free to make what others might regard as unwise decisions.

### **Fundamental Principles**

In my view, the human rights of infants with regard to nutrition may be summarised in a few fundamental principles:

- (1) Infants have the right to be free from hunger, and to enjoy the highest attainable standard of health.
- (2) Infants are entitled to good food, good health services, and good care.
- (3) Mothers have a right to breastfeed.
- (4) Infants have the right to be breastfed if their mothers choose to breastfeed.
- (5) A reluctant mother cannot be legally compelled to breastfeed.
- (6) Human rights law requires respect, protection, and facilitation by outsiders – and particularly by the state – of the nurturing relationship between mother and child.
- (7) Infants are entitled to assurance that their parents are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition and the advantages of breastfeeding.



(8) Infants are entitled to expect that their mothers have good prenatal care.

(9) Infants are entitled to baby-friendly health facilities.

(10) Infants are entitled to assurances that, through appropriate maternity legislation, their mothers have adequate opportunities to nurture them.

### Recommendations

The idea that parents should be able to make informed decisions remains valid in the context of HIV/AIDS. However, its application depends on the decision-makers, primarily mothers, being aware of and having real access to a range of feeding alternatives, and it depends on their having good information about these available alternatives. Where commercial interests are represented, the presentation of options and the information about them are likely to be sharply skewed.

The ten principles regarding the human rights of infants with regard to nutrition apply in the context of HIV/AIDS; they are not to be suspended. This means, for example, that even HIV-positive mothers have a right to breastfeed. If any country were to prohibit HIV-positive mothers from breastfeeding, that would violate their human rights, and also violate their infants' human rights.

Particular attention should be given to Principle 7 which focuses on the obligation to assure that the infants' parents are well informed with regard to their infant feeding choices. This is the major idea underlying the International Code of Marketing of Breastmilk Substitutes. The code does not prohibit marketing or use of formula, but insists that promotion activities for the products must be conducted in ways that are fair rather than being skewed to favour commercial products. Article 24, paragraph 2e of the Convention on the Rights of the Child goes directly to the point. It calls upon States Parties "To ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, the advantages of breast-feeding, hygiene and environmental sanitation and the prevention of accidents." This is a legally binding obligation on all States Parties to the convention (all countries except the United States and Somalia), and a strong moral obligation on those that are not. From the debate relating to HIV, it is now increasingly clear that the full array of feeding options should be presented to the parents, and better research is needed about the advantages and disadvantages of each option in particular local circumstances.

In addition, there is a need to enable the mother to learn whether she is HIV-positive through voluntary counseling

and testing so that she can make an informed decision regarding the feeding of her infant in relation to her own condition. This counseling should include factual information on the limitations, validity, and meaning of the test.

These points can be formulated as Fundamental Principles on the human rights of infants with regard to nutrition where there is significant risk of HIV infection through breastfeeding. These principles, to be added to the ten listed earlier, might be stated as follows:

(11) Regardless of the mother's HIV status, infants are entitled to assurance that their parents are informed of the full range of feeding alternatives and their advantages and disadvantages in the local circumstances.

(12) Women in their child-bearing years are entitled to accessible voluntary testing and counseling regarding HIV/AIDS. This counseling must include information about the limitations, validity, and meaning of the test and the benefits and risks of various feeding alternatives in the local circumstances.

(13) Infants are entitled to expect that their governments will help to make quality feeding alternatives available, including expressed and heated breastmilk, or breastmilk from others obtained through wet nurses, milk banks, or other comparable arrangements.

(14) Infants are entitled to expect that their governments will seek to obtain and provide the unbiased information needed by their parents regarding HIV/AIDS and feeding alternatives.

In other words, as a consequence of the infant's human right to nutrition, parents are entitled to good information about a broad range of feeding alternatives.

These are tentative formulations, offered to stimulate discussion. Principles of this sort should be considered in preparing policy at the global level, and also in the drafting of national legislation and national policies relating to HIV/AIDS.

1. Convention on the Rights of the Child.  
<http://www.unhchr.ch/html/menu3/b/k2crc.htm>

George Kent is Professor and Chair, Department of Political Science, University of Hawai'i, Honolulu, Hawai'i 96822-2231, USA. Email: kent@hawaii.edu He serves as Coordinator of the Task Force on Children's Nutrition Rights for both the World Alliance on Nutrition and Human Rights and the World Alliance for Breastfeeding Action. Although he has consulted with others on the views offered here, these views are his own and do not represent those of any other individuals or organisations.

## THE IMPACT OF HIV&AIDS ON RURAL FOOD SECURITY by Daphne Topouzis

Access to an adequate amount of food is the most basic of human needs and rights. Food security, as defined by the Food and Agriculture Organisation of the United Nations (FAO), is "enough nutritious and safe food being available and accessible for a healthy and active life by all people at all times."<sup>1</sup> Food security is thus dependent on four factors: availability, stability and accessibility of food, and good health. To achieve national food security, a country must be able to grow sufficient food or have enough foreign exchange to enable it to import food. As many as 44 countries in Africa today are classified by FAO as low-income and food-deficit. At the household level, food security is "the capacity of a household to procure a stable and sustainable basket of adequate food,"<sup>1</sup> according to the United Nations International Fund for Agricultural Development. Households must have sufficient income to purchase the food they are unable to grow for themselves.

The main causes of food insecurity are low productivity in agriculture combined with fluctuations in food supply, low incomes, insecure livelihoods and shocks, such as asset loss (for example the death of livestock), war, theft and civil conflict, and more recently the onset of HIV/AIDS.<sup>2</sup> HIV/AIDS-related morbidity and mortality affects household food security through:

- ◇ the loss of prime-age adult on- or off-farm labour; labour shortages lead to a decline in the productive capacity of a household;
- ◇ a decline in household income and loss of assets, savings and remittances;
- ◇ an increase in household expenditures (for medical treatment and transport, special foods for the infirm); and
- ◇ a rise in the number of dependants relying on a smaller number of productive family members.

These factors may result in any of the following scenarios:

- ◇ they may trigger food insecurity in previously unaffected households;
- ◇ they may render some households chronically food insecure and their members chronically undernour-

ished with severe consequences for infants, young children, pregnant/lactating women and the elderly; and

- ◇ they may increase the frequency and extent of food insecurity among households previously only suffering from seasonal food insecurity.

Food-insecure household members are susceptible and vulnerable to HIV/AIDS: malnutrition contributes to poor health status, and by extension, to low labour productivity, low incomes and livelihood insecurity. People with low incomes are less likely to get treatment for sexually transmitted diseases (which can facilitate HIV transmission) or opportunistic infections associated with HIV/AIDS. People living with AIDS are particularly vulnerable as, without a good diet, they cannot prolong good health and live a longer life to provide for their children.

FAO research in East and West Africa<sup>3</sup> shows that the most immediate problem for many AIDS-affected rural households is not medical treatment and drugs but a lack of food and poor nutrition (see Box). In case of adult deaths, survivors (especially widows and their families) often have few assets to dispose of in time of need. Household food security coping mechanisms may disintegrate soon after adult death and food consumption may decline sharply amongst remaining family members.

Rural household coping mechanisms weaken under the impact of HIV/AIDS and may even inadvertently facilitate the spread of the epidemic. For example, rural-to-urban migration, which has traditionally acted as a livelihood security coping strategy and mechanism for rural accumulation (through remittances and savings for investments in technology and inputs) may contribute to the spread of HIV and the impoverishment of rural areas. The epidemic is eroding the savings capacity of rural households as youths that migrate to urban areas and contract HIV return to their villages when they fall sick. Rural households (and especially women) provide most of the care for people with AIDS and bear most of the food and medical costs, and funeral expenses. Little is known about the effects of the epidemic on savings flows and other remittances to rural areas and the ramifications for

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1 FAO, *The Effects of HIV/AIDS on the Farming System in Eastern Africa*, 1995, p.93

2 FAO, *Implications of Economic Policy for Food Security*, FAO, 1997.

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3 D. Topouzis and G. Hemrich, *The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda*, UNDP Discussion Paper No. 6, 1996, and A. Michaud, *Impact du VIH/SIDA sur les systèmes d'exploitations agricoles en Afrique de l'Ouest*, FAO, 1997.



food security. A key question is whether coping mechanisms of rural households using migration as a strategy for accumulation are changing in the face of HIV and, if so, how.

#### Issues to be Addressed

At the programme level, the sharp increase in young adult morbidity and mortality means that the viability and sustainability of food security may be undermined by the HIV epidemic. For example, the impact of morbidity and mortality on agriculture may result in labour shortages forcing farm households to shift from cash to subsistence crops when food security is being threatened. Cash crops requiring an extended investment period may not be suitable for families affected by AIDS that need quick returns to cover immediate medical, funeral or orphan-related expenses. Crops requiring intensive labour or high external inputs may not be suitable as a result of labour or cash shortages.

Labour shortages also raise the issue of the sustainability of traditional agricultural production methods. In Kagera, Tanzania, for instance, bananas are not being mulched or replanted in heavily HIV affected areas, resulting in falling yields and reduced soil fertility. Usual practices entail clearing new areas every few years, but as labour is no longer readily available, there is overcropping. What will be the impact on yields and on food security in the medium term? How can traditional coping strategies be maintained given the increasing pressures on subsistence agriculture?<sup>4</sup>

Given the labour shortages experienced by many rural households as a result of HIV/AIDS as well as other factors (migration, shifting employment patterns), a review of labour-intensive food production strategies, upon which food security policies and programmes are often based, may be necessary. In particular, it is important to re-assess labour-intensive food production strategies in areas heavily affected by the epidemic. There is a need for:

- ◇ research, dissemination and promotion of labour-saving technologies and improved farming practices for men and women farmers (including the youth and the elderly);
- ◇ promotion of drought- or disease-resistant crop varieties (both being labour-saving measures which enhance food security);
- ◇ adjustment of post-harvest protection measures to account for the loss of knowledge on storage of particular crops; and

#### HIV/AIDS, Gender and Food Security

*Josephine, a widow in her late 30s, has seven children. Her husband has died of AIDS. She also has AIDS and is at times bedridden. Josephine, who lives with her 19-year-old daughter and 12-year old son in a village in Eastern Uganda, is severely malnourished. Her biggest problem is that she does not grow enough food. The family diet consists of cassava, millet and a few greens. Josephine's daughter tries to prepare two meals a day but they often have only one. Eating the same food-boiled cassava without sauce (they have no money to buy oil with which to prepare the sauce)-has made Josephine lose her appetite, she said. She had not eaten fruit for a month. Josephine has not received moral or material support from her late husband's family or from the community. No one comes to see her. Attitudes toward her and her family were very negative, she said. She does not want to ask for help from her husband's brothers because she fears their wives will suspect that she is sexually involved with them.*

*When she is not bedridden, Josephine works as a casual labourer from 5:00am to 9:00pm for about 1,000 Ugandan Shillings (about US\$ .80). This long workday exhausts her, but she cannot afford to rest or she and her daughter would not have enough food. She described this as a vicious circle: on the one hand, she cannot grow enough food to feed herself and her family because she is too weak and hungry, while on the other hand she needs to eat properly in order to work in the fields.*

*Source: Topouzis & Hemrich, The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda, UNDP Discussion Paper, op. cit., p. 15.*

- ◇ information, education and communication campaigns on nutrition, diet and health.

Agricultural research programmes need to investigate farmers' supply response to AIDS in terms of output or labour inputs and the special needs of farm households with fewer working adults and higher dependency ratios (i.e. for appropriate technology). Agricultural extension programmes need to ensure that strategies for labour-substitution, technical advice and credit services are made available to enhance food and livelihood security. They may also need to review the impact of HIV/AIDS in terms of increased morbidity and mortality among agricultural extension staff and of the reduction of the work week as a result of the rise in funeral attendance. In some parts of Uganda, for instance, the six-day work week is often informally reduced as a result of HIV/AIDS mortality and morbidity.

<sup>4</sup>Personal communication, Desmond Cohen, UNDP, 28 April 1998.

Food security coping mechanisms of key informal rural institutions,<sup>5</sup> particularly cooperative production and marketing arrangements, need to be better understood and strengthened. For instance, how do communities cope with labour shortages in AIDS versus non-AIDS scenarios? Do traditional labour-sharing arrangements (communal/individual) continue to function under the impact of HIV/AIDS, and if so, with what adjustments? How does the principle of reciprocity continue to operate in areas heavily affected by the epidemic? What happens when AIDS-affected households cannot contribute labour and thus do not receive assistance when they need it most? How vulnerable are traditional labour-sharing coping mechanisms to HIV and how can these be strengthened? Are there relief-oriented mechanisms in place (i.e. by church groups) when other reciprocal mechanisms fail?

Other key issues to be addressed when assessing the impact of HIV/AIDS on rural households and their coping mechanisms include the following:

What is the impact of the epidemic on the nutritional status of infants, children, pregnant women and the elderly? Is there evidence of gender-based and/or age-based differentiation?

If food is the most immediate problem for many HIV/AIDS-

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5 These include the extended family system, the kinship system, non-registered CBOs (women's groups, mutual assistance associations, traditional savings groups, etc.), cooperative production and marketing arrangements and traditional political structures.

affected households, how can food security programmes provide relief to such households when needed and what is the most effective way of delivering it?

What are the key food security coping strategies adopted by male- versus female-headed households affected by HIV/AIDS?

How can the livelihoods of the poorest be strengthened through self-help mechanisms (savings and funeral societies/groups)?

Nutrition can be used as an entry point for a more comprehensive understanding of the inter-relationships between HIV/AIDS and food/livelihood insecurity, as well as of the changing dynamics of food and nutrition coping mechanisms at the household level. Given that nutritional assessments are location-specific (being dependent on the agro-ecological, socio-economic and cultural environments), they can also serve as the basis for AIDS mitigation measures, where appropriate.

Daphne Topouzis, a consultant on HIV/AIDS and Agriculture/Rural Development, is the author of "The Socio-Economic Impact of HIV/AIDS on Rural Families in Uganda," UNDP Discussion Paper No. 5, 1996; "The Implications of HIV/AIDS for Agricultural Investment Projects," FAO Investment Centre, Rome, 1995; and "Rural Ugandans Close Ranks Against AIDS," *The African Farmer*, July 1994. This article is based on the forthcoming *The Implications of HIV/AIDS for Rural Development Policy and Programming: Focus on Sub-Saharan Africa*, to be published by UNDP, New York. The author would like to thank Desmond Cohen, Senior Adviser to UNDP's HIV and Development Programme, Jacques du Guerny, FAO AIDS focal point and Emmanuel Chengu, FAO Rural Development Analysis Officer for their contribution. e-mail: DaphneTopouzis@compuserve.com.

## **UN INITIATIVE FOR THE PREVENTION OF MOTHER-TO-CHILD TRANSMISSION : SUPPORT FOR IMPLEMENTATION OF PILOT PROJECTS**

Unchecked, HIV/AIDS in children will undo much of the progress made in the last 20 years in improving child survival and development in low-income countries. In much of sub-Saharan Africa HIV/AIDS is, or will soon become, the leading cause of death in young children. In some of the worst-affected cities, infant mortality rates have doubled in recent years.

A combination of effective interventions now exist which have already been used to dramatically reduce the number of children born with HIV in industrialized countries. But no large-scale efforts are presently being made to prevent mother-to-child transmission of HIV in low-income countries. Recent research has enabled a drastic reduction in the cost of the drug intervention that prevents

mother-to-child HIV transmission by shortening the duration of treatment while maintaining a good level of effectiveness. UNICEF, in close collaboration with the UNAIDS Secretariat, has been able to obtain a donation from the Glaxo Wellcome Company, the producer of AZT, for 30,000 pregnant women. It is likely that the total cost of reducing the risk of transmission of HIV from a mother to her child will be reduced to about \$200 per treated HIV-infected mother, making HIV treatment as cost-effective in preventing child death as other child survival interventions, such as immunisation.

The overall goal of this UN initiative is to assess the feasibility of prevention of mother-to-child transmission (MTCT) of HIV in a variety of situations in some of the





worst-affected countries in Africa and South East Asia, thus reducing the infection rate in infants and young children.

Specific objectives:

- ◇ To make available good quality voluntary confidential counselling and testing to 10,000 pregnant women and their partners in each pilot country.
- ◇ To integrate interventions to prevent MTCT into a comprehensive package of on-going antenatal, maternity and nutrition services in the participating countries. The comprehensive package will include voluntary and confidential counselling and testing, provision of AZT to HIV-1 women, modified delivery practices, provision of information on infant feeding options, and where necessary, a supply of breast-milk substitutes.
- ◇ To sensitize health service managers and policy-makers on the scope of the problem and possible solutions.
- ◇ To carefully monitor implementation and document experiences in order to facilitate replication in other facilities within countries and to other affected countries.

Two major outcomes are expected:

- ◇ Through a better understanding of the conditions for the intervention to be feasible and cost-effective in saving children's lives and preventing suffering, governments and the donor community will expand efforts to reach more HIV-infected mothers.
- ◇ Voluntary and confidential counselling and testing for HIV will become more acceptable and accessible, contributing to the reduction of all forms of HIV transmission.

Other anticipated outputs include:

- ◇ Reduced number of infected infants born to HIV-positive mothers.
- ◇ Changed attitudes of families and communities to the problem.
- ◇ Improvement in the quality of maternal-child health services.

### Beneficiaries

The primary beneficiaries of the project are the infants of HIV-positive women in the pilot sites, up to one-half more of whom will be born and remain uninfected as a result of the interventions. In addition, all pregnant women in the pilot sites will benefit from improved antenatal and maternity services and voluntary and confidential counselling and testing.

### Monitoring and Evaluation

The monitoring and evaluation arrangements for this project are critical, because it is aimed at establishing the feasibility of the intervention, and the conditions necessary for it to succeed in low-income countries with varying types and levels of services. Close monitoring will be necessary in order to modify site-specific approaches if problems are identified and/or a particular strategy is shown to be successful and warrants adaptation in other areas.

At the global level, the project will be monitored by UNICEF, the UNAIDS Secretariat and other partners. Data from the countries will be periodically reviewed at this level, and site visits undertaken as and when necessary.

At the onset of the project in each country, a monitoring and evaluation plan will be agreed between the local UN Cosponsors, the Government, managers of the pilot sites and other relevant partners, such as local research institutes. The most likely scenario will be the setting up of a local Task Force which will meet regularly and act upon its own Terms of Reference.

The results of the evaluation will be presented as case studies in various international fora, (Lusaka 1999 Africa Regional Conference and Durban 2000 XIII International AIDS Conference). UNICEF and the UNAIDS Secretariat are supporting HIV networks in Eastern Africa and South East Asia which will be used to disseminate the information among the countries. Finally, as this intervention is part of a combined effort of the UNAIDS Secretariat, WHO, UNFPA and UNICEF, the results and lessons learned will be compiled and disseminated as part of the UNAIDS best practice collection of materials.

More detail on the pilot projects can be obtained from Isabelle De Vincenzi, UNAIDS, Room 309, 20, Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: +41 22 791 4610 Email: devincenzi@unaids.org



**HIV AND INFANT FEEDING: A CHRONOLOGY OF RESEARCH AND POLICY ADVANCES AND THEIR IMPLICATIONS FOR PROGRAMS**

*by Elizabeth Preble and Ellen G. Piwoz*



This report reviews the literature on HIV and Infant Feeding and supports the general consensus that HIV can be transmitted to infants through breastfeeding and that mothers who themselves become infected while breastfeeding are at heightened risk of transmitting the virus to their infants. However, the authors believe

that there are still many unanswered questions surrounding HIV and infant feeding.

This paper addresses five major areas. It reviews:

- ◇ the major advances in the study of HIV and infant feeding;
- ◇ criteria to consider when evaluating research studies;
- ◇ findings of several major studies;
- ◇ limitations of our current knowledge; and
- ◇ areas requiring further research.

Accompanying the report, is a fact sheet "Frequently asked questions on: Breastfeeding and HIV/AIDS" This address issues such as:

- ◇ how mother-to-child transmission occurs,
- ◇ how many infants are at risk ,
- ◇ should mothers be advised not to breastfeed,
- ◇ can use of anti-retroviral drugs help reduce mother-to-child transmission of HIV, and
- ◇ what advice can health workers give mothers.

Particularly useful is a table summarising the major studies on HIV and breastfeeding in developing countries which gives country of study, sample size, type of study and major findings.

This is a joint publication of the Linkages (Breastfeeding, Complementary Feeding, and Maternal Nutrition Program) Project and the SARA (Support for Analysis and Research in Africa) Project. Reports can be ordered from: Sara Project, Academy for Educational Development, 1255 23<sup>rd</sup> Street, N. W., Washington, D.C. 20037. Tel: 202-884-8701, Fax: 202-884-8701, E-mail: sara@aed.org

**MEDICAL NUTRITION THERAPY ACROSS THE CONTINUUM OF CARE (2<sup>ND</sup> EDITION , 1998) CLIENT PROTOCOLS FOR HIV/AIDS CHILDREN/ADOLESCENTS/ ADULTS**

*by The American Dietetic Association and Morrison Health Care*

The Medical Nutrition Therapy Protocol for HIV/AIDS is part of the revised manual on client protocols on all major medical nutrition therapies. Two sections are devoted to HIV/AIDS – one for children and adolescents, the other for adults. Clinical, functional and behavioural assessment factors are given along with the expected outcome and the ideal goal. For example, assessment factors would be height, weight and BMI percentile; expected outcomes would be to meet growth velocity goals and maintain or improve lean body mass and fat stores based on age and gender; the ideal goal would be to achieve at least the 50 percentile based on growth grids for age and gender. Clinical parameters to be assessed include albumin, prealbumin, viral load, cholesterol and triglycerides, BMI, body composition, diarrhoea, nausea/vomiting and dysphagia. Behavioural assessment includes using safe food and water handling procedures; consuming adequate food and nutrients to maintain weight; including or avoiding foods based on side effects of medication or symptoms of infection; and participating in regular physical activity.

Three categories of care are given for children/adolescents:

- ◇ no sign/symptoms or mild signs/symptoms
- ◇ moderate signs /symptoms
- ◇ severe signs/symptoms

For adults four categories are listed:

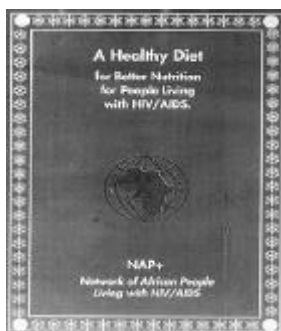
- ◇ HIV asymptomatic
- ◇ HIV/AIDS symptomatic but stable
- ◇ HIV/AIDS acute
- ◇ Palliative

Protocols for assessment and measurement of each stage are elaborated. Expected outcomes, follow-up and guidelines for communication are given. Appropriate bibliographic references are included.

Editor's note: These client protocols would most likely be implemented in large teaching hospitals in developed countries where there is a high level of resources to accommodate the various tests and procedures. This 3-ring binder contains client protocols for 15 major medical nutrition therapies. The binder contains reproducible masters of disease-specific protocols and is accompanied by two IBM discs with all protocols and key master documents in Word 7.0 ISBN:0-88091-168-9 US\$90.00 Email: <http://www.eatright.org/catalog>

## A HEALTHY DIET FOR BETTER NUTRITION FOR PEOPLE LIVING WITH HIV/AIDS

By Nap+, Network Of African People Living With HIV/AIDS



This booklet was developed for people living with HIV/AIDS, their families, health care providers and social workers. Its purpose is to provide people living with HIV/AIDS the basic information that will allow them to maintain the best nutritional status possible, pro-

long their survival, live more comfortably and avoid passing the disease to others.

The booklet, comprising 40 pages, is organised in a series of questions:

- ◇ Why does a person living with HIV/AIDS suffer from malnutrition?
- ◇ What foods are necessary to satisfy nutritional requirements?
- ◇ What foods should be eaten in order to maintain a balanced diet?
- ◇ What kind of diet is recommended for a person living with HIV (or seropositive)?
- ◇ What should a person with advanced AIDS do in order to endure the illness better?
- ◇ How can a diet be used to fight opportunistic infections?
- ◇ How can food-borne infections be avoided?
- ◇ What is the risk of HIV transmission from a seropositive mother to her baby?
- ◇ What are other recommendations for a healthy lifestyle for people living with HIV/AIDS?

Suggestions are given on how to improve one's appetite, how to deal with oral candidiasis, how to treat diarrhoea and how to feed a baby born to a HIV infected woman. The booklet concludes with some recipes from Sub-Saharan Africa which have been taken from the manual 'Marvels of the African Cuisine'. It is the authors' intention to have the booklet updated at regular intervals.

Research, production and print costs for the booklet were supported by a grant from the United Nations Development Programme (UNDP) Regional Project on HIV and Development, Dakar, Senegal for the Network of African People living with HIV/AIDS. Inquiries can be addressed to NAP+ Secretariat, POBox 30218, Nairobi, Kenya. Tel/Fax: (254 2) 81 - 1350

## KEY EVENTS IN EVOLUTION OF FEEDING POLICY

### 1985: First indications

Reports show evidence of HIV transmission through breastfeeding. (See the list of selected studies below.) One study estimates a breastfeeding transmission rate of 14 per cent from mothers who were seropositive at the time of delivery and 29 per cent from mothers who became infected during the post-partum period.

Research provides proof.

\* 'Risk of human immunodeficiency type 1 transmission through breastfeeding', Dunn, D.T., Newell, M.L., Ades, A.E. and Peckham, C.S., *The Lancet*, 1992, 340:585-588. Other research papers include:

\* 'Postnatal transmissions of AIDS-associated retrovirus from mother to infant', Ziegler, J.B., Cooper, D.A., Johnson, R.O., *The Lancet*, 1985, 1:896-897.

\* 'Isolation of AIDS virus from cell-free breastmilk of three healthy virus carriers', Thiry, L., Sprecher-Goldberger, S., Jonckheer, T., et al, *The Lancet*, 1985, 2:891-892.

\* 'Human immunodeficiency virus and other viruses in human milk: placing the issues in broader perspective', Oxtoby, M.J., *Pediatric Infectious Disease Journal*, 1990, 9:825-835.

\* 'International multicentre pooled analysis of late postnatal mother-to-child transmission of HIV-1 infection', Leroy, V., et al, *The Lancet*, 1998, 352:597-600.

### 1992: Policy seen as reflecting double standard

The 'Consensus statement from the WHO/UNICEF consultation on HIV transmission and breastfeeding' (Geneva, April/May 1992) upholds breastfeeding as a choice for HIV-positive women in areas showing high rates of infectious diseases and child malnutrition. But the statement is not endorsed by the UNICEF Executive Board, as it appears to embody a double standard. It states: "Where the primary causes of infant deaths are infectious diseases and malnutrition, infants who are not breastfed run a particularly high risk of dying from these conditions. In these settings, breastfeeding should remain the standard advice to pregnant women." The statement also emphasizes the need for countries to maintain a

strong Code, and for information about family planning and HIV prevention to be available to all.

### 1995: UNAIDS established

The Joint United Nations Programme on HIV/AIDS (UNAIDS) is established in Geneva (Switzerland). UNAIDS is an unprecedented collaboration that pools the experience, efforts and resources of six United Nations organizations: UNICEF, the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO) and the World Bank.

### 1990s: Rights conventions influence approach

*Throughout the 1990s, human rights conventions began to influence policy.*

The convention on the Elimination of All Forms of Discrimination against Women was adopted in 1979 and today has been ratified by 162 countries. Article 10(h) outlines every woman's right to have access to information to help assure the health and well being of her family. This information would include her HIV status and infant feeding options.

The Convention on the Rights of the Child was adopted by the General Assembly in 1989. It includes several key provisions relating to health and nutrition: "States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health... States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures... to ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, the advantages of breastfeeding, hygiene and environmental sanitation and the prevention of accidents..."

### 1997: Joint statement from UNAIDS, WHO and UNICEF

*HIV and Infant Feeding*, the joint statement developed by UNAIDS, WHO and UNICEF, outlines key elements to be considered in formulating policies and upholds the fulfillment of women's rights as paramount.

### 1997: AZT trials in Thailand show success

Clinical trials in Thailand show that a short course of AZT given late in pregnancy and at delivery can halve HIV transmission in non-breastfeeding women (US Centers for

Disease Control and Prevention, 1998). Findings suggest that women receiving this treatment should also be provided with safe breastmilk substitutes. The Thai Government takes steps to create a programme to satisfy this recommendation.

### 1998: UNAIDS establishes steering group

UNAIDS establishes a steering group on vertical transmission following two international meetings, in March and April 1998, that discussed mother-to-child transmission of HIV and infant feeding. The group, with representatives from WHO, UNICEF and UNFPA, holds regular meetings to discuss guidelines, strategies for implementation of pilot projects, and monitoring and evaluation. In addition, the steering group convenes regional meetings with government counterparts.

### 1998: Pilot AZT programmes designed for low-income countries

UNAIDS supports the development of pilot programmes using anti-retroviral drugs in some low-income countries in Africa, Asia and Latin America to help reduce mother-to-child transmission of HIV. Actions aim to include early access to antenatal care, voluntary and confidential testing and counselling, AZT use during pregnancy and delivery for HIV-positive women, improvements in care during labour and delivery, and counselling to HIV-positive women on a range of infant feeding choices. Activities are designed to eventually reach 30,000 HIV-infected women in 11 countries.

### 1998: UNAIDS issues feeding policy guidelines

UNAIDS issues two sets of guidelines entitled *HIV and Infant Feeding* – one for decision-makers and the other for health care managers and supervisors. The documents offer advice and practical recommendations in programme planning and policy.

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# News and Views

## ***Agronomic Research in Mali Identifies Local Sources of Micronutrients***

New results from research into the micronutrient content of local plant species in Mali have shown that applying very simple measures may enhance nutrient bio-availability. Over the last three years, Malian agroforesters, in collaboration with the Novartis Foundation and Roche's Sight and Life Task Force, have discovered that the simple practice of drying baobab leaves in the *shade* doubles the pro-vitamin A content of the baobab powder. Furthermore, the choice of small leaves (which is tree specific) also increases pro-vitamin A levels by 20%. The combination of small leaves and shade-drying result in a pro-vitamin A content of up to 27µg retinol equivalents (RE) per gram of dried leaf powder, a very high level (see graph; reference 1). These results are particularly important for a country such as Mali, classified as having 'clinical' or severe vitamin A deficiency by WHO (1995)<sup>1</sup>, and where few vitamin A-rich foods are consumed on a regular basis. An exception to this are locally gathered baobab leaves, which are typically *sun-dried*, pounded into powder, and cooked in the daily family sauce.

### **SOME DEFINITIONS...**

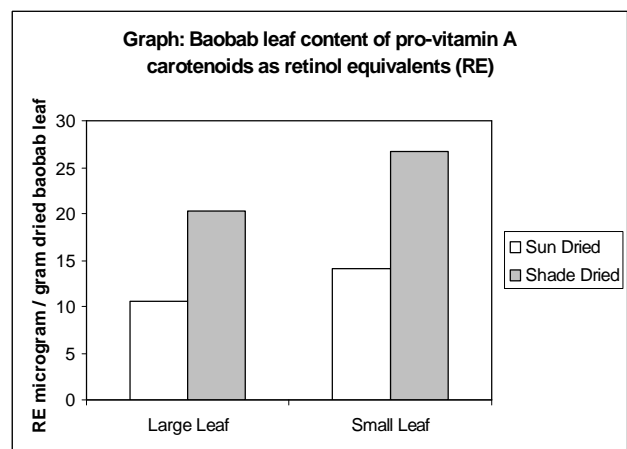
**Agronomy:** a branch of agriculture dealing with food crop production and soil management

**Agroforestry:** land management for the simultaneous production of food, crops and trees

Malian agroforesters and collaborators from the Novartis Foundation and Roche's Task Force Sight and Life, have also discovered a remarkable tree-to-tree variability in vitamin C content in the fruit of baobab trees (2). This variation ranges from 150 to 500mg vitamin C per 100g fruit and remains stable from one year to the next. Baobab fruit pulp is known to be rich in vitamin C, and across West Africa baobab fruit pulp is consumed in cool drinks and warm gruels. It has also recently become a popular ingredient in iced products in urban areas. Researchers have grafted branches from trees with a high content (500 mg/100g) of vitamin C onto over 100 young baobab trees at the Cinzana Research Station in the Ségou region of Mali. It is hoped that this 'vitamin C' orchard may serve as important graft stock for Sahelian vitamin C orchards in the future (3).

Both iron and zinc are lacking in foods eaten by Malian children. Although the mineral content has been characterised

for many trees and plants in Mali (4), little is known about the genetic variability of the mineral content within different species. To this end, an iron and zinc survey of *Zizyphus mauritania* fruits, and of *Amaranthus viridis* (borronboulou) and *Adansonia digitata* (baobab) leaves is planned for the 1999 season. Plant materials will be gathered from a large number of individual plants sampled from several diverse agroecological zones. In order to respect full comparability of results, the analyses will be carried out at Waite Analytical Services in Adelaide, Australia.



### **Lessons Learned**

Experience in the measurement of nutrients from local plant species has brought to light three findings worth sharing with others seeking to undertake similar efforts:

1. *Genetic diversity.* The reporting of mean values of numerous samples, or the values of bulked samples, can mask the enormous diversity that may exist between individual plants. In the Malian studies, the baobab fruit measurements of bulked samples from many trees consistently resulted in vitamin C values of around 220 mg/100g. It was only when researchers measured bulked fruit from individual trees that a threefold range of values from 150 to 500mg/100g vitamin C was discovered.

2. *Distinguishing between sun and shade drying.* Pro-vitamin A is very sensitive to sunlight. With baobab leaves, it was found that shade drying can double the RE values compared to sun drying, even though sun drying is the common local practice. It is important to at least report how plant samples are dried, and where possible, to compare pro-vitamin A or RE values from sun-dried versus shade-dried plant samples.

3. *Beware of market samples.* We have measured many market samples of baobab leaves and fruits. b-carotene and vitamin C levels were far inferior to any samples that were gathered directly from trees. We have been repeatedly told that market samples are commonly extended with innocuous material such as cereal stalk pulp. However, in the literature,

<sup>1</sup>WHO, 1995. Global prevalence of Vitamin A deficiency. MDIS working paper #2.

nutrient levels are commonly reported from plant samples obtained in local markets rather than directly from original plant sources.



The Baobab Tree

J Scheuring

Since 1979, the Malian agronomic research institute (IER), through the continued support of the Novartis Foundation for Sustainable Development, has been addressing various aspects of child nutrition through agronomics, grain storage technology, food technology, and agroforestry. Locally available technologies have been developed to enrich the amino acid quality of millet foods with cowpea, to increase caloric density of infant gruels with malt, and most recently - as described in this article - to obtain high levels of vitamin A and C from baobab leaves and fruit. It is now time to put all this research into action. In 1999, village-level feeding programmes are planned. These will combine increased caloric density and protein quality in children's foods, as well as increase intake of vitamins A and C from Baobab sources. This work will involve the active inputs from agronomists, nutritionists, and anthropologists.

#### References

1. Sidibé M, Scheuring JF, Koné M, Hofman P and Frigg M. (1998a) More on baobab's homegrown vitamin C. Some trees have more than others - consistently. *Agroforestry Today*. IN PRESS.
2. Sidibé M, Scheuring J.F, Tembely D, Sidibé M.M, Hofman P, and Frigg M. (1996). Baobab- homegrown vitamin C for Africa. *Agroforestry Today*. 8:(2), 13-15.
3. Sidibé M, Scheuring JF, Tembely D, Sidibé MM, Hofman P, and Frigg M. (1998b) A for Africa - the leaves of the baobab tree as a source of vitamin A. *Agroforestry Today*. IN PRESS.
4. Noreide MB, Hatloy A, Folling M, Lied E and Oshang A. (1996) Nutrient composition and nutritional importance of green leaves and wild food resources in an agricultural district in Kottiala, Southern Mali. *International Journal of Food Sciences and Nutrition*. 47:6, 455-468.

Submitted by JF Scheuring and M Sidibé. JF Scheuring is Director of Product Development, Novartis Seeds AG and Scientific Advisor to the Novartis Foundation for Sustainable Development, Basel 4002, Switzerland. Tel: 41 61 697 46 11 Fax: 41 61 697 52 34 Email: john.scheuring@seeds.novartis.com M Sidibé, is Deputy Director General of IER (Institut d'Economie Rurale), BP 258, Bamako, Mali, and former head of Agroforestry Research in Mali. Tel : 223-23-19-05 Fax : 223-22-37-75 Email: alpha.maiga@

## Nutrition Activities in Micronesia

The Federated States of Micronesia (FSM) is located in the North Pacific and is made up of four states - Pohnpei, Chuuk, Kosrae, and Yap. Evolving from the U.S. Trust Territories, FSM became a new nation in 1986. The population is estimated at 111,000. Difficulties involved in nutrition programmes there, include the dispersed location of the four island states, the eight different languages, different cultures, as well as changes in the diet that have evolved in recent years. However, some exciting progress has been made, including projects supported by UNICEF, in conjunction with the FSM Department of Health, Education and Social Affairs.

### Baby Friendly Hospital Initiative (BFHI)

The smallest state of Kosrae is preparing for external assessment for Baby-Friendly status. Its Breastfeeding Mothers Support Group, has been described as "the first of its kind in the Pacific" by the regional UNICEF breastfeeding officer, because of the group's enthusiasm and determination to reach every mother on the island. In Kosrae's internal BFHI assessment, it was revealed that the local hospital was denying the group the right to enter the delivery room for assistance to mothers. The Hospital Chief of Staff admitted that he had not realised how important the group was, and the hospital regulations were changed. New badges for the support group mothers provide identification, and the group will now be able to provide support to mothers. Chuuk and Pohnpei are also actively preparing for Baby Friendly status, and the National Congress is considering the first FSM legislation on the Code of Marketing of Breastmilk Substitutes.

### Vitamin A Deficiency Programme

Prevalence rates of vitamin A deficiency (VAD) in FSM are among the highest in the world according to Alnwick's 1998 review.<sup>1</sup> A VAD programme was initiated in Chuuk in 1993, with bi-annual distribution of high dose vitamin A capsules and anti-helminth tablets given to children aged 1-12 years on special campaign days. The 1997 evaluation for the first five years of the programme showed coverage rates from 71-95%. Ad hoc studies showed that VAD-related hospital paediatric and out-patient cases have greatly decreased. However, the challenge remains to make significant dietary improvements. A similar vitamin A capsule distribution programme was initiated in September 1998 in Pohnpei.

### Family Food Production and Nutrition (FFPN)

FFPN projects have been ongoing in FSM since 1986, focusing on community-based nutrition programmes and inter-agency collaboration. All states have inter-agency nutrition councils, which actively carry out nutrition activities. These include World Food Day, World Breastfeeding Week campaigns, nutrition awareness, home gardening, and food demonstration activities.

### Teacher Child Parent Community (TCPC)

A Health/Nutrition/Agriculture curricula for primary schools has

<sup>1</sup>Alnwick, D.J. (1998) Combating micronutrient deficiencies: problems and perspectives. *Proceedings of the Nutrition Society* 57:1-12.

been introduced to all four states of FSM in a project which has been ongoing since 1992. The set of sixteen illustrated books including Teachers Guides and Student Workbooks for Grades 1 to 8 developed specifically for FSM, has recently been reviewed and revised. It is hoped that this project, which actively involves parents and the community in the education process, may have a significant effect on improvement of nutrition awareness and health practices.

### Convention on the Rights of the Child

In 1996, FSM submitted its *Report on Two Years Implementation on the United Nations Convention on the Rights of the Child*, and defended the document at the United Nations in Geneva in 1998. The need continues for increased awareness of the Convention on the Rights of the Child and further promotion of the principles therein.

Submitted by Lois Englberger, UNICEF Health and Nutrition Advisor, and Jane Elymore, National Program Manager for Food and Nutrition. For more information contact Lois Englberger, P.O. Box 2299, Kolonia, Pohnpei 96941, Federated States of Micronesia. Tel: 691 320 7359 Fax: 691 320 5263 Email: nutrition@mail.fm

### Child-to-Child Trust

The objective of the Child-to-Child Trust is to promote and preserve the health of communities worldwide by encouraging and enabling children and young people to play an active and responsible role in the health and development of themselves, other children and their families. Children can be partners in health promotion because they are able to understand and spread vital health messages. They can be fully involved in the planning, implementation and evaluation of health promoting activities.

The Child-to-Child Trust involves children in health promotion by performing three main functions:

- ◇ Designing and distributing health education materials for use by children, teachers and health workers
- ◇ Assisting health and education workers in planning, implementing and evaluating projects using the child-to-child approach
- ◇ Coordinating a worldwide information network for people and projects around the world who use the child-to-child approach

### Child-to-Child in Action

The Health Action Schools project in Pakistan, described below, shows how the child-to-child approach helps primary school children in Karachi to promote better nutrition. The project was launched in April, 1998 to develop prototypes of Health Promoting Schools in Pakistan using the Comprehensive School Health Promotion model which integrates three elements now often provided by different agencies, namely:

1. The health education programme in the school
2. The school environment (including nutritional standards and attention to children's safety)

### 3. The school health services.

Health is defined broadly to include physical, environmental, mental, social and emotional health. Health priorities are defined by the school communities which includes children themselves. In each of the Health Action Schools, the area of Food and Nutrition has been defined as an interest and a priority area of need for health education. Some of the initiatives that have been taken in the pilot schools use the child-to-child approach to involve children who then pass on nutrition messages to their families and communities.

### Needs Analysis

Before launching the programme in the schools a study was conducted to assess the health interests, knowledge and needs of primary school children. Using the "draw and write" technique as well as essays and discussion, the health interests and knowledge of 740 Pakistani primary school children were assessed. In addition, through focus group discussions and questionnaires with teachers and parents, the health needs of primary school children were ascertained as shown

**Table 1: Health Interests, Knowledge and Needs of**

Class	Average age	Health Topics Highlighted
I	6	<i>Personal hygiene</i> •; <b>Good and Bad Foods</b> •
II	7	<b>Food</b> • <i>Personal hygiene</i> • <i>Environmental hygiene (including clean drinking water)</i>
III	8	<i>Cleanliness (personal and environment)</i> •; Exercise• <b>Good Food</b> •; Healthy lifestyle•
IV	9	The Environment• <i>Cleanliness (personal and environment)</i> • Preventing Disease•; <b>Balanced Diet</b> • Exercise•; Responsibility to others•
V	10	<i>Cleanliness (personal and environment)</i> • Responsibility to others•; <b>Balanced Diet</b> • Preventing disease•; Mental health; Exercise•

Key:

*Italics*=Common to all ages (Class I-V) i.e. *hygiene/cleanliness and food/diet*•, • = Also identified by teachers and parents as important areas in health to cover at different ages. **Bold** = Nutrition related

The table above shows that primary school children of all ages in the sample were interested in 'Nutrition' as a subject. In addition, their parents and teachers felt that there was a need for children in primary school to learn about the subject, at all levels.

A second study was conducted in the primary pilot school communities in Karachi. Using group interviews of children and adults in these communities, baseline information was collected to assess their traditional health beliefs and customs.

The most common emerging themes from the data were food remedies and food taboos in relation to common ailments. Communities saw direct links with food and eating habits to disease prevention. This may explain the importance placed by them on nutrition education as part of the health education curricula.

### School Health Action Plans

Based on the health priorities set by the children of the needs in their communities, all five pilot schools identified nutrition related topics to cover in their health lessons. This was often integrated into a carrier subject such as Science or Social Studies. Topics chosen include: good food; keeping food safe and clean; clean safe water; a balanced diet; feeding younger children; how much have I grown? and growing vegetables. Four to six lessons are spent on each of these topics using the child-to-child step approach. This is a participatory child-centred method that links learning with action. An example of

**Class:** 5    **Age of children:** 10-11 years  
**Number of lessons:** 4  
**Length of each lesson:** 40 mins.

*By the end of the topic children should:*

**Know:**

- Which foods provide energy
- Which foods are needed for growth and body building
- Which foods protect us from disease
- We need a mixed diet
- Younger children need to eat more frequently due to their smaller stomachs

**Do:**

- Recognise which foods are healthy
- Recognise nutritious, tasty, low cost foods
- Grow vegetables in containers in their homes

**Feel:**

- Responsible to make sure their younger siblings are

### Lesson 1: Step 1 'Study' - Choose and Understand

Tell the story of a boy who only eats one type of food. What happens to him? Discuss the need for a mixed diet.

#### Homework: Step 2 - Find out More

Observe and talk to Mum about what she feeds the baby and how often.

### Lesson 2: Step 3 'Recognise' - Discuss what was found out

Discuss in groups what we observed at home. Present to the class. Are babies at home eating enough? Through picture discussion teacher discusses with the children the foods and their different functions i.e. Body building; Energy giving; Protects us from disease.

### Lesson 3: Step 4 'Act' - Plan and Take Action

Children make a list of their favourite foods. Which are expensive and which are not. Are the 'healthy' ones expensive? What are the functions of these foods?

Children decide to bring in 'balanced' lunch boxes and do role plays for assembly on 'Good food and eating healthily'. They also grow vegetables in a garden box in the class room.

### Lesson 4: Step 5 'Evaluate' - (What did we do; could we do it better?)

In pairs children check each other's lunch boxes. Do they contain healthy foods? Children ask other classes in the break time what they understood from the assembly role play? Did the message of 'Good Food' get across?

#### Home work: Step 6 -Do it better

Children grow vegetables in tins or boxes in their homes

**Co-Curricular activities:** Height and Weight checking - older classes to help younger ones; Open House - cooking competition on making home made nutritious foods for babies; Visit to the market place; Plantation day; checking lunch boxes.

### Conclusions

Our study shows that children of all ages are interested in 'Nutrition' as a subject and adults (parents and teachers) feel that there is a need for children to learn about nutrition in schools. Using participatory methods that link learning with living, nutrition topics can be integrated into the primary curriculum in a way that promotes understanding, develops life skills and is fun!

*Some of the main Child-to-Child publications in English are listed below. For publications in other languages, see the Directory below.*

*Child-to-Child, A Resource Book. Part 1: Implementing the Child-to-Child Approach. Contains sections on the concept of Child-to-Child, teaching and learning methods, evaluation and running workshops, and examples of action taken around the world. Part 2: Child-to-Child Activity Sheets. Thirty-five activity sheets contain essential health information combined with exciting activities designed to reinforce and spread health knowledge and good practice. Subjects are grouped into eight categories: Child Growth and Development-Nutrition-Personal and Community Hygiene-Safety-Recognising and Helping the Disabled-Prevention and Cure of Disease-Safe Life Styles-Children in Difficult Circumstances.*

*Children for Health. Includes the practical, health promoting activities based on the Facts for Life messages.*

*Health into Science. Designed for primary school teachers and contains activities which can be used inside and outside the classroom where science and health education overlap.*

*Health Promotion in Our Schools. A book of ideas for those who plan, organise and promote health in schools.*

*Training pack. Designed to assist those who are conducting training workshops for teachers, health workers and others interested in using the Child-to-Child approach in their work.*

*Directory of Child-to-Child Activities World wide. Provides brief summaries of known projects in many countries, names and addresses of contacts for further information, and details of materials in languages other than English.*

Submitted by Tashmin Kassam-Khamis, Assistant Professor, The Aga Khan University, Institute for Educational Development, PO Box



13688, Karachi 75950, Pakistan. Tel: 9221-6347611-14 Fax: 9221-6347616 Email: tashmin.khamis@aku.edu

Complete lists of Child-to-Child publications, with details of prices and how to order are available from The Child-to-Child Trust, Institute of Education, 20 Bedford Way, London WC1HOAL, United Kingdom. Tel: +44 (0)171 612 6648 Fax: +44 (0)171 612 6645 Email: c.scotchmer@ioe.ac.uk An annual newsletter containing articles about selected projects and new publications is available free of charge.

### **Promoting Better Dietary Habits Through Nutrition Education in an Impoverished USA community: the PANA Programme and the ¡SALUD! Campaign**

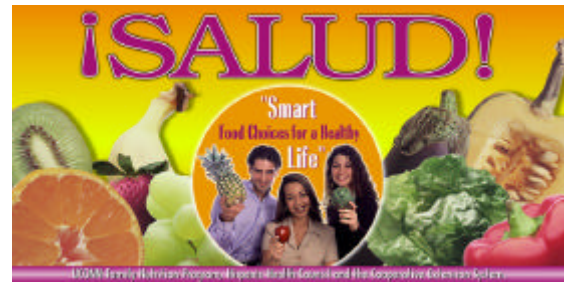
The University of Connecticut Department of Nutritional Sciences, the Hispanic Health Council and the Cooperative Extension System have recently launched the PANA programme (Programa para Aprender Nutrición y Alimentación) (1) and ¡SALUD! Campaign (2). Using the motto 'smart food choices for a healthy life', PANA is a bilingual nutrition education programme that incorporates community-participatory research and evaluation for developing culturally appropriate nutrition education and services for food stamp recipients.

Since 1995, these three groups have partnered to:

- ◇ conduct needs assessments to understand the food and nutrition situation of low-income Latino children and their families in Hartford, Connecticut;
- ◇ develop, implement, and deliver culturally appropriate nutrition education services for this population;
- ◇ develop, implement, and deliver culturally appropriate nutrition information through social marketing approaches;
- ◇ conduct process and impact evaluations to understand the cost-effectiveness of programme activities;
- ◇ conduct research to develop culturally-appropriate innovative nutrition education activities and materials.

The PANA and ¡SALUD! Initiatives were developed on the basis of results from two needs assessments. The first needs assessment documented that low-income Latino children and their families were at risk of poor health and nutrition, including poor dietary quality, food insecurity, stunting, obesity, and anaemia (3). A subsequent baseline needs assessment documented the lack of nutrition knowledge, and sub-optimal nutrition attitudes and behaviours among the children's primary caretakers (4). In addition, nutrition education materials were also developed, such as a colorful Puerto Rican Food Guide Pyramid, the nutrition jeopardy game, a color-coded bilingual food label, and a low-fat vegetable cookbook.

The PANA programme currently delivers bilingual nutrition education to thousands of children while at school through puppet shows and interactive games, and also provides nutrition education to children and their caretakers at agencies and community health fairs. The ¡SALUD! nutrition social marketing campaign features Latino youth and TV celebrities



'toasting' with nutritious foods including a variety of fresh fruits and vegetables. The campaign has been delivered for over a year now through mass transit billboards (buses, bus stations), street billboards, radio, TV, and newspaper/magazine advertisements commonly used by the target community. Preliminary results indicate that the campaign has been very successful reaching over 75% of the target population. The PANA programme and ¡SALUD! campaign are examples of how community agencies and academic institutions can collaborate to come up with creative and effective approaches to help low income groups improve their food choices in an industrialised nation context.

The PANA and ¡SALUD! initiatives fall under the umbrella of the infant-toddler component of the University of Connecticut Family Nutrition Programme (FNP-IT) which represents a full partnership between The University of Connecticut, The Hispanic Health Council, and The Cooperative Extension System. FNP-IT is funded by the US Department of Agriculture Food Stamp Programme through the Connecticut Department of Social Services with the mission to provide nutrition education to food stamp households where children live. For more information access the website at <http://www.hispanichealth.com/pana.htm>

#### **References**

1. Himmelgreen DA, Pérez-Escamilla R, Segura-Millán S, González A, Méndez I, Bonello H. The PANA programme: a community-participatory bilingual nutrition education initiative. Presented at the 31st Annual Meeting of the Society for Nutrition Education, July 18-22, 1998, Albuquerque, New Mexico.
2. Pérez-Escamilla R, and Himmelgreen DA. Promoting better nutrition in inner-city Hartford through social marketing: The ¡SALUD! campaign. Connecticut Family Nutrition Programme Technical Report # 2, Storrs and Hartford, CT, 1998.
3. Pérez-Escamilla R, Himmelgreen DA, and Ferris A. Community nutritional problems among Latino children in Hartford, CT. Connecticut Family Nutrition Programme Technical Report # 1, Storrs and Hartford, CT, 1997.
4. Pérez-Escamilla R, Himmelgreen DA, González A, Segura-Millán S, Méndez I, Haldeman L. Nutrition knowledge, attitudes and practices among Latinos in Hartford, CT: Essential information for developing appropriate nutrition education initiatives. Presented at the 126<sup>th</sup> Annual Meeting of the American Public Health Association, Washington DC, November 15-19, 1998.

Submitted by Rafael Pérez-Escamilla, UConn FNP-IT Principal Investigator, Assistant Professor of Nutritional Sciences, University of Connecticut (Tel: 1 860 486 5073 Fax: 1 860 486 3674 Email: [rperez@canr1.cag.uconn.edu](mailto:rperez@canr1.cag.uconn.edu)), David Himmelgreen, HHC FNP-IT PI (1995-1998), Senior FNP-IT Advisor, Department of Anthropology, University of South Florida, and Anir González, FNP-IT coordinator, Hispanic Health Council, Hartford, Connecticut, USA.

## **The Economic Costs of Iron Deficiency**

New analysis to quantify the economic impact of iron deficiency has provided convincing evidence that preventative measures can be highly beneficial from an economic perspective. In a paper commissioned by the Micronutrient Initiative and funded by CIDA, Drs Jay Ross and Susan Horton examined the evidence for the functional consequences of iron deficiency on individuals through the life cycle and quantified the effects in economic terms. Motor and mental impairment in children, low work productivity in adults, poor pregnancy outcome and health effects on children were examined. Results from a number of countries showed that the median value of productivity losses as a result of iron deficiency is about US \$4 per capita, or 0.9% of gross domestic product (GDP). On a *per capita* basis, losses are greatest in richer countries, where wages are highest. When calculated as a proportion of GDP, productivity losses are greatest in South Asia, where the prevalence of anaemia is highest. The absolute losses in South Asia are close to US \$5 billion annually. The dominant effect for all countries was shown to be the loss associated with cognitive deficits in children.

In some cases, iron deficiency or anaemia may merely serve as an indicator of risk due to other causes, such as deficiencies in other nutrients. The authors therefore examined only the epidemiological evidence for causal relationships, and quantified only these effects in economic terms. Although anaemia is an important cause of maternal death in many countries, the authors did not attempt to estimate the economic impact associated with this. Furthermore, there is some evidence of economic losses because of the effect of iron deficiency on child growth, immunity and susceptibility to the toxic effect of heavy metals, but the authors did not consider it strong enough to permit quantitative estimates.

Because of the multi-causal nature of anaemia, reducing iron deficiency and iron deficiency anaemia poses special challenges. This new analysis highlights the huge economic costs of the problem as it affects survival, development and well-being of individuals throughout the life cycle.

This work has been completed and the publication is available from the Micronutrient Initiative, c/o International Development Research Centre, 250 Albert Street, Ottawa, Ontario, Canada, K1G 3H9. Tel: 1 613 236 6163 Ext 2482 Fax: 1 613 236 9579 Email: mi@idrc.ca

## **Guidelines for the Inpatient Treatment of Severely Malnourished Children**

The development of a set of treatment guidelines ('10 steps') for the care of severely malnourished children was reported last year in SCN News No.15 (December 1997, pp24). The finalised guidelines are now available on the web at: <http://www.lshtm.ac.uk/eps/phnu/malnu.pdf>

The guidelines, supported by CIDA, were developed by the London School of Hygiene and Tropical Medicine in collaboration with WHO/UNICEF and many other experts working for the IMCI<sup>1</sup>. The document provides simple and brief instructions for treating severe malnutrition with the aim of providing practical help for those responsible for the medical and dietary management of such children. The guidelines are organised into five sections:

- ◇ routine treatment: the '10 steps';
- ◇ treatment of associated conditions;
- ◇ what to do if a child fails to respond;
- ◇ what to do when children have to be discharged early;
- ◇ emergency treatment of shock and severe anaemia.

For further information, please contact Claire Schofield, Public Health

## **A Positive Impact of Credit with Education in Ghana**



The results of Freedom from Hunger's three-year impact study of *Credit with Education* in Ghana, West Africa, indicate that women

and their families are significantly better off financially, socially and nutritionally for having participated in the programme. By combining small-scale loans with education in nutrition, health, birth timing and small-business skills, the study showed that *Credit with Education* increased income and savings, improved health and nutrition knowledge and practice, empowered women and improved household food security and children's nutritional status.

Relative to non-participants and controls, participants in the programme reported positive changes in a variety of breastfeeding practices including:

- ◇ giving newborns colostrum;
- ◇ introducing complementary food closer to the ideal age of about 6 months;
- ◇ not using feeding bottles;
- ◇ enriching koko (the traditional complementary food) with bean/cowpea, egg, fish, groundnut, milk and palm oil.

Despite involvement in their loan-financed activities, participants did not wean their children any earlier than non-participants, and were just as likely to breastfeed their babies into the child's second year of life.

A positive impact on household food security – as assessed by degree of vulnerability to the 'hungry season' among participant and non-participant households was seen as a result of the programme. Furthermore, the nutritional status of partici-

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<sup>1</sup> IMCI: Integrated Management of Childhood Illness Programme



Freedom From Hunger

pants' children – in terms of mean height-for-age z scores and mean weight-for-age z scores – also improved relative to the non-participants and controls.

With 81% of the operating costs recovered by the interest paid by borrowers, the Ghana *Credit with Education* programme offers a higher level of cost recovery than many income-generation interventions and traditional health and nutrition education programmes. The authors of the study argue that this financial sustainability, combined with positive impact, makes the *Credit with Education* strategy an attractive intervention with potential for widespread impact on nutrition and food security.

The Executive Summary of the Ghana study is available on the Freedom from Hunger website at <http://www.freefromhunger.org/study.htm>. Copies of the full Ghana study results are available for US\$15 (plus shipping costs) from Freedom from Hunger, 1644 DaVinci Court, Davis, CA 95616, USA. Tel: 1 800 708 2555 or 1 530 758 6200 Fax: 1 530 758 6241 Email: [info@freefromhunger.org](mailto:info@freefromhunger.org). Results from a parallel study of Credit with Education in Bolivia will be available January 1999.

Source: 'Impact of Credit with Education on Mothers' and Their Young Children's Nutrition: Lower Pra Rural Bank Credit with Education Program in Ghana,' by Barbara McNelly and Christopher Dunford in

## Micronutrient Initiative

### Flour fortification in the Middle East and North Africa

MI has recently cosponsored (with WHO, UNICEF and ILSI), a follow-up meeting (to the 1996 meeting in Oman) on flour fortification in Beirut, Lebanon, July 13-16, 1998. Government and industry representatives from 15 countries participated. The region is making rapid progress with flour fortification. As a result, MI is supporting a regional flour fortification fund of US \$1million with WHO and UNICEF collaboration.

For more information: email: [mi@idrc.ca](mailto:mi@idrc.ca) Tel: 613-236-6163, Fax (613) 236-9579 The mailing address is Micronutrient Initiative, PO Box 8500, Ottawa, ON, Canada K1G 3H9 Web site: <http://www.idrc.ca/mi>

## Preventing Iron Deficiency in Women and Children: Technical Consensus on Key Issues and Resources for Programme Advocacy, Planning, and Implementation

At the SCN meeting in Oslo in March 1998 it was emphasised that the level of national and international commitments and of national activities and international support directed toward programmes to reduce iron deficiency among vulnerable population groups have been seriously out of balance with the prevalence, seriousness, and consequences of this public health problem. To build stronger consensus the SCN called for "a technical workshop to resolve issues using a practical, field-oriented, science-based approach be held before the next meeting of the SCN Working Group."

Thirty specialists convened by the International Nutrition Foundation on behalf of WHO, UNICEF, UNU, and MI met at UNICEF headquarters in New York October 7-9, 1998. Consensus on a number of issues on which there have been technical disputes was reached. The executive summary emphasises that iron deficiency anaemia steals vitality from billions of men and women around the world and impairs the cognitive development of young children. A World Health Organization (WHO) report states that iron deficiency anaemia affects over 3.5 billion individuals in the developing world compared with 834 million for iodine deficiency and 300 million for vitamin A deficiency.<sup>1</sup> Yet iodine and vitamin A deficiencies are receiving far greater attention and support for their prevention, and the current availability of effective solutions for the prevention of iron deficiency is not sufficiently recognised.

Despite promising new intervention trials, little progress has been made towards the global elimination of iron deficiency. One reason is that it is a hidden deficiency with few recognizable overt symptoms. There is a lack of widespread knowledge of the serious and often permanent consequences of iron deficiency anaemia on the cognitive development of young children and its negative impact on the health of all people. Advocacy and national scale programmes have also been constrained by the erroneous perception that effective, practical interventions are not available.

The report draws together information published in guidelines developed at several recent workshops as well as from the scientific and field programme experience of many organisations. The document provides references and sources of relevant research, technical information, and the major organisations and networks supporting efforts to prevent iron deficiency. It also summarises a series of key issues and provides consensus statements that were endorsed by the experienced professionals convened from many different organisations and institutions. It outlines the major issues constraining stronger advocacy and accelerated planning and the implementation of programmes to prevent iron deficiency.

<sup>1</sup>"Life in the 21st Century: A Vision for All." Report of the Director General of the World Health Organization (WHO), Geneva, Switzerland, 1998, p. 133.

Strategies for prevention and control that include dietary change, food fortification, oral supplementation, and control of infection that contribute to anaemia are covered. It is unlikely that the problem will be solved for any country by just one of these interventions. Most countries need to introduce a combination of these interventions targeted toward those sectors of their population that are at risk. Dietary improvement should be part of an integrated strategy but cannot be expected to solve the problem. This is because the iron in vegetables is poorly available and increasing consumption of meat, with its better absorbed iron, often encounters severe economic and sometimes religious constraints.

In general, where populations are iron deficient, iron fortification of food staples (such as wheat and maize flour) or condiments (such as soy sauce and fish sauce) to improve the overall iron intake is desirable. In addition, iron status and needs at various phases of the human life cycle require special consideration. Teenage girls and women of childbearing age should be targeted for interventions that prevent them from entering pregnancy with anaemia. Similarly the prevention and treatment of anaemia in pregnancy and infancy need to be made effective.

Weekly administration of an iron tablet has been shown to be effective in pilot studies in children and women of child-bearing age. Where compliance can be assured, as in school children and factory workers, programmes can be effective. However, it has not yet been adequately tested for compliance in large scale programmes where ingestion of the weekly iron tablets cannot be individually supervised. For pregnancy, it is recommended that daily dosage of iron supplements be continued until current studies determine whether or not a weekly dose can be effectively employed under some programme conditions.

All intervention programmes need quality evaluation that measures and improves both their process and impact. Components of national programmes to prevent iron deficiency can often be integrated and add beneficial impact to other public health programmes. This applies especially to those addressing other nutritional deficiencies and to the control of infections such as hookworm and schistosomiasis that cause blood loss, malaria that is another cause of anaemia, and increased child spacing that reduces the burden of pregnancy on iron status.

Iron deficiency has a massive but almost totally unrecognised economic cost, by adding to the burden on health systems, affecting learning in schools, and reducing adult productivity. Iron deficiency anaemia can usually be prevented at low cost. The benefit/cost ratio of implementing preventive programmes is recognised as one of the highest in the realm of public health.

Submitted by Nevin Scrimshaw, Senior Advisor, UNU Food and Nutrition Program for Human and Social Development, International Nutrition Foundation for Developing Countries, United Nations University, Charles Street Stations, P O Box 500, Boston MA 02114-0500 USA. Fax: 617 227 9405 Phone: 617 227 8747  
Email: nevin@cyberportal.bet/uncpo@zork.tiac.net

## **Vitamin A Fortification Survives a Scare in Guatemala**

After an unsuccessful attempt at vitamin A fortification of sugar in the 1970s, by the late 1980s all sugar in Guatemala was fortified. The target concentration was 15 mg/kg; however, spot checks of the sugar in the market in the early years showed vitamin A levels to be far below the target because of poor stability of the added vitamin A. By 1993 a new decree from the Guatemalan government indicated that all sugar produced in Guatemala would contain vitamin A at a concentration of 10-20 mg/kg and any sugar found not to contain this level would be confiscated. The National Micronutrient Survey of 1995 reported that, although 99% of sugar was fortified, only 14-49% contained the mandatory concentrations. Despite the low concentration of vitamin A in sugar, dietary studies documented an important contribution from this source to the total intake of vitamin A. When the recently discovered low efficiency of bioconversion of provitamin A in plants is taken into consideration it is evident that sugar fortification contributes significantly to overall vitamin A intake. For example elderly subjects in a central highlands hamlet of Guatemala had a median total vitamin A intake of 847 retinol equivalents (RE) with 45% coming from sugar; preschool age children in outlying communities around Guatemala City had a median total vitamin A intake of 809 RE with 56% from table sugar. Additionally breast milk concentrations of 18 lactating mothers were adequate and estimated liver values were in the acceptable range for 17 older Guatemalans.

In December 1997, the Guatemalan Association of Sugar Refiners announced a 10% increase in the price of sugar. The government, fearing that this price increase could set off a spiral of inflation, announced in early January that vitamin A fortification was no longer obligatory and that up to 50, 000 metric tons of sugar (not fortified) could be imported annually. This measure was conceived as leverage to reduce the price of sugar. An outcry arose from several sectors including the legislative and judicial branches of the same government and from both national and international civilian groups. They all realised the potentially devastating effect this could have on a population at risk of endemic hypovitaminosis. Nine days after the initial announcement to curtail fortification the government revised its decision and restored fortification to its previous level.

The events in Guatemala indicate how precarious the health of a population can be when a country is so dependent on one food source of a nutrient. A diversified approach to food fortification would lessen the national vulnerability to vitamin A deficiency. Fortification of other food products, supplementation of lactating mothers and increased consumption of animal protein sources rich in preformed vitamin A have been suggested to protect the Guatemalan population. The unexpected shake-up of the policy on vitamin A fortification in Guatemala serves as a reminder of the fragility of political will and the resilience of a populations committed to vital food fortification programs.

This is a summary of a report written by Noel Solomons and Jesus Bulux (Centre for Studies of Sensory Impairment, Aging and Metabolism (CeSSIAM), Guatemala City, Guatemala) that first appeared in the *SIGHT AND LIGHT Newsletter*, 2/1998 p 26.

## ***Anthropometric Evaluation of Schoolchildren in La Unión, El Salvador***

In 1993, the Salvadoran Ministry of Public Health conducted a nation-wide family health survey with technical support provided by the Centres for Disease Control (CDC, Atlanta, USA). This study showed that nationally 11.2% of children under five years are underweight (< 2 SD below the NCHS median). Stunting was even more prevalent, as nearly one-quarter (22.8%) of the 3,483 under-5 children were < 2 SD below the reference.

Within El Salvador, notable socio-economic disparities are present across the 14 departments that comprise the country. La Unión, the eastern-most department in El Salvador, is characterised by a dominant rural population with a majority of its inhabitants (in excess of 65%) living below the poverty line; as well, more than 40% of adults are illiterate. Given the conditions in La Unión, concern arose as to the extent to which schoolchildren in the area between 5 and 9 years of age are malnourished.

This survey coincided with a related objective, namely, that of identifying the potential benefit of a school-based health education / promotion programme. Since 1995, in hundreds of primary schools throughout the country, a school-based health promotion initiative entitled *Escuela Saludable* (Healthy Schools Programme) was implemented collaboratively by the Ministries of Education and Health in El Salvador. The programme consisted of complementary actions, which together aimed to improve the overall health status of Salvadoran schoolchildren. These components included nutritional supplementation (provision of food, such as rice, cooking oil, and tinned pork meat), vitamin A and ferrous sulphate administration, treatment for intestinal parasites and basic dental treatment.

Although a significant level of funding of the Healthy Schools programme had been received by 1997 no systematic evaluation of the programme's impact had been conducted. When at the beginning of January 1997, the Healthy School programme was introduced into five adjacent primary schools in the southern part of the department of La Unión, a quasi-experimental study was conducted. Baseline data were collected on 196 school children in February 1997 with subsequent follow-up evaluation in September 1997, using standardised anthropometric measures. Comparison of baseline and follow-up anthropometric indices indicated some improvement in the nutritional status of the children; specifically low weight-for-age decreased from 18.3% to 10.2% while low weight-for-height decreased from 5.9% to 1.7%. However, low height-for-age remained high (25.5% initially v. 24.2% at follow-up).

According to the author, improvements may be the result of:

- ◊ increased access to food items over the eight month period,
- ◊ increased energy intake,
- ◊ improved absorption in the gut following treatment for parasites,

- ◊ iron and Vitamin A supplementation.

Given that nutritional stunting occurs early in life by the time a child reaches the age of 5 years, his / her growth potential may already be adversely affected. Secondly, while the combined impact of the actions of the Healthy Schools programme may have been beneficial amongst this group, the sustainability of this initiative is questionable, as it is dependent upon future government expenditure commitments. Making additional food supplies available at the local level is unquestionably a critical step forward, particularly amongst the more vulnerable segments of populations such as that of El Salvador. Nevertheless the underlying causes of malnutrition in such settings are inextricably linked with more structural factors, especially poverty and the lack of sustainable local income opportunities. Therefore, to substantially reduce malnutrition amongst young children, it is necessary to address the basic and underlying factors – both direct and indirect – principal among these being poverty.

Submitted by Brendan Dineen and William Gonzalez. Brendan Dineen is with the Department of Health Promotion, Medical Faculty, National University of Ireland, Galway, Ireland. Email: [brendan.dineen@nuigalway.ie](mailto:brendan.dineen@nuigalway.ie) William Gonzalez is with the Instituto Salvadoreño de Seguridad Social (ISSS), San Salvador, El Salvador.

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## ***IUNS***

At the 16<sup>th</sup> International Congress on Nutrition in Montreal, the International Union of Nutritional Sciences (IUNS) General Assembly called for a review of the structure and functioning of the IUNS including funding. The President was instructed to select a small representative group independent of the current IUNS Council to conduct the review and submit a report to the IUNS Council in two years. This will allow time for review by the Adhering Bodies before final consideration by the Council at the 2001 General Assembly meeting in Vienna. Professor M. Gabr, Professor of Paediatrics at Cairo University will chair the committee.

Two new task forces have been established within the IUNS:

- ◊ Nutrition Transition, and
- ◊ Nutrition and Electronic Communication

The Nutrition Transition Committee, chaired by Dr. B. Popkin is working on understanding the dynamic patterns of dietary change, physical activity, and body composition and their health implications for transitional economies. It is also exploring the underlying socio-demographic, economic and technological factors responsible for the accelerated transitions. The committee is developing an understanding of public health and other national programs and policies that can reduce the negative components of nutrition transition while enhancing the more positive elements.

The new task force on Nutrition and Electronic Communication, Chaired by Dr. B. Hsu-Hage, is charged with developing electronic communication mechanisms in less technologically advanced countries. The committee will find ways to encourage electronic communication within and between Adhering

and Affiliated IUNS Bodies and international organizations that deal with nutrition.

Additionally a Steering/Advisory Committee for the 3<sup>rd</sup> International Food Data Conference (Joint IUNS/UNU), chaired by Dr. B. Burlingame, has reviewed requests for hosting the conference. A theme for the conference will be selected and, if appropriate, advice on financial and organisational aspects will

be given. The committee will review and monitor progress of organisational aspects, as well as assist with conference promotion. The site of the conference has been selected: FAO, Rome, July 5-7, 1999.

Submitted by Osman Galal, IUNS Secretary General. Email [ogalal@ucla.edu](mailto:ogalal@ucla.edu)



## Nutrition in emergencies



### **Advisory Group on Research in Emergencies**

In June 1998, a WHO Advisory Group on Research in Emergencies was established as the result of an earlier consultation in October 1997 on "Applied Health Research Priorities in Complex Emergencies." The October consultation formulated research priorities in seven areas: nutrition, reproductive health, communicable diseases, health service management, information, mental health and ethics. The consultation recommended several mechanisms for follow-up, one of which was to set up an advisory group. The Division of Emergency and Humanitarian Action (EHA) acted upon this recommendation and organised a meeting of experts with extensive knowledge of emergency management and research. EHA has assumed the Secretariat of this group but WHO is expected to continue playing a major role.

The Advisory Group will encourage research in emergency situations. The group will strive to improve practice based on the results of research conducted with the eventual objective of improving health outcomes in emergencies.

The terms of reference for the advisory group are:

- ◇ To appraise research proposals according to scientific, technical and ethical aspects.
- ◇ To advocate for good research in emergencies with donors, research institutions and service providers.
- ◇ To make an inventory and pre-review of proposals.
- ◇ To assist with the development and approval of generic proposals for research to be conducted in the early stages of emergencies.
- ◇ To provide advice to donors on priority research in different areas of interest.
- ◇ To co-ordinate and facilitate dialogue and liaison between interested persons, groups and institutions.
- ◇ To provide and disseminate the research evidence on which guidelines and standards for good practice can be based.
- ◇ To encourage the practical application of new research evidence.

The list of nutrition related research topics that was compiled at the October consultation was a result of grouping rather than prioritising. A range of needs exist, from generic questions such as determining the risk factors for developing marasmus or kwashiorkor, to socio-economic criteria for identifying vulnerable groups (individuals, families and households) in a specific setting. Some research issues will be of concern to more than one area, and can only be developed through co-operation between different specialities. An example is the relationship between mental health of a caretaker and nutritional status of the individual receiving care. To arrive at joint project proposals, the Group can assist liaison between scientists and practitioners in different specialist areas.

For more information on the Group or to submit proposals, please contact the Secretary: Danielle Deboutte, WHO, Emergency and Humanitarian Action, Room 6111, 20 Avenue Appia, 1211 Geneva 27, Switzerland. Email [deboutted@who.ch](mailto:deboutted@who.ch)

### **Low Cost Extrusion Cooking**

Machinery for low-cost extrusion cooking has recently been developed at Lille University, France. The equipment is relatively inexpensive (final price is expected to be less than US\$ 12,000), low-capacity (between 20 to 50 kg/h) and easy to operate and maintain. It has been developed for operation by small communities such as small enterprises in developing countries, or community-level production of precooked flours in refugee situations.

Extrusion cooking is a process whereby raw materials are fed into an extruder then progressively compressed, milled, blended, melted (and therefore cooked), shaped and extruded. Fortification usually occurs after the process, in a separate blender. Thus, if dedicated to the production of precooked and fortified blended flours, a classical extrusion line should require, at least: one mill, one blender, one extrusion cooker, another mill and another blender.



Most precooked flours used in emergency situations are processed in factories located in donor countries. This could lead to delays in product delivery and problems in quality deterioration during transportation.

The availability of low-cost equipment would facilitate the local production of flours for use in emergencies. This has several advantages:

- ◇ it directly benefits local economies by using local skills and products;
- ◇ it benefits relief interventions by decreasing their logistical costs and by improving the overall acceptability of the product;
- ◇ it enhances the rehabilitation/development phase by contributing to technology transfer (training of local operators and initiation of sustainable economic activities using the technology of extrusion cooking).

An experimental prototype of the equipment is operational at Lille University. The University is working with development and relief NGOs that are likely to use and/or promote such technology in the field. It has also identified different equipment manufacturers who have an interest in developing an industrialised version of the prototype. A collaboration has been initiated with the department of Food Engineering at CSIRO-Sydney which is working on extrusion technologies.

At this stage, Lille University can offer:

- ◇ technical expertise and counseling on the process of extrusion;
- ◇ training (theoretical and practical) of operators in any aspect related to extrusion cooking including engineering, nutritional, and microbial

Currently, additional funding is being sought to continue the development of this low-cost extrusion equipment.

For information on technical advice, or training please contact: Dominique Bounie Email: dominique.bounie@univ-lille1.fr

### **Action contre la Faim**

Action contre la Faim est une organisation non-gouvernementale (anciennement AICF) créée en 1979, qui privilégie l'action directe sur le terrain par des réponses ciblées et adaptées associant les quatre secteurs complémentaires de la lutte contre la faim: la nutrition, la santé, l'eau et la sécurité alimentaire Action contre la Faim1 dispense depuis quatre ans une formation à distance sur la planification et la gestion de programmes de nutrition, intitulée 'Urgence nutritionnelle et malnutrition sévère'. Cette formation, qui se déroule sur six mois (de janvier à juin), est prévue pour les personnes de formation médicale ou para-médicale, mais reste ouverte à tout public intéressé par le thème de la malnutrition.

Chaque participant reçoit quatre modules par courrier. Chaque module est envoyé en début de mois, accompagné d'exercices.

Après correction personnalisée des exercices, ces devoirs sont retournés au candidat, accompagnés de leurs corrigés. L'équipe pédagogique est composée de professionnels de la santé publique, nutrition, pédagogie, socio-anthropologie et d'hydraulique.

A la fin de cet enseignement à distance, le participant doit être capable de:

- \* définir les concepts de base en nutrition;
- \* planifier une action nutritionnelle;
- \* réaliser une enquête nutritionnelle anthropométrique;
- \* prévenir la dénutrition des populations à risque;
- \* corriger l'état nutritionnel des malnutris sévères;
- \* assurer le suivi médical d'un malnutri sévère.

Une attestation de stage sera délivrée sur la base des notes obtenues aux différents devoirs.

Les droits d'inscription s'élèvent à 3,000FF. La prochaine session débute en janvier 99 et le dossier d'inscription est à renvoyer avant le 30.11.98. Pour des renseignements et/ou inscriptions, adressez-vous à Isabelle Beauquesne ou Marie-Laure Glatka à Action Contre la Faim.

Action contre la Faim, Dpt Nutrition/Formation, 4, rue Niepce, 75014 Paris, FRANCE, Tel: (33) 1.43.35.88.88 Fax: (33) 1.43.35.88.00 Email: smtp : « mlg@acf.imagnet.fr

### **FANta**

The Academy for Educational Development (AED), with subcontractors Cornell University and Tufts University, has been awarded a five-year, \$30 million food and nutrition cooperative agreement by the U.S. Agency for International Development (USAID). The Food and Nutrition Technical Assistance Project (FANta) is designed to maximize the impact of food security and nutrition programmes of USAID, Private Voluntary Organizations (PVOs), and host governments in developing countries.

FANta is USAID's only comprehensive nutrition and food security project and has been designed to complement and extend the nutritional impact of its other projects covering micronutrients, breastfeeding, and maternal and neonatal nutrition. It will provide the analytical framework and multisectoral technical assistance programmes needed to address and remove the barriers that limit a household or an individual's ability to achieve food security.

To maximise the impact of these programmes, FANta specialists will advocate for increased investment in food security and:

- ◇ support interventions, such as child survival, infant and child feeding, micronutrient initiatives, agricultural productivity and microenterprise credit programmes, that have nutritional improvement as a goal
- ◇ design comprehensive, cost-effective, and demand-driven technical assistance programmes which can bring about measurable changes in the nutritional status of target populations

- ◇ work to strengthen the technical capacity of USAID and the community of PVOs and cooperatives which implement food aid programmes in support of food security, and
- ◇ refine and expand approaches to identify indicators and measurement techniques for problem analysis, targeting, monitoring and evaluation.

The FANta project will provide "one-stop shopping" for technical services to USAID and its implementing partners and will support strategies which link different resource streams, including the Title II food aid resources. Technical assistance will be offered to USAID-priority countries, to programmes which have the potential to impact nutritional status, and to on-going USAID initiatives, including the Greater Horn of Africa Initiative, Africa Food Security Initiative, and the US Plan of Action on Food Security.

In addition to providing guidance on measuring the performance and impact of programmes, the FANta team will encourage Missions, host governments and PVOs to adopt proven approaches and engage in policy dialogue which addresses nutrition concerns. To assist PVOs in improving their food security and nutrition strategies, FANta will:

- ◇ provide technical assistance to strengthen programmes
- ◇ develop tools and materials to guide programme managers
- ◇ conduct training programmes for key managers and technical staff to improve their ability to develop, implement, and evaluate appropriate interventions
- ◇ develop replicable model programmes and strategies, and
- ◇ identify and disseminate best practices.

The FANta team have solid track records as managers and implementers of large-scale projects, technical expertise in food security and nutrition, and extensive experience in programme design, management, and evaluation.

The FANta team will collaborate with USAID, the PVO community, donors, host country governments, and local non-governmental organizations (NGOs) to yield joint programming of activities, increased investment in food security and nutrition, and identification of best practices. FANta subcontractors, Cornell and Tufts, will focus on select policy and technical areas, operations research, and meta analyses. Food Aid Management (FAM), the consortium of Title II PVOs, will assist the project in assuring a strong partnership with PVOs.

Dr. Bruce Cogill, Project Director, and Dr. Anne Swindale, Deputy Project Director, are the project's senior managers. For FANta reports, publications, or additional information, contact Communication & Information Specialist at: Food and Nutrition Technical Assistance Project, Academy for Educational Development, 1255 23rd St., NW, Suite 400, Washington, DC 20037, Phone: (202) 884-8700, Fax: (202) 884-8977, Email: As of March 1, 1999, FANta will have the following address: Food and Nutrition Technical Assistance Project, Academy for Educational Development, 1825 Connecticut Ave., NW, Washington, DC 20009 Phone: (202) 884-8000, Fax: (202) 884-8400, Email: fanta@aed.org

## ***International Meeting on Infant Feeding in Emergency Situations***

A meeting on Infant Feeding in Emergency Situations took place in Split, Croatia in October, 1998. The meeting was facilitated by the International Baby Food Action Network (IBFAN) which has been working on the issue of infant feeding in emergencies for some years. Other participants were from international NGOs, local NGOs from emergency-affected areas and UN agencies.

The plenary included Dr. Aileen Robertson, Acting Regional Advisor for Nutrition, WHO Europe, who declared that "emergency situations can be public health opportunities". Dr. Marcos Arana (*Defensoria del derecho a la Salud*, Mexico) described man-made and natural emergencies affecting the Chiapas region in recent years and the problems caused by public appeals for artificial feeding products and inappropriate NGO responses. Mary Lung'aho of the LINKAGES project (USA) contrasted two emergency settings and Nomajoni Ntombele (also LINKAGES) reminded us that central to the training of health professionals responding to emergencies should always be the mother and the child. Dr. Sanja Petrovic, co-ordinator of *Stope Nade* for Croatia and Bosnia/Herzegovina gave an overview of existing policies and guidelines applicable to mother and child health in an emergency situation. Lola Gostelow (Save the Children, UK) outlined the problems in co-ordinating the approaches to an emergency and suggested accessing existing structures such as the SPHERE project in an attempt to address the issue of inconsistent infant feeding policies and practices.

The main speakers were followed by a short plenary on the role of the media in humanitarian operations, featuring David Meiklejohn, Head of Information for UNICEF/UK and Cassie Knight of the Reuter Foundation. Ms Knight introduced an innovative news service specifically for humanitarian aid organisations called AlertNet <[www.alertnet.org](http://www.alertnet.org)>.

The speakers set the theme for the working groups which covered: implementing policies and guidelines; training materials; research needs and methods; integrated approach; counselling skills; and the role of the media. The working group on "integrated approach" was central to the meeting, bringing together recommendations of the other working groups to develop an action plan for a more integrated approach to infant feeding in emergencies.

Some of the more significant recommendations of the working groups were:

- ◇ To produce a common policy on infant feeding in emergencies and to draw up guidelines for the procurement, distribution and use of artificial infant feeding products, similar to those which exist for drugs for medical use.
- ◇ To commission a handbook on infant feeding for emergency workers and to produce a video for advocacy to decision-makers.
- ◇ To identify and prioritise gaps in existing research such as the effect of stress and maternal nutrition on breastfeeding and the cost effectiveness of different approaches to



infant feeding. It was stressed that this research should be independently funded, without the involvement of infant food manufacturers, and that collaboration on data collection should be encouraged among agencies.

- ◇ To include in each team of aid workers responding to emergencies at least one trained breastfeeding counsellor (e.g. 18 hour course in breastfeeding management). Steps for successful breastfeeding (similar to the 10 Steps of the BFHI) should be implemented in MCH clinics in refugee camps.
- ◇ Agencies should make efforts to identify local breastfeeding resource people, especially those who exist in African countries.
- ◇ To include media training as part of induction training for aid workers. A Code of Conduct for agencies dealing with the media responding to humanitarian emergencies should be drawn up.
- ◇ To bring together the above recommendations into a cohesive action plan which includes advocacy to existing UN and NGO structures to integrate infant feeding into

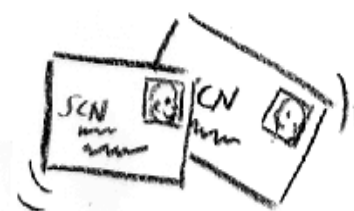
emergency response programmes at all levels.

An International Working Group was formed to implement the recommendations and to ensure follow-up activities. The meeting co-ordinators, Margreet Houdijk and Gill Ryan (IBFAN), were nominated to work on the formation of this group. It is hoped that the papers from the meeting will be disseminated as widely as possible and will be available on AlertNet (date TBA). A draft of the report will be ready by the end of January 1999.

For further information, please contact: Margreet Houdijk, Wemos, Email: wemos@wemos.nl Gill Ryan, Baby Milk Action, Email: baby milkaction@tinet.ie



## LETTERS TO THE EDITOR



Dear Editor,

In SCN News No.15 (December 1997) on page 25, there is a report on the 'Tulimbe Nutrition Project: a community-based dietary intervention to combat micronutrient malnutrition in rural southern Malawi'. It surprises me that in the report no mention is made of the *Moringa oleifera* tree, which is widely distributed throughout Malawi and is highly valued by the people for its edible leaves, flowers and seed pods<sup>1</sup>. *Moringa* leaves contain more protein, iron, calcium and vitamins A and C than most other vegetables in use in rural Africa. Most notable about the leaves is their very high content of vitamin A, reported to be 11300 I.U. per 100g of fresh leaves<sup>2</sup>.

Very impressive results in the treatment of PEM malnutrition with *Moringa oleifera* leaves and leaf powder were recently reported from Senegal<sup>3</sup>.

The importance of vitamin A in the control of child morbidity and mortality is well known and was amply dealt with in previous issues of SCN News in mid-1993 and mid-1994. There certainly seems to be justification for further research into the benefits of *Moringa oleifera* for nutrition in general, and for malnourished children and pregnant women in particular. The Tulimbe Nutrition Project in Malawi, having plenty of *Moringa* trees around, would seem an ideal setting for such research.

Here in Zimbabwe, among the Tonga people in Binga district along Lake Kariba, the *Moringa* tree is well known but under-utilised. The district is agriculturally one of the poorest in the country and the rate of chronic malnutrition is over 30%.

Binga Trees Project aims at extensive propagation of, among others, the *Moringa oleifera* tree and has started a study on the effect of *Moringa* leaves and leaf powder in malnourished children in the in- and out-patient department of the District Hospital.

By J.A. Warndorff, Binga Trees Trust, Private Bag 5715, Binga, Zimbabwe. Tel/fax: 263-(0)15-321  
Email: gwarndorff@healthnet.zw

<sup>1</sup> Coote C, Stewart M & Bonogwe C (1997). The distribution, uses and potential for development for *Moringa oleifera*. Forestry Research Institute of Malawi. P.O. Box 270, Zomba.

<sup>2</sup> Siemonsma JS & Pilusk K (1993). Plant resources in South East Asia No.8. Vegetables. Pudoc Scientific Publishers, Wageningen.

<sup>3</sup> Fuglie LJ. *Moringa oleifera*, a solution to malnutrition in Africa? Church World Service, Dakar, Senegal.





**A response from Fiona Yeudall and Rosalind Gibson**

Dear Dr Warndorff,

Thank you for your interest in the report on the Tulumbe Nutrition Project that appeared in the December 1997 issue of SCN News. The agricultural inputs distributed in the project were chosen as a result of preliminary work done on the dietary patterns of preschool children in Malawi<sup>1,2</sup> in addition to consultation with field staff and senior officers from the Ministries of Agriculture and Health working in the area once the project received funding in late 1995. Every effort was made to make the modifications and recommendations made by the project fit as closely as possible with current practices and advice from government departments. The report which you referred to on the *Moringa oleifera* tree<sup>3</sup> was actually being written during the implementation of the project, and the authors were in communication with our project during the writing of that report. Given the results of that report, future interventions could definitely explore the possibility of promoting *Moringa Oleifera* leaves as a source of vitamin A in dietary strategies. We await reports on the results of your intervention to promote this source of vitamin A with interest, so they can be incorporated into future interventions.

Fiona Yeudall (Tulumbe Nutrition Research Coordinator) and Rosalind Gibson (Professor in Human Nutrition), University of Otago, P.O. Box 56, Dunedin, New Zealand. Tel: +64 3 479 7959 Fax: +64 3 479 7958 Email: rosalingibson@stonebow.otago.ac.nz

<sup>1</sup> Ferguson EL, Gibson RS, Opere-Obisaw C, Osei-Opere F, Lamba C and Ounpuu S (1993). Seasonal food consumption patterns and dietary diversity of rural preschool Ghanaian and Malawian children. *Ecology of Food and Nutrition*, 29, 219-234.

<sup>2</sup> Ferguson EL, Gibson RS, Opere-Obisaw C, Ounpuu S and Lamba C (1995). Dietary strategies for improving the zinc nutriture of rural, southern Malawian and Ghanaian children. *Ecology of Food and Nutrition*, 34, 33047.

<sup>3</sup> Coote C, Stewart M & Bonogwe C (1997). The distribution, uses and potential for development of *Moringa oleifera*. Forestry Research Institute of Malawi. P.O. Box 270, Zomba.



**Corrigenda** In the article "Breastfeeding Promotion: A Cost Effective Intervention" (SCN News 16, p 32) the graph on "Breastfeeding status in programme and control hospitals" should have indicated that the data from Brazil and Honduras are for exclusive breastfeeding while the data from Mexico are for any breastfeeding. Our apologies to the author.

Also please note that the address given for IFPRI (SCN News, 16 p.50) is no longer valid. The current address is 2033 K Street, N.W., Washington, DC 20006, U.S.A.

**OBITUARY**

**Catherine Mumbe Siandwazi (1956-1998)**



Catherine Siandwazi, Food and Nutrition Coordinator for the East Central and Southern Africa (ESCA) Regional Health Community Secretariat in Arusha, Tanzania, passed away on 23 July 1998 from a pulmonary embolism. Catherine was 42 years old.

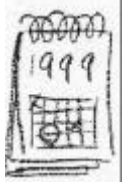
Catherine was ECSA's first Coordinator for the Regional Nutrition Programme, a post she held from 1992. Her achievements include raising the profile of nutrition high on the ECSA Region's Health Ministers' agenda. She negotiated for nutrition to be the focus of the annual meeting of the ECSA Health Ministers for three consecutive years.

Catherine operationalized the Network of Nutrition Units in the 14 member states of the ECSA Region by:

- ◇ Mobilizing resources for the Regional Nutrition Programme
- ◇ Facilitating intercountry communication between Nutrition Units in the region
- ◇ Providing technical support to member states
- ◇ Developing a capacity building strategy for nutrition in the Region which was based on needs assessments undertaken by member states with her coordination and guidance.

Catherine was a visionary who truly believed in Africa's potential and untapped capacity to solve its nutrition problems. She was a very warm, hard working and committed professional who gave her all to her work. Catherine will be missed but not forgotten. Africa has lost one of its illustrious daughters, but the torch she lit for nutrition in the ECSA Region will live on.

Submitted by Julia Tagwireyi, Director, Nutrition Unit, Ministry of Health, Zimbabwe.



# Courses, Meetings and Announcements



## **Third International Food Data Base Conference Rome, Italy, 5 - 7 July, 1999**

The FAO, the European Cooperation and Research Action on Food Consumption and Composition Data (COST 99 Action EUROFOODS), and the IUNS/UNU are jointly organising the Third International Food Data Base Conference (Third IFDBC) which will be hosted by FAO at its Headquarters in Rome, Italy, July 5 - 7, 1999. Mr. John R. Lupien, Director, Food and Nutrition Division, is the Conference Convenor.

This Conference will bring together scientists, international experts, government workers and food industry professionals who work in the area of food composition, to discuss current issues and future directions in generating, disseminating and using food composition data.

The conference theme '*Back to basics*' has been chosen to emphasise such basic issues as sampling and design of research protocols. The Third IFDBC will include plenary lectures, workshops, oral presentations and poster sessions to provide opportunities for a variety of communications.

The conference is free but participants should register by 30 April, 1999. The deadline for call for papers (either poster or oral) is February 28, 1999. Those submitting abstracts should register by 28 February 1999.

Further details can be found on the FAO website at:  
<http://www.fao.org/WAICENT/FAOINFO/ECONOMIC/ESN/food-comp/announce/announ-e.htm> (english),  
<http://www.fao.org/WAICENT/FAOINFO/ECONOMIC/ESN/food-comp/announce/announ-f.htm> (french), or  
<http://www.fao.org/WAICENT/FAOINFO/ECONOMIC/ESN/food-comp/announce/announ-s.htm> (spanish). For further information, write to: Barbara Burlingame or Irela Mazar, Food and Nutrition Division, FAO, Viale delle Terme di Caracalla 00100, Rome, Italy. Fax: (+39-06) 5705 4593 Email: [Barbara.Burlingame@fao.org](mailto:Barbara.Burlingame@fao.org) or [Irela.Mazar@fao.org](mailto:Irela.Mazar@fao.org).

## **Workshop Announcement Enhancing Nutritional Quality of Relief Foods March 3-5, 1999.**

An international workshop will be held in Washington, DC to discuss recent research and practice related to improvement in the nutritional value of ration foods given in humanitarian aid programs including emergencies, refugee/IDP camps, and transition situations. The core participants will be NGO staff responsible for food aid programs. The workshop will focus on exchange experiences of fortifying and improving ration quality and the potential future field research needed to test new

technologies for fortifying foods.

The workshop is being organised by Food Aid Management, the Congressional Hunger Center, the American Red Cross, Sustain, the Micronutrient Initiative of Canada and USAID.

The organisers welcome papers, data, perspectives, or questions to be possibly added to the agenda.

For more information, or to send suggestions or papers, please contact any of the following: Congressional Hunger Center Email: [sh@intr.net](mailto:sh@intr.net) Food Aid Management Email: [pharrigan@foodaid.org](mailto:pharrigan@foodaid.org) FMA Email: [fma@dc.net](mailto:fma@dc.net)

## **George Beaton Presented with Two Awards**

George Beaton has been selected as the eighth recipient of The Roger J. Williams Award in Preventative Nutrition. The award, which carries a cash prize of US \$10 000, will be presented to George in Fort Worth on March 21, 1999.

Made possible by an endowment established by Bruce Street (formerly at the University of North Texas and the Texas College of Osteopathic Medicine), the award is designed to recognise individuals who have made important contributions in the area of human nutrition. Previous award winners include William Shive (University of Texas), Hector DeLuca (University of Wisconsin), Robert Levy (Columbia University), Richard Wurtman (MIT), Bruce Ames (University of California), Scott Grundy (University of Texas) and Professor Vernon Young (MIT).

In October 1998, Dr Beaton was also presented with the 18<sup>th</sup> Annual Bristol-Myers Squibb/ Mead Johnson Award for Distinguished Achievement in Nutrition Research. Initiated in 1977, this annual award is given to individual researchers for distinguished achievement in the fields of nutrition, cancer, orthopaedic, neuroscience, cardiovascular/metabolic and infectious disease research. Previous recipients of the award for Nutrition Research have included Scott Grundy (University of Texas), Irwin Rosenberg (Tufts University), Vernon Young (MIT) and Doris Howes Calloway (University of California). George Beaton was presented with this award in recognition for his pioneering work in establishing a sound theoretical basis for estimating and applying human nutrient requirements.

Dr Beaton is Professor Emeritus at the University of Toronto, Canada. It was at this University where he received his BA in 1952, his PhD in Nutrition in 1955, and where he worked until 1994. Dr Beaton is an Elected Fellow of the American Institute of Nutrition, a past president of the Nutrition Society of Canada, a former Council vice president of the Royal Canadian Institute, and a member of the American Institute of Nutrition,

American Society for Clinical Nutrition and American Board of Nutrition. He has chaired or served on numerous international nutrition committees including eight FAO/WHO expert committees on human nutrient needs.

George has been associated with the ACC/SCN for many years, and served on the Advisory Group on Nutrition for 6 years. We extend our congratulations to him on being awarded these prizes.

George Beaton can be contacted at GBH Consulting, 9, Silverview Drive, Willowdale, Ontario M2M 2B2, Canada. Tel: 1 416 221 7409 Fax: 1 416 221 8563 Email: g.beaton@utoronto.ca

### **Management of Agricultural Information Services**

An international course on "Management of Agricultural Information services" will be held on 13-14 September, 1999 in Wageningen, Netherlands. The course is organised jointly by the Royal Tropical Institute (KIT), Amsterdam, and the International Agricultural Centre (IAC), Wageningen. Major elements of the course are:

- ◇ information services design and strategy development,
- ◇ management of information services, and
- ◇ development of a proposal specific to ones own needs.

The course is designed for professionals (university degree), who have at least five years of experience in the management and design of agricultural information units, libraries or documentation centres of international, regional and national organisations. Tuition fees are NLG 6,500 (~US\$3400). The course is residential and participants will be accommodated in the hotel on the International Agricultural Centre, the WICC-IAC on the basis of full board and lodging. Costs are NLG 110 (~US\$57) per day and are not included in the above tuition fee.

For more information and an application form contact: International Agricultural Centre, Information Services, P.O. Box 88, 6700 AB Wageningen- the Netherlands. Fax: +31-317-418552 Closing date for applications is June 1, 1999.

### **Seeds for Peace**

The Seeds for Peace organisation has assembled a series of 80 slides to promote home gardens in combating vitamin A deficiency. The slides were taken mainly in Hawaii, the Phillipines and China and promote the "Lazy Garden" technology – making gardens simple and efficient. The slides cover such topics as clinical symptoms of vitamin A deficiency, nutrient composition of vegetables and methods for small scale vegetable gardening. The slide set is accompanied by a 9 page explanation of the slides as well as a 30 minute audio-tape in English or Chinese.

For additional information contact: Y.H. Yang, Seeds for Peace project Coordinator, UNA-USA Hawaii Division, 500 University Ave, Apt 918, Honolulu, 96826, USA. Cost is US \$45 plus air shipment of \$4 in USA or \$12 in other countries.

### **The International Baby Food Action Network (IBFAN) – One of the 1998 Right Livelihood Award Recipients**

Founded in 1980, the Right to Livelihood Awards (RLA) were introduced 'to honour and support those offering practical and exemplary answers to the most urgent challenges facing us today'. The RLA Jury has honoured IBFAN 'for its committed and effective campaigning over nearly twenty years for the rights of mothers to choose to breastfeed their babies, in the full knowledge of the health benefits of breastmilk, and free from the commercial pressure and misinformation with which companies promote breastmilk substitutes'. IBFAN was the first international citizen's group of its kind. Formed in 1979 it brought together the non-governmental organizations which were addressing infant feeding and infant health and united these organizations in a common aim: improving breast feeding rates, reducing dependence on industrial artificial milk products, and protecting families' freedom of choice based on full, unbiased information and support.

IBFAN has pioneered the art of making transnational commercial enterprises more accountable through widely disseminated, mutually reinforcing inquiries and actions by small groups and individuals. Monitoring the International Code and pressing governments and industry to adopt it in full has remained a central and ongoing struggle for the network. Twenty-seven governments have translated it into national law; another 48 have enacted portions of it or have laws in draft form. IBFAN has organized training courses for government officials and legal advisers to help them write their national legislation.

The Award is worth approximately US \$230,000 and is shared with Samuel Epstein, cited for his work on cancer, and Juan Pablo Orrego and his organisation for their work to prevent the ecological destruction of Chile's Biobio river valley.

### **The 8<sup>th</sup> World Salt Symposium May 7-11, 2000, Hague, Netherlands**

The theme of the Symposium is "Salt; Life Depends on It". Included in the plenary sessions will be a "State of the World Report" on salt iodization and the elimination of IDD. Examples of national progress and a discussion of what remains to be done to achieve the elimination of IDD will be included. Issues of quality assurance, law enforcement, education, product marketing and programs with multiple fortification will also be covered.

The deadline for abstract submission is May 1, 1999. Most of the papers will be presented as posters. Companies producing salt, equipment used by the salt industry, including that needed to iodate and monitor salt, will be invited to exhibit.

For additional information contact Secretariat Organising Committee: ACE world Salt Symposium, PO Box 25 7550 GC Hengelo OV Netherlands. Phone: +31-742-443908 Fax: +31-742-443272 E-mail: salt.2000@inter.nl.net Web site: <http://www.salt2000.nl>

**17<sup>th</sup> International Congress of Nutrition  
Modern Aspects of Nutrition – Present  
Knowledge and Future Perspectives'  
Vienna, August 27-31, 2001**



Organised under the auspices of the International Union of Nutritional Sciences (IUNS), the 17<sup>th</sup> International Congress of Nutrition, 2001, aims to provide an update on nutrition and food science issues and to discuss the impact of new knowledge on:

- ◇ goals for nutrition education;
- ◇ setting of nutrition policy and programmes;
- ◇ providing for food security and safety;
- ◇ implementing recommendations for nutrition practices that will optimise global health through the prevention and treatment of disease.

The scientific programme will also focus on future aspects of nutritional sciences and their development into the third millennium.

In addition to plenary lectures and traditional subject-specific symposia, the programme will include debate sessions on selected controversial discussions.

The official language of the Congress is English. The preliminary programme and call for abstracts will be mailed during late 2000. For further information and to be put on the mailing list, please send your name, address and contact details to the Administrative Secretariat, Austropa Interconvention, 17<sup>th</sup> International Congress on Nutrition, Währinger Strasse 6-8, A-1090 Vienna, Austria. Tel: +41 1 316 8017 Fax: +43 1 315 5650 Email: austropa.congress@verkehrsbuero.at The Scientific Secretariat for the Congress can be contacted at The Vienna Academy of Postgraduate Medical Education and Research, Alser Strasse 4, A-1090 Vienna, Austria. Tel: +43 1 405 13 83 14 Fax: +43 1 405 13 83 23 Email: medacad@via.at All details can be found on the Congress website at <http://www.univie.ac.at/iuns2001/>

Source: 'Vienna calling. First Announcement' booklet.

**Arbor Clinical Nutrition Updates**

The Arbor Clinical Nutrition updates are available free of charge to nutrition and health professionals including students. Intending subscribers should send an email to:

updateU2@arborcom.com with your name, email address, location, professional background and nutrition interests. Subscribers from Africa and South America are particularly welcomed.

**Nutrition Society Information Sheets**

The Nutrition Society has updated its Information Sheets listing postgraduate and short training courses in international human nutrition. These can be found on the Society's website at <http://www.nutsoc.org.uk/>

The Information Sheet's "Low-Cost Newsletters and Journals for Nutritionists", which was published in the last issue of SCN News, has been amended (thanks to readers who sent corrections) and is also on the website. Please send any additions or changes for these Information Sheets to Ian Sambrook at [i.sambrook@nutsoc.org.uk](mailto:i.sambrook@nutsoc.org.uk)

**SEAMEO-TROPED Short Courses**



The SEAMEO-TROPED Regional Center for Community Nutrition is a training and research center for all South East Asian countries, located at the University of Indonesia. The SEAMEO-TROPED Community Nutrition Training Programme consists of an MSc in nutrition (2 years),

a Doctor of Nutrition (3 years), a diploma programme in management of community nutrition (3 months) and a field research programme (6-8 months).

In addition, the SEAMEO-TROPED Nutrition Training Programme offers several short courses on specific community nutrition topics aimed at improving the professional's knowledge and skills. For 1999-2000, the following short courses are offered:

- Food Safety and Food Control (4Jan-15 Jan 1999)
- Nutrition, aging and non communicable diseases (July/August 1999)
- Micronutrients programme (August 1999)
- Public Health System (4-18 October 1999)
- Nutritional Epidemiology ( 6-20 September 1999)
- ZOPP<sup>1</sup> and nutritional planning and management (18 October-8 November 1999)
- Nutritional anthropology and communication planning for community nutrition programme (Jan 2000)

For further information and to obtain application forms, please contact the Training Programme Coordinator, the SEAMEO-TROPED Regional Center for Community Nutrition, University of Indonesia, 6 Salemba Raya, Jakarta 10038, Indonesia. Tel: 62-21 330205/ 3913932-3 Fax: 62 21 3907695 / 3913933 Email: [gtzseame@indo.net.id](mailto:gtzseame@indo.net.id) or [stropmed@rad.net.id](mailto:stropmed@rad.net.id)

<sup>1</sup> Objective Oriented Program Planning (ZOPP - Ziel Orientierte Projekt Planung)

# Programme news

Agencies report on their activities in Nutrition

## FAO

### **Risk Analysis for Food Safety, Consumer Protection and International Trade**

FAO is collaborating with WHO and the International Life Sciences Institute (ILSI) in the development of a manual on 'Risk Analysis For Food Safety, Consumer Protection and International Trade'. The manual will build on three joint FAO/WHO expert consultations:

- ◇ Application of Risk Communication to Food Standards and Safety Matters, Rome, 1998;
- ◇ Risk Management and Food Safety, Rome, 1997;
- ◇ Application of Risk Analysis to Food Standards Issues in Geneva

This information is of great importance in the context of understanding the obligations under the World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement).

The objective of the manual is to bring together the findings of the three consultations with a view to creating a better understanding of the risk analysis process, its components and its application particularly for developing countries. The manual will include a description of the approach to risk assessment by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Joint FAO/WHO Meeting on Pesticide Residues (JMPR), together with the application of risk analysis principles in Codex.

The manual will be available in 1999 from the Food and Nutrition Division, FAO, Viale delle Terme di Caracalla 00100, Rome, Italy; FAX 39 6 57054593, Email: Food-Quality@fao.org

### **Food Composition Activities**

FAO activities in food composition are aimed at generating and updating food composition tables and related information for a wide range of practical applications.

In 1998, a number of major meetings were organised in cooperation with the UNU:

- ◇ Fifth OCEANIAFOODS Meeting: (For Australia, New Zealand and the Pacific Islands countries): Noumea, New

Caledonia, 25 - 27 May, 1998.

- ◇ MEXCARIBEFODS: (For Mexico, and the French and Spanish-speaking Caribbean countries): Santo Domingo, the Dominican Republic, 23 May - 6 June, 1998.
- ◇ Workshop on Food Composition Activities in the Near East. Manama, Bahrain, 14 - 16 June, 1998.
- ◇ III FAO/ACTAC Workshop on Food Quality Control and Safety. I FAO/ACTAC/MEXCARIBEFODS Sub-regional Symposium on Food Composition. Varadero, Cuba 13 - 16 October, 1998.
- ◇ Fourth Asia and the Pacific Food Analysis Conference. Chiang Mai, Thailand, 16 -19 November, 1998.
- ◇ Second SAARCFOODS Meeting (for Southern Asian countries). Kathmandu, Nepal, 21 - 23 November, 1998.

The final reports of these workshops will be made available by the Food and Nutrition Division, FAO, Viale delle Terme di Caracalla 00100, Rome, Italy; FAX 39 6 57054593, Email: Nutrition@fao.org

In training activities, FAO organised the First MEX-CARIBEFODS Course on *the Production and Use of Food Composition Data in Nutrition* held in Santo Domingo, the Dominican Republic, 23 May - 6 June, 1998 for Mexico and the Spanish and French speaking Caribbean countries. FAO participated in the training course of the Agricultural University of Wageningen in October 1998, and in the training course on data management for Central and Eastern European countries held at the Food Research Institute, Bratislava, Slovakia, in November, 1998.

A Regional Meeting on Andean Crops was held in Arequipa, Peru, 20 - 24 July, 1998. The meeting report is being prepared by the FAO Regional Office for Latin America (FAO Regional Office for Latin America and the Caribbean (RLC), Casilla 10095, Santiago, Chile. Email: FAO-RLC@field.fao.org).

The objectives of this meeting were to:

- ◇ analyse the research progress made in plant breeding, agronomy and technology transfer for the Andean Crops quinoa (*Chenopodium quinoa*), amaranth (*Amaranthus caudatus*), and lupine, tarwi (*Lupinus mutabilis*);
- ◇ examine their use and recommend strategies and actions to promote their consumption, considering both food and nutrition aspects;
- ◇ evaluate the present status of database on these crops; and
- ◇ formulate national projects on sustainable production and increased use of these crops.

A Latin American Congress on Food Carotenoids was held in Campinas, Brazil, 14 - 17 September, 1998. Proceedings will be published in the official journal of the Latin American Nutrition Society, the Sociedad Latinoamericana De Nutricion (SLAN: Dr Hernán L. Delgado, Calzada Roosevelt, Zona 11, Apartado Postal 1188, Ciudad de Guatemala, Guatemala, C.A. Tel: 502/2/723762/7 Fax: 502/2/736529 Email: hdelgado@incap.org.gt (affiliated body).

## Nutrition Education and Communication

The need for rational, scientifically-sound dietary guidance for the public has never been greater. The ability of poor households to make the best use of scarce resources to achieve the maximum nutritional benefit possible is crucial to their well-being. In more affluent households, the need for consumers to make wise dietary choices from a wide variety of foodstuffs and within an environment of wide-ranging claims and confusing, misleading information is also important.

### **Promoting Food-based Dietary Guidelines (FBDG)**

To help governments and others concerned with promoting informed consumer choices, FAO, in cooperation with ILSI, recently convened four inter-country meetings. These aimed to promote the development and use of food-based dietary guidelines and nutrition education activities, as recommended by the two Expert Consultations on this topic held in 1995. These meetings were held in Quito, Ecuador (2-4 November 1998, with nine countries participating from the Latin American region), Amman, Jordan (13-15 November 1998, with seven countries participating from the Near East region), and New Delhi, India (8-10 December 1998, with five countries participating from the Asian region). Specifically, the meetings aimed to:

- ◇ review the current scientific basis for establishing dietary guidelines;
- ◇ introduce a methodology for formulating FBDG;
- ◇ highlight successful approaches to providing nutrition education to the public.

These meetings bring together government authorities, personnel from academic and research institutions, nutrition educators, medical officers, representatives of NGOs, and the private sector and gain advice from internationally recognised experts. They form part of an ongoing collaboration between FAO and ILSI to strengthen national capacity to address diet and nutrition concerns, and follow the successful conclusion of two previous meetings held in Slovakia, and Lithuania, in 1997. Additional meetings will be held in 1999, beginning with one in Barbados for the English-speaking Caribbean countries.

### **Nutrition Education in Schools and for the Public**

FAO is also collaborating with the WHO School Health Promotion Initiative and is contributing to the various regional networks established by WHO under this Initiative by elaborating nutrition education components for primary schoolchildren. Technical materials are being developed as guidance for curriculum development and teacher training. They are expected to become available in mid-1999.

The English version of 'Social Communication in Nutrition' has been reprinted, and the French version of the Discussion Papers for the Expert Consultation on 'Nutrition Education for the Public', held in 1995, has also been printed. The nutrition education training package, 'Get the Best from Your Food', is now available in 13 languages, including Chinese, Hindi and Thai versions, and the publication of six versions in Eastern European languages, in addition to the existing Polish and Slovak versions, is imminent.

## Household Food Security

The ability of households to acquire - either through their own production or through purchase or barter - the food they need to meet all members' nutritional needs is fundamental to securing everyone's right to food and their nutritional well-being. Some eighty countries in the world - most of which are in Africa - are classified as low-income, food deficit countries. This means that there is simply not enough food or resources available in the country to assure that each household can consume enough to meet its needs. To reinvigorate efforts to accelerate agricultural development and ensure that such development leads to improvements in household food security, FAO organised an inter-country workshop for eleven countries in eastern and southern Africa, held in Kiambu, Kenya, from 6-9 October 1998. Inter-sectoral delegations met to review the causes of household food security and opportunities for making lasting improvements in the conditions that enable households to secure their right to food. Macro-level social and economic policies and conditions, sector specific actions, and integrated community-based initiatives were reviewed. Recommendations were made for making household food security a primary objective of development and strengthening the capacity of governments and civil society and communities to accelerate and sustain improvements in household food security and nutrition. The report of this meeting will be presented to the ACC/SCN Working Group on Household Food Security at its 26<sup>th</sup> Session in April, 1999 and to the ACC Network for Rural Development and Food Security. The National Thematic Groups on Food Security and Nutrition of the Network were specifically highlighted as key elements for moving the workshop's findings forward.

For further information about FAO's food and nutrition activities, please contact John R. Lupien, Director, Food and Nutrition Division, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy. Fax: 396 5225 4593 Email: food-quality@fao.org or nutrition@fao.org Web: <http://www.fao.org/waicent/faoinfo/economic/esn/nutri.ht> A new "Right to Food" website is also available: <http://www.fao.org/Legal>



## IFAD

IFAD has recently developed 'Household Food Security and Gender Memory Checks for Programme and Project Design'. The aim is to assist in mainstreaming household food security concerns into the design and implementation of IFAD projects, with women being considered the main entry-point for addressing food security and nutritional well-being at the household level.

The 'Memory Checks' are intended as a tool for operationalising IFAD's strategy to address household food security, as defined in its Paper for the World Food Summit<sup>1</sup>. They are neither guidelines nor checklists. They are intended rather as 'food for thought' - a support to design teams in diagnosing and focusing on critical issues relevant to household food security and gender as they relate to each other in the overall project design and to their specific sector.

All team members are provided with a summary of 12 household food security and gender issues to be addressed in design. Identification of the issues is based on IFAD (and non-IFAD) project experience in all regions, documented in evaluation reports. Readers are warned, however, that the issues are generic and require adaptation to the specific design context.

To assist sector specialists who may not be familiar with household food security and gender issues as they relate to their particular field, concise information sections are provided for agriculture, livestock, rural enterprise and credit, social services and infrastructures, environment and natural resources. These sections highlight basic issues, indicating their implications in terms of project design and implementation and risks if not appropriately taken into consideration. To assist teams in responding to the issues, short lists of 'key information to obtain' are also provided. These can be used either to collect new data or to systematise that which already exists.

Sections relating to specific production sectors look at:

- ◇ where productive activities occur, for women and men, within the household economy (who has what, who controls what);
- ◇ how the activity is organised in the household (issues related to gender division of labour, labour constraints and decision making)
- ◇ the link between productive activities and nutrition (for example, crop diversification for nutritional balance).

The Memory Checks are being tested in the five regions where IFAD operates, before formal adoption throughout IFAD. Results, so far, are promising and indicate their potential not only for the purpose of mainstreaming. They also have been useful as a tool to facilitate dialogue - both within the team and with governments and national implementing institutions - on IFAD's key concerns relating to household food security and

gender and how projects should address them. They have also been used successfully in participatory project planning workshops and could form the basis for planning sensitisation and training on household food security and gender during the life of a project.

Always within the framework of household food security, IFAD has launched in 1998 a new series in its Staff Working Papers entitled Household Food Security and Gender Series. It has also published, in collaboration with FAO and with the assistance of Supplementary Funds from the Government of Japan, a small research on *Agricultural Implements Used by Women Farmers in Africa*, using case studies in Senegal, Burkina Faso, Zambia, Uganda and Zimbabwe.

For further information, please contact Mona Fikry, Technical Advisor, Gender Issues, Technical Advisory Division, IFAD, Via del Serafico No. 107, 00142 Rome, Italy. Tel: 396 5459 2452 Fax: 396 519 1702 Email: m.fikry@ifad.org

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## IFPRI

### ***Good Care Practices Can Mitigate the Negative Effects of Poverty and Low Maternal Schooling on Childhood Stunting***

A recent study conducted by the International Food Policy Research Institute (IFPRI) in collaboration with the Noguchi Memorial Institute for Medical Research in Ghana found that the provision of *good care practices* to children between the ages of 4-36 months can partially compensate for the negative effects of low maternal schooling and poverty on child nutritional status in Accra.

The study begins with the premise that care is an important determinant of good health and nutrition among preschoolers, along with food security, availability of health services, and a healthy environment. A representative cross-sectional survey of households with children three years or younger in Accra, Ghana, was conducted to gain a better understanding of the nature of urban poverty and malnutrition and to disentangle the relationships between poverty, food insecurity, and malnutrition. Findings reported here used data from this survey to examine the constraints to good care practices, and to document the benefits of good maternal care for children's nutritional status. An age-specific *care index* was constructed based on mothers' reported practices related to child feeding and use of preventive health care services.

#### ***The constraints to good care practices in Accra***

Life in urban areas presents special challenges for child caregiving. Time constraints, the need for women to work outside the home, and the existence of smaller families, which often result in limited child care alternatives, make the provision of care particularly challenging. In Accra, however, only low maternal schooling was found to be a significant constraint to good child care practices. Surprisingly, maternal employ-

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<sup>1</sup> *Household Food Security: Implications for Policy and Action for Rural Poverty and Nutrition*, Nov 1996; also published as Staff Working Paper Series on Household Food Security and Gender, Paper No.1, Feb 1998).



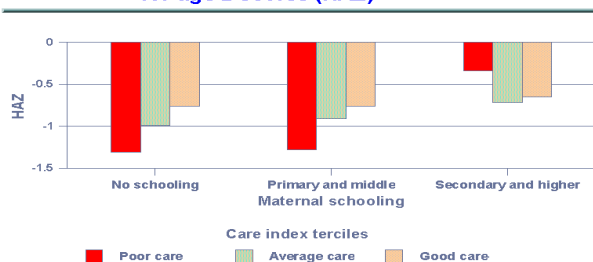
ment did not result in poorer child care, but this is because mothers adapt their work patterns to the age of their child, in an effort to protect them. For instance, mothers of younger infants were less likely to work full-time (18%) than mothers of toddlers (67%). Also, if they did work full-time, 100% of mothers of infants < 4 months of age took their child to work while only 46% of mothers of toddlers did likewise. Household socio-demographic and economic characteristics did not appear to be constraints to good child care practices in this environment. There were good and bad care givers among both poorer and richer households.

### The beneficial effects of good care practices

Using the age-specific child care practices index, IFPRI's research also showed that care practices were strongly associated with children's height-for-age z-scores. Good care practices were associated with three times lower prevalence of stunting (7% stunting among children of good caregivers compared to 24% among poor caregivers) and 2.5 times lower prevalence of underweight children (9% vs. 22%). The importance of care was confirmed by multivariate analysis, when controlling for various child, maternal and household characteristics.

Further analyses showed that care practices interacted significantly with maternal schooling and income categories. Good care practices made a particularly large difference in height-for-age z-scores (HAZ) for children of mothers with less than secondary schooling and for children from the two lowest income groups, as seen in Figures 1 and 2. Among mothers with less than secondary schooling, better maternal care practices brought the HAZ of children to the same level as that of children from more educated mothers or from wealthier families. The magnitude of the care effects among less

**Figure 1. Interaction between maternal schooling and caring practices on children's height-for-age z-scores (HAZ)**

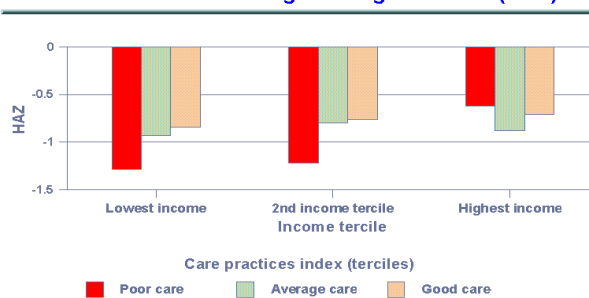


educated mothers and poorer households was 0.5 z-score, a biologically meaningful difference.

### Policy implications

In this urban population, good care practices could partially compensate for the negative effects of poverty and low maternal schooling on childhood stunting. Thus, effective targeting of specific education messages to poor and less educated mothers to improve their caring practices could have a major impact on reducing childhood malnutrition in Accra. Our findings also suggest that, at least in this context, mothers of very young infants may be particularly vulnerable to food insecurity and poverty because being full-time care-takers may jeopardize their ability to generate income for their household. This could be a particularly acute problem for women heads of

**Figure 2. Interaction between household income and maternal caring practices on children's height-for-age z-scores (HAZ)**



households and is worth consideration in future studies.

Copies of the results of this research are forthcoming in *World Development* and findings from the overall study are forthcoming in an IFPRI Research Report. Both can be obtained from Marie T. Ruel at IFPRI. Email: m.ruel@cgiar.org Tel: 202-862-5600 All comments are welcome.

## SIDA

The Swedish International Development Cooperation Agency (Sida) continues to support nutrition activities through several channels.

Institution-building support to the Tanzania Food and Nutrition Centre has continued since the Centre was founded in 1973, and support to the Nutrition Unit of the Ministry of Health, Zimbabwe, has continued since Zimbabwe's independence in 1980. This support, however, is currently being evaluated and will be phased out in the near future.

Since 1989, Sida has provided over US\$20 million to support the Integrated Child Development Services (ICDS) in four districts of Tamil Nadu, India. A recent evaluation of the ICDS in these four districts, found that levels of both severe and moderate malnutrition had decreased steadily during the period of 1989-97. Indeed, severe malnutrition in the districts now appears to be virtually eliminated. Subject to overall decision-making about continued Swedish support to India, however, this funding may also be coming to an end.

Sida was a major financial contributor to the SCN's First and Second Reports on the World Nutrition Situation during the period 1988-92, and is providing support for the preparation of the Fourth Report, due out in December 1999.

Sida has long supported efforts to protect and support breastfeeding. The mainstay has been support to the International Babyfood Action Network (IBFAN). The WHO watchdog group in Geneva (IBFAN, Geneva) has received support since 1980; support is currently at about US\$62,000 per year. IBFAN Africa also receives support of about US\$25,000 per year. The World Alliance for Breastfeeding Action (WABA) has received support from Sida for several years, and currently receives around US\$47,000 per year. The main WABA activities receiving Sida support are its efforts on several fronts to support the

breastfeeding rights of working women. UNICEF has also received substantial support from Sida for several years towards its programmes to provide legislative and policy support to breastfeeding. This funding is currently at US\$200,000 per year. Finally, the Section for International Child Health, Uppsala University, Sweden, has for several years received support for working on breastfeeding issues at the international level. This is currently at a level of about US\$40,000 per year, bringing the total current Sida support to breastfeeding to some US\$375,000 per year. This figure does not include the support to breastfeeding programmes and research in Tanzania and Zimbabwe,

which would bring the total to well over half a million US dollars.

Sida is currently discussing new directions for its future involvement in nutrition. In particular, Sida is concerned about malnutrition among women in developing countries, a neglected area.

Submitted by Gunilla Essner, Senior Programme Officer, Health Division, Department for Social Development and Democracy, Sida, Stockholm S10525, Sweden. Tel: 46 8 698 52 44 Fax: 46 8 698 56

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## UNICEF

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### ***Integration of Vitamin A Supplementation with Immunisation: Policy and Programme Implications***

Rapidly expanding vitamin A supplementation of young children and post-partum women through integration with immunisation activities, was the subject of a WHO/UNICEF consultation held on 12-13 January 1998 at UNICEF HQ in New York. The potential of vitamin A as a powerful child survival tool was re-emphasised at the meeting, and it was recommended that vitamin A supplementation should be part of routine and supplemental immunisation activities in all countries where vitamin A deficiency (VAD) is, or is likely to be, a public health problem. Furthermore, in countries where VAD has not been rigorously assessed, the meeting concluded that high under-five year mortality rates should be taken as an indication of the need to integrate vitamin A supplementation with immunisation.

Extensive evidence now shows the impact of vitamin A on reducing child mortality - an impact that is comparable to, if not greater than, that of any single EPI antigen. Yet until recently, in countries where vitamin A deficiency is considered a public health problem, less than half of all infants and young children had received vitamin A supplements while immunisation coverage was reaching 80% of infants. Thus millions of children remain at risk of vitamin A deficiency, despite being in routine contact with a health facility or health workers for immunisation activities. There is therefore a unique opportunity to increase vitamin A supplementation coverage to these higher immunisation coverage levels by providing high-dose vitamin A supplements at regular immunisation contacts and supplementary immunisation activities such as National Immunisation Days (NIDs).

High-dose vitamin A supplements can be given simultaneously with measles, and polio vaccines without adversely affecting seroconversion rates. Furthermore, a review of country experiences in integrating vitamin A supplementation with immunisation activities provides additional evidence of the feasibility of this approach.

In a recently issued joint statement on policy and operational questions relating to vitamin A and EPI/NIDs, WHO's Global Program on Vaccines (GPV), Nutrition for Health and Development (NHD), and UNICEF undertake to ensure the inclusion of age-appropriate vitamin A supplementation of children and post-partum women with immunisation in all countries where vitamin A deficiency is, or is likely to be, a public health problem.

Many countries are already providing vitamin A supplements to young children and post-partum women either through routine immunisation or NIDs. UNICEF estimates that in 1998, at least 34 countries were integrating vitamin A supplementation with NIDs. In countries where no decision has yet been taken, or where a decision has been taken not to include vitamin A supplements, WHO and UNICEF advocate for its inclusion through the Inter-Agency Co-ordinating Committee (ICC) for immunisation and other appropriate fora. Furthermore, donor agencies such as CIDA and USAID will also be advocating for integration of vitamin A with immunisation through their respective country missions.

Support, in the form of a cash grant to WHO/GPV and a donation-in-kind of vitamin A capsules to UNICEF, has been made by the Canadian Government through the Micronutrient Initiative (MI) in Ottawa. The Canadian grant to WHO/GPV includes support for applied research, development of training materials, and surveillance and evaluation activities. The distribution of vitamin A capsules to countries planning for NIDs, is being coordinated by UNICEF's Nutrition Section and dispatched from its Supply Division in Copenhagen. Requests for capsules or cash needed to support operational costs should be directed through the respective UNICEF and WHO field offices to Nita Dalmiya, Nutrition Section, UNICEF at e-mail: ndalmiya@unicef.org or by fax: 1 212 824 6465.

A report of the meeting's recommendations and conclusions '*Integration of vitamin A supplementation with immunisation: policy and programme implications*' (WHO/EPI/GEN/98.07) has been produced to provide guidance to countries to operationalise these recommendations. The report has been widely distributed to all countries and other implementing partners through UNICEF and WHO, and may also be downloaded

from WHO's web site at <http://www.who.ch/gpv-documents/>

For further information, please contact Nita Dalmiya, Project Officer, Micronutrients Nutrition Section, UNICEF Headquarters, 3 UN Plaza, New York NY 10017, USA. Tel: 1 212 824 6375 Fax: 1 212 824 6465 Email: [ndalmiya@unicef.org](mailto:ndalmiya@unicef.org) or Tracy Goodman, WHO/GPV, Geneva, Switzerland. Tel: 41 22 791 3641 Fax: 41 22 791 4193 Email: [goodmant@who.ch](mailto:goodmant@who.ch)

## ***Code Implementation Stepped up in East Asia***

The Governments of China and Vietnam are among those that have taken steps towards implementing the Code of Marketing of Breastmilk Substitutes and subsequent World Health Assembly Resolutions. This year, however, both Governments took action to improve Code compliance within their territories.

### ***Vietnam***

In 1994, the Prime Minister of Vietnam issued Decision 307 on the Issuance of Regulations on Trading and Use of Breastmilk Substitutes to Promote Breastfeeding. Experience revealed, however, that the Decision required strengthening in three main areas if it were to realise the aims of the Code:

1. the scope of the products covered required clarification;

tion;

2. advertising needed to be prohibited rather than limited;
3. responsibilities for implementation, monitoring and enforcement needed to be allotted.

UNICEF provided technical assistance in identifying these weaknesses in the Decision and in drafting more effective regulations through a series of workshops involving representatives from relevant Ministries in Hanoi. Revised regulations should be ready for adoption in the near future.

### ***China***

China took steps to implement the Code with the 1995 Rules Governing the Administration of Marketing of Breastmilk Substitutes. According to the Mother and Child Health Department (MCH) of the Ministry of Health, the adoption of these Rules has led to a reduction in the most blatant violations of the Code. However, increasingly sophisticated marketing techniques - particularly those fostering close relations with health workers and professional bodies, leading to apparent endorsement of products by the medical establishment - were felt to be undermining Code implementation.

UNICEF was requested to organise a training workshop

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## **WHO**

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### ***Joint FAO/WHO Expert Consultation on Vitamin and Mineral Requirements***

A joint FAO/WHO expert consultation on 'Vitamin and Mineral Requirements in Human Nutrition' was held in Bangkok, Thailand from 21 - 30 September 1998. Eighteen experts from all WHO/FAO regions attended the consultation to:

- ◇ review the most recent scientific information on specific nutrient requirements;
- ◇ prepare recommendations for the daily intake of vitamins and minerals.

The consultation reviewed and made recommendations for vitamins A, C, D, E, and K, the B vitamins, calcium, iron, magnesium, zinc, selenium, and iodine.

The consultation reviewed new evidence to suggest that some vitamins and minerals play an important role in preventing diet-related chronic noncommunicable diseases. Evidence to support the importance of micronutrients in immune function, physical work capacity, and cognitive function was also discussed.

The report of the consultation - expected to be published by mid-1999 - will serve as an authoritative source of information

for improving the health and nutrition status of populations. It will provide information for procuring food supplies for population subgroups, interpreting food consumption surveys, establishing standards for food assistance programmes, and designing nutrition education programmes.

For further details, please contact R. Buzina at WHO/NHD Tel: 41 22 791-3316 Email: [buzinar@who.ch](mailto:buzinar@who.ch) or Joan Conway, Project Coordinator (FAO), Food and Nutrition Division, FAO, Viale dell Terme de Caracalla, 00100 Rome, Italy. Tel: 5705 3322 Fax: 5705 4593 Email: [joan.conway@fao.org](mailto:joan.conway@fao.org)

### ***Vitamin A Supplementation During Pregnancy***

WHO/NHD is conducting a trial registry to complete a systematic review of randomised controlled trials (RCTs) evaluating the effect of vitamin A supplementation during pregnancy on maternal and newborn outcomes. For this purpose, they kindly ask those researchers that have conducted, are conducting, or are planning to conduct RCTs of vitamin A supplementation during pregnancy to contact Mercedes de Onis, NHD, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Fax: 41 22 791 4156 Email: [deonism@who.ch](mailto:deonism@who.ch)

## **WHO Consultation on Behavioural and Socio-Cultural Aspects of Preventing Obesity and its Associated Problems**

A WHO consultation on '*Behavioural and Socio-Cultural Aspects of Preventing Obesity and its Associated Problems*', originally scheduled for October 1998 (see SCN News No.16, p.59), was held from 14 - 16 December, 1998. Hosted by the National Institute of Health and Nutrition in Tokyo, Japan, this consultation forms part of WHO's efforts to follow up on the recommendations made at the Expert Consultation on Obesity (Geneva, 3-5 June 1997).

The aims of the consultation included:

- ◇ review and analysis of emerging trends of nutrition transition and behavioural factors contributing to the development of overweight and obesity;
- ◇ review approaches for behaviour change;
- ◇ review and analysis of country experiences in promoting healthy diets and lifestyles, especially with respect to obesity.

The consultation prepared guidelines for developing multi-sectoral strategies to address behaviour change, reduce obesity-promoting aspects of the environment, and improve a population's knowledge about the development of overweight and obesity and their prevention and management. Methodologies for designing effective behavioural strategies to promote the choice of appropriate diets and healthy lifestyles by individuals, families and societies were also identified.

For further information, please contact Chizuru Nishida, WHO/NHD. Tel: 41 22 791 3317 Fax: 41 22 791 4156 Email: nishidac@who.ch The final report of the June 1997 consultation will be published in the WHO Technical Report Series (TRS) before the end of the year (see SCN News No.16, p71).

## **Update on the WHO Multi-Country Study on Improving Household Food and Nutrition Security for the Vulnerable**

The WHO multi-country study on improving household food and nutrition security for the vulnerable was initiated in 1995 in order to examine the basic causes of household food and nutrition insecurity. These include widespread poverty, inadequate food and water supplies, social and gender discrimination, inadequate care and feeding practices, and poor levels of education, sanitation, and health and social services. This multi-country study is currently being implemented in China, Egypt, Ghana, Indonesia, Myanmar and South Africa. Due to the increasing global problem of urban poverty and malnutrition, urban or peri-urban communities have been selected as the focus of study in most of these countries.

Quantitative components of the study and their analyses have been completed in China, Ghana, Myanmar and South Africa. Currently, several countries are undertaking in-depth

qualitative components and a multi-disciplinary expert advisory group is being formed to review and evaluate final outcomes.

For further details, please contact Chizuru Nishida, WHO Programme of Nutrition. Tel: 41 22 791 3317 Fax: 41 22 791 4156 Email: nishidac@who.ch

## **National Food and Nutrition Policies and Plans for achieving Food and Nutrition Security for all in the 21st Century: Development of Training Modules for Incorporating the Impact of Globalisation**

To be effective, national policies and programmes need to take into account increasing globalisation and its impact on national and household food and nutrition security. To this end, WHO/NHD is developing training modules to assist countries - particularly those undergoing 'nutrition transition' - in developing and implementing effective and sustainable national food and nutrition policies and programmes. The modules are being developed in collaboration with the Nutrition Policy, Infant Feeding and Food Security Programme at WHO's Regional Office for Europe, and Thames Valley University in the UK. The first field-test of the draft training modules was conducted in Moscow in 1997. It is envisaged that field-testing in several other countries will be undertaken before the training modules are finalised.

For further details, please contact Aileen Robertson, WHO Regional Office for Europe, 8 Scherfigsvej, DK-2100 Copenhagen O Tel:00 45 39 17 1717 Fax: 00 45 39 17 1818 Email: aro@who.dk

## **Revision of the Infant Feeding Content of Pre-service Medical, Nursing and Dietetic Curricula**

WHO/NHD is initiating a global activity for protecting and promoting optimal breastfeeding practices by improving the pre-service education of health care professionals. The objective is to ensure that students in the health professions acquire basic knowledge and competence regarding lactation management *prior* to completing their pre-service education. This will help to increase health professionals' credibility by providing them with accurate and complete education about breastfeeding from the start.

For further information, please contact Randa Saadeh, WHO/NHD, 1211 Geneva 27, Switzerland. Email: saadehr@who.ch

## **WHO's Global Data Bank on Breastfeeding Prevalence and Duration of Breastfeeding in the European Region**

Together with the UNICEF Office for Europe, WHO/NHD is about to publish a summary of available data on the

prevalence and duration of breastfeeding in the European Region. This is the first stage in the process of publishing the full breastfeeding data set for all WHO Regions.

To implement the strategies and monitor the goals adopted at the World Summit for Children (1990), the International Conference on Nutrition (1992), emphasised the need to collect and disseminate information on infant and young child feeding, including data on breastfeeding prevalence and duration. In 1993, it was recommended that WHO be responsible for collecting data and reporting on breastfeeding trends. In 1994, the World Health Assembly requested the Director-General (resolution WHA47.5) to support Member States in monitoring infant and young child feeding practices and trends in health facilities and households, in keeping with the new standard breastfeeding indicators.

On the basis of a few reliable indicators, publication of these data will allow national authorities to analyse trends in breastfeeding over time, and evaluate the effectiveness of promotional programmes, such as the Baby-friendly Hospital Initiative, in achieving their goals.

Data will be published for the following indicators:

- ◇ Exclusive breastfeeding rate < 4 months: infants less than 4 months of age who were exclusively breastfed.
- ◇ Ever breastfed rate: infants less than 12 months of age who ever breastfed.
- ◇ Predominant breastfeeding rate: infants less than 4 months of age who were predominantly breastfed in the last 24 hours.
- ◇ Mean duration of breastfeeding: average duration of breastfeeding in months.
- ◇ Median duration of breastfeeding: age in months when 50% of children are no longer breastfed.
- ◇ Continued breastfeeding rate (1 year): children 12-15 months of age who were breastfed in the last 24 hours.
- ◇ Continued breastfeeding rate (2 year): children 20-23 months of age who were breastfed in last 24 hours.
- ◇ Bottle-feeding rate (2 years): infants less than 12 months of age who are receiving any food or drink from a bottle.

This summary of information on the European Region from WHO's Global Data Bank on Breastfeeding will be available in January 1999. For a copy, please contact the WHO/NHD, 1211 Geneva 27, Switzerland. Email: saadehr@who.ch or paliakaran@who.ch

### ***Promoting Healthy Growth and Development***

A review of child development and nutrition interventions was undertaken by WHO's Department of Child and Adolescent Health to provide guidance for selecting the types of interventions that can be effective in improving the growth and psychological development in children. It reviews the evidence that nutrition interventions and early childhood care and development programmes (ECCD) have positive impacts, even under poor socio-economic conditions. It summarises community-based studies and programme evaluations in the

following four categories:

- ◇ Psychological interventions to improve psychological development;
- ◇ Nutrition interventions to improve psychological development;
- ◇ Nutrition interventions to improve growth;
- ◇ Combined interventions to improve both growth and development.

The review indicates that there is sufficient evidence from studies with adequate research designs to demonstrate that psychosocial interventions can improve psychological functioning and nutritional interventions can improve both psychological functioning and physical growth in children living in conditions of poverty. There is suggestive evidence that other types of community interventions can improve physical growth of children in conditions of poverty.

The evidence from community trials and programmes suggest that:

- ◇ Children respond to development interventions throughout childhood but interventions that are directed to supporting growth and development in the earliest periods of life – prenatally, during infancy and early childhood – are likely to have the largest impact.
- ◇ In general, the children in greatest need due to poverty or parent's lack of knowledge and experience are the ones to show the greatest response to growth and development interventions.
- ◇ Growth and development interventions that utilise several types of interventions and more than one channel are more efficacious than those that are more restricted in scope.
- ◇ Programme efficacy and effectiveness appear to be greater when parents are more involved.

The review concludes with the following recommendations:

- ◇ The health sector should develop and implement new activities to promote appropriate feeding and responsive parenting in existing child health and welfare programmes.
- ◇ Other sectors need to expand and strengthen the health, nutrition, and breastfeeding components of existing early childhood development and childcare programmes both in centres and with parents and caregivers by providing counselling and training on responsive parenting and appropriate feeding.
- ◇ Research and development is necessary to determine the best strategies for delivery and implementation of the programmes.

It is suggested that the first effort be directed to the development of a culturally-adaptable counselling package that combines nutrition counselling on complementary feeding (with food supplementation as necessary) with counselling on psychological care (e.g. warmth, attentive listening, proactive stimulation, and support for exploration and autonomy).

An expanded research agenda could then be designed to compare and evaluate the effectiveness of different content,

different types of programme venues (e.g. breastfeeding promotion, community-based primary health care) and different channels (e.g. community health workers, women's groups, school teachers). Such research must be conducted in developing countries in collaboration with established in-country investigators. Training materials for community workers, monitoring and evaluation tools, and other tools for cultural adaptation, planning and community participation

should be developed together with the counselling strategies. Copies of the complete review can be obtained from the Department of Child and Adolescent Health, WHO. For more information contact Dr. Gretel Pelto, Dept. of Nutritional Sciences, Cornell University, Ithaca, NY 14850 USA. Tel: 607-255-6277 Email: gp32@cornell.edu or Patrice Engle, Dept. of Psychology, Cal Poly State University, San Luis Obispo, Ca 93405 USA. Tel: 805-528-4052 Fax: 805-756-1134 Email: pengle@calpoly.edu

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## THE WORLD BANK

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### ***Just Taking Stock or Defining a New Paradigm? Nine Years of Determining Factors for Successful Community Nutrition Programmes***

Over the last nine years, many events and efforts have taken place to identify the factors for successful community nutrition programmes (see Summary Table). These are still valid today and constitute the building blocks for successful community nutrition programmes. However, 'the challenge is to find out how these successful programmes and projects can be made to go to scale. Most efforts to 'scale up' successful local programmes or projects have failed' (Urban Jonsson, report from ICN Meeting in New Delhi, November 1995). New success factors for large-scale community nutrition programmes were identified at a workshop held in Dakar, Senegal, on March 23-27 1998, in the context of the Regional Initiative to Reinforce Capacity for Community Nutrition.

Managers of eleven community nutrition programmes and projects throughout Africa were invited to the workshop. Six of these shared lessons learned, namely: Senegal's Dioffior's Community Nutrition Project, Senegal's Community Nutrition Project executed by Agetip, Senegal's ENDA-Third World's Nutrition Program, the SIAC from Guinea, the SCAC from Niger, and the SECALINE from Madagascar.

The workshop defined a community nutrition programme as:

- ◇ answering a priority need felt by the community;
- ◇ involving the community in all stages;
- ◇ having an impact on nutritional status;
- ◇ being located near to beneficiaries.

The following factors were identified at the workshop to ensure effective *community participation*:

- ◇ ensuring that the community is in charge at all stages by creating community committees;
- ◇ reinforcing community skills for programme design and implementation;
- ◇ making as much use of local available resources as possible - for financing and manpower;
- ◇ ensuring that the quality of services is monitored by the community during supervisions, and that the data used are valid and reliable;
- ◇ developing a contractual relationship with the community, and ensuring that the community does the same with other actors;

- ◇ ensuring that there is good governance.

The following factors were highlighted as being necessary in order to ensure *sustainability* of a community nutrition programme:

- ◇ commitment by the community and by the State (the latter through a budget line and through political back up);
- ◇ integration of nutrition with other local development sectors (health, sanitation and agriculture), with civil society (NGOs and private sector), and most importantly, with local women's groups;
- ◇ promotion of self-reliance by the community. This involves determining through discussions the financing and management capacity of the community;
- ◇ transfer of technical competencies to the community.

### ***A New Paradigm for Scaling Up***

The new paradigm that emerged from the Dakar workshop was the realisation of untapped possibilities in the communities that can be mobilised for large-scale nutrition work, namely through:

1. using manpower from the community;
2. the proximity of service delivery;
3. contracting out;
4. linking supervision to the management information system.

*I. Using manpower from the community:* traditionally, nutrition experts have spoken of 'community involvement'. In Dakar, it was found that if the community selects its own agents from within the community to deliver the services, the chances of success are much higher than if someone from outside the community comes in. This aspect was mentioned in 1997 in Montreal when it was said that "existing community workers should be used". We are now realising that there are people in the community who are not health workers - in fact many of them are unemployed educated or illiterate people - who would like to do something but do not know what to do. If a nutrition programme gets these people involved, supports them to get organised, trains them and supervises them, the programme will get some of the best delivery of services possible. These individuals are highly motivated.

*II. Proximity of service delivery:* although this concept is linked to the one just mentioned, in Dakar, it was agreed that service delivery should be made available within the community. This proximity ensures ownership as well as good coverage.

Summary table: Main factors for successful community nutrition projects, identified by chronological event

Success factors	Seoul 1989 <sup>1</sup>	Kennedy 1991 <sup>2</sup>	New Delhi 1995 <sup>3</sup>	Accra 1996 <sup>4</sup>	Montreal 1997 <sup>5</sup>	Dakar 1998
Human resource development: ongoing training, esp. in participatory approaches	<b>P</b>	<b>P</b>		<b>P</b>	<b>P</b>	<b>P</b>
Community mobilisation and participation/ownership: involving the community in all phases of programme planning and implementation	<b>P</b>	<b>P</b>		<b>P</b>		<b>P</b>
Political commitment at all levels	<b>P</b>		<b>P</b>	<b>P</b>	<b>P</b>	<b>P</b>
Careful monitoring, supervision, evaluation & management information systems at all levels	<b>P</b>			<b>P</b>	<b>P</b>	<b>P</b>
Replicability & sustainability	<b>P</b>	<b>P</b>				<b>P</b>
Commitment & leadership of staff	<b>P</b>					<b>P</b>
Targeting	<b>P</b>					<b>P</b>
Local women groups as key resources in management of activities	<b>P</b>					<b>P</b>
Multi-faceted activities integrated to local development programmes		<b>P</b>	<b>P</b>	<b>P</b>		<b>P</b>
Necessity for long term investment, especially important for scaling-up and to adapt to community needs		<b>P</b>		<b>P</b>	<b>P</b>	<b>P</b>
Institutional structure as a "winner"		<b>P</b>				
Know, understand, accept, use conclusions of own community-based projects, especially important for Scaling-up			<b>P</b>	<b>P</b>		<b>P</b>
Necessity for long-term investment				<b>P</b>	<b>P</b>	<b>P</b>
Policy framework & institutional collaboration among different partners				<b>P</b>		<b>P</b>
Advocacy & raising awareness on nutrition issues at all levels				<b>P</b>		<b>P</b>
Community workers who come FROM the community (who are organised, trained, supervised and compensated for their work)					<b>P</b>	<b>P</b>
Proximity of service delivery						<b>P</b>
Use of contracting approach, which improves good governance and self-reliance						<b>P</b>
Link supervision to management information system and performance						<b>P</b>

<sup>1</sup> Seoul, Korea, August 15-18 1989: Crucial Elements of Successful Nutrition Programmes. The Fifth International Conference of the International Nutrition Planners Forum.

<sup>2</sup> June 1991: "Successful Nutrition programmes in Africa: What Makes them Work?" by Eileen Kennedy, The World Bank.

<sup>3</sup> November 20-22 1995, New Delhi: Success Factors in Community-based Nutrition-oriented Programmes and Projects. Rapid Appraisal Prepared at the ICN Meeting, by Urban Jonsson.

<sup>4</sup> Accra, Ghana, February 1996: Symposium on "Effective Programmes in Africa for Improving Nutrition", held at the SCN's 23<sup>rd</sup> Session (SCN News No. 14).

<sup>5</sup> July 24-27 1997, Montreal, Canada: Success Factors in Community-based Nutrition Programmes. Satellite Meeting on Public Nutrition, IUNS Congress.

*III. The contracting approach:* several large scale projects (in Madagascar, and Senegal in particular) contract service delivery, training, supervision and operational research to local groups, institutions and communities. These entities are often non-governmental, but sometimes a health district can be contracted for specific activities (eg., Guinea, Dioffior in Senegal), or a para-statal agency can do the job. This new approach shows that governments can use their funds to subsidise other actors to contribute to national objectives. Ministries of Health then take on a different role as they are not responsible any longer for service delivery.

*IV. Linking supervision to the management information system* with performance indicators was demonstrated at the workshop as being essential. Although it was said a long time ago that the information system should be used for decision making, it was never clear how to do it. Madagascar and Senegal's large-scale community nutrition projects have developed a simple and effective monitoring system used by all levels for decision making.

The Summary Table illustrates how, in the past nine years, the nutrition community has been able to identify all the factors

necessary for success on a large scale. The factors mentioned at the top of the table have been well integrated by the nutrition community, but as one goes down the table, one can see that some new factors have been added and others, not new, may have been forgotten for a while, but are making a come-back now.

Submitted by Tonia Marek, Senior Public Health Specialist, The World Bank. Email: tmarek@worldbank.org, Serigne Mbaye Diene, nutritionist at BASICS/Senegal. Email: basics@sonatel.senet.net, and Maty Sy, consultant in human development. Email: msy@enda.sn. The full paper can be obtained by request from any of those mentioned above.

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## CNIP

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### ***Cambodia Nutrition Investment Plan (1999-2008)***

The Cambodian Nutrition Investment Plan (CNIP) proposes a US\$ 90 million investment plan for nutrition over a ten-year period as part of the Public Investment Programme. It is proposed as a nation-wide plan covering both rural and urban areas, focusing on children and women. It is a response to addressing the very high rates of child and maternal malnutrition and high levels of infant and maternal deaths that affect all provinces in Cambodia. The root causes of these problems are a protracted civil conflict, widespread poverty and lack of availability and access to basic services.

The objectives of the nutrition investment plan are to:

- ◇ Incorporate nutrition considerations in national socio-economic development plans
- ◇ Reduce levels of protein energy malnutrition (PEM) in children under five years of age by half from the current level of 52 %
- ◇ Eliminate deficiencies of iodine, vitamin A and folic acid and reduce by half the current levels of anaemia in children under five and pregnant women
- ◇ Reduce the levels of low birth weight (LBW) from the current 20 % to below 10%
- ◇ Reduce levels of malnutrition of women of reproductive age from 20% to below 10% as measured by a body mass index (BMI) of below 18.5 kg/m<sup>2</sup>

The overall strategy of the proposed investment plan is a community-based approach emphasizing actions at the household level with supportive national level approaches. The basic strategy at the community level is to ensure sustainability by supporting actions that build up capacity and are empowering. Particular attention will be given to promoting behaviours and supporting services that improve availability, access and efficient utilization of resources. Emphasis will be given to issues related to care, health, sanitation and household food security.

For further information please contact Dr. Festo P. Kavishe, Project Officer, Head of CASD & Temporary Secretary NNPA/RETA Steering Committee, UNICEF, No. 11, Street 75, Sraschark Quartier, P O Box 176, Phnom Penh, Cambodia.

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## PHN

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### ***Micronutrient Support Activity***

The Population, Health and Nutrition Center (PHN) of the Global Bureau, Office of Health and Nutrition is pleased to announce the award of the Micronutrient Support Activity (MSA) under the Nutrition Results Package.

The cooperative agreement has been awarded to the International Science and Technology Institute, Inc. (ISTI). Core sub-recipients are Johns Hopkins University, Helen Keller International, The Academy for Education Development and The International Food Policy Research Institute. Specialised resource institutions are CARE, Save the Children, Population Services International (PSI), Program for Appropriate Technology in Health (PATH) and International Executive Service Corps (IESC). The Executive Project Director will be Dr. Roy Miller.

This award will support activities related to micronutrient interventions and ensure coordination with other projects, organisations and donor agencies. The Micronutrient Support Activity has been developed in response to the needs of USAID missions and host country governments for technical assistance in managing interventions in vitamin A and other micronutrients.

An important element of the PHN Center's Child Survival and Nutrition Results Package is the vitamin A enhanced effort (VITA). Where vitamin A deficiency exists, vitamin A will be integrated into USAID child survival programs globally. Strategic partners include USAID, host governments, cooperating agencies, NGOs, civic groups, the U.S. food industry, and multi- and bilateral donors. Key technical areas include integration of supplementation into CS programs, policy dialogue and advocacy, public/private sector cooperation in food fortification, expansion of private sector markets, community based behaviour/dietary change, donor coordination, and monitoring and evaluation of impact. A key element of MSA will be to assist missions in the implementation of VITA.

USAID's new micronutrient efforts will consolidate and expand experience gained from past USAID programs in micronutrients. The MSA will actively launch significant global technical assistance activities such as prevalence assessments and test innovative technologies to increase vitamin A and iron consumption among high risk groups, particularly women and children.

Efforts and resources will focus on broad-scale transfer of technologies, skills and knowledge to assist developing countries to sustain micronutrient programs. This will include increased efforts in program and policy support, training and institutional capacity development, and information dissemination.

For more information please contact Frances Davidson, Office of Health and Nutrition, Child Survival Division, Washington, DC, USA. Tel: 202 712 0982.



# Publications

***Diet, Nutrition and Chronic Disease:  
An Asian Perspective (1998)***  
edited by *P. Shetty and C. Gopalan*

Review by *S. Smitasiri and S. Dhanamitta,*  
*Institute of Nutrition, Thailand*

This book is the proceedings of the Asian Nutrition Forum's symposium that was organised in New Delhi, India in 1997 to discuss the emergence of nutrition-related chronic disease in Asia. It consists of reviews of current epidemiological information and recommendations for developing health and nutrition policies from selected Asian scientists who have direct experiences with this issue. Lessons learned from industrialised and affluent countries are valuable for the prevention and management of the problem. The data presented indicate that changes in diet and lifestyle are leading to health problems dominated by overnutrition while undernutrition remains a significant concern. This double burden is a threat to socio-economic progress in a region that has the largest population in the developing world.

Reviews of the current epidemiological information on the emerging problem from India, China, Indonesia, Philippines and Korea are presented. There are increasing prevalence rates of coronary heart disease, hypertension, diabetes mellitus, obesity and cancer accompanied by increased intakes of dietary fat, protein, salt and sugar as well as changing lifestyles. Large population-based epidemiological studies to assess the risk factors of chronic disease in Asia are needed to supplement the information already available.

The current status of diabetes mellitus is assessed in one paper from Thailand and three papers from India. Four sections focus on cardiovascular diseases. One paper from China and four papers from India emphasise the emerging problem and the role of diet. Section 16 profiles cancers in India. It discusses the possible roles of dietary factors and physical activity. A review of osteoporosis in China, Thailand and India is included. Nutritional status as determined by anthropometry, dietary intakes and biochemical parameters, appears to be related to osteoporotic fractures. However, the early onset of peak bone mass and the early age of type II fracture, as well as, the absence of a higher incidence in females suggests a re-examination of existing paradigms.

In sections 21-24 the focus is on obesity and the role of diet and exercise (one paper from Malaysia and three papers from India). Current thinking on dietary guidelines from Indonesia, Thailand, Philippine, China are included along with a section which shares European experiences. An article from India pinpoints a need to change the dietary habits in urban populations. Japanese experience in changing lifestyles, health education and chronic disease prevention are described. Finally,

a report of a collaborative effort in the development of Asian food-based dietary guidelines is included.

Policy makers, program managers, practitioners, researchers, academics and students working in the areas of food, nutrition and public health will find this book helpful in describing the current nutritional status of the Asian populations.

The symposium was supported by the World Health Organization. The publication was made possible by support from the World Cancer Research Fund. Published by Smith-Gordon and Company Limited, 13 Shalcomb Street, London SW10 0HZ. Tel: +44 171 351 7042, Fax: +44 171 351 1250. 143 pp. Suttitak Smitasiri and Sakorn Dhanamitta can be contacted at the Division of Communication and Behavior Science, Institute of Nutrition, Mahidol University at Salaya, Phuthamonthon 4 Road, Nakorn Phathom 73170, Thailand. Tel: 662 441 0218, 889-3309, Fax: 662 441 9344-5, E-mail: nussm@mahidol.ac.th

***Iodine in Pregnancy (1998)***  
edited by *John Stanbury, François Delange,*  
*John Dunn and Chandrakant Pandav*



The past decade has witnessed remarkable progress in extending iodine prophylaxis to many areas of the world where iodine deficiency had resulted in a variety of health problems. The reduction in iodine deficiency disorders has been dramatic, even though much remains to be done through iodization of salt, and where that is not immediately realizable, use of slow release iodine oil. The rapid extension of preventive programs, primarily in developing and less industrialized countries

has led to an examination of the good and possibly undesirable consequences of iodine on the fetus and newborn.

- ◇ Are there health risks associated with iodine supplementation?
- ◇ Is excess thyroid hormone damaging to the nervous system and responsible for later cognitive and behavioral change?
- ◇ How is the risk of thyrotoxicosis minimized?
- ◇ Which is more cost effective, an iodized oil program or an iodized salt program?

This collection of related essays seeks answers to these and other questions. Answers are almost always incomplete but may serve to provoke more illuminating research and guide medical and health practices in combating iodine deficiency. The book concludes with the statement by the World Health Organization on the safe use of iodized oil to prevent iodine

deficiency in pregnancy and a summary of the published evidence of the use of iodized oil during pregnancy.

The International Council for the Control of Iodine Deficiency Disorders (ICCIDD) is a non-profit no-governmental organisation dedicated to the sustainable elimination of iodine deficiency disorders (IDD) throughout the world. The ICCIDD was granted an official status as an international NGO at the 47<sup>th</sup> World Health Assembly held in Geneva in 1994. Published by Manzar Khan, Oxford University Press, YMCA Library Building, Jai Singh Road, New Delhi 110 001. ISBN 0 19 564780 7

**Catch Them Young (1998)**  
**by Selna Chaubey (World Bank)**



This booklet written in non-technical language represents a departure in format for World Bank publications. The booklet describes the Tamil Nadu Integrated Nutrition Project as one of the most successful nutrition projects in India. The project contributed significantly to a reduction in malnutrition and infant mortality in the state and has generated

widespread participation. The report brings the project to life through storytelling and the description of actual cases of mothers and children.

For the Tamil Nadu project as a whole, severe malnutrition was reduced by 44% from 1992-1997 although for moderate malnutrition, improvement has not been as rapid. Infant mortality, however, fell from 84 per 1,000 live births at the beginning of the project to 54 per 1,000 in 1996, well below the national average. The number of women who received at least one antenatal checkup has increased from 39% in 1992-93 to 90% in 1997. More than half of all eligible women receive at least four checkups.

One factor in the project's success was the way local leaders were used in the program. Priests and practitioners of traditional medicine, mothers-in-law and *panchayat* members were included because their words are often law in communities. Sensitising such groups was a way of assuring that program messages would reach people and translate into mother and child-care practices in their homes.

While the project coordinators concede that there were some gaps in the program there was general consensus that such programs need to put more responsibility in the hands of the communities. Project workers should play more of an advisory role while communities take charge and manage their own activities.

Source: The World Bank, 1818 H Street, N.W., Washington, DC, 20433 USA. Tel: 202-477-1234, Fax: 202-477-6391

**Nutritional Neuroscience: a New International Journal on Diet, Nutrition and the Nervous System**

Nutrition Neuroscience is a new international, interdisciplinary broad-based journal for reporting research on the role of diet, dietary supplements, and food additives on the neurochemistry, neurobiology, and behaviour of all organisms, including humans. Published by Harwood Academic Publishers of Amsterdam, The Netherlands, the journal is published every two months.

This is the first journal with a central theme of integrating nutrition and the nervous system. It is anticipated that the journal will serve as a common forum for scientific discourse among neuroscientists, nutritionists, psychiatrists, naturopaths, and those interested in preventive medicine.

The editorial advisory board is made up of scientists and clinicians from four continents and fourteen countries with expertise in different fields of nutrition and neuroscience. The Editor-in-Chief is Dr Chandan Prasad of the Louisiana State University Medical Center, USA.

The journal accepts full-length research papers, short communications, review articles, book reviews, clinical case reports, scientific commentary, and news items. The following are examples of some of the specific topics the journal may cover:

- ◇ Effect of diet (including trace metals, antioxidants, and phytonutrients), dietary supplements, and food additives on the metabolism and physiology of central and peripheral neurons, neurotransmitters, neurotransmitter receptors, behaviour (learning, memory, anxiety, etc.), and neuroendocrine regulations;
- ◇ Demonstration of neuroactive substances (hormones, peptides and neuromodulator substances) in food;
- ◇ Use of diet and dietary supplements (protein, carbohydrate, fat, caffeine, tryptophan, etc.) in the management of psychiatric disorders;
- ◇ Dietary considerations in the management of neurologic disorders like epilepsy and Parkinson's disease; diet and sleep;
- ◇ Diet and mental performance.

For enquiries about subscription, please email [info@gbhap.com](mailto:info@gbhap.com). The subscription rate for personal use is US\$95 per year. For instructions to authors and other information about the journal, please contact Dr Prasad (Editor-in-Chief), Department of Medicine, Box T4M5, Louisiana State University Medical Center, 1542 Tulane Ave., New Orleans, LA 70112, USA. Tel: 1 504 568 6446 Fax: 1 504 568 4159 Email: [cprasa@lsuonc.edu](mailto:cprasa@lsuonc.edu)

The Editor-in-Chief will make every effort towards an expedient review of submitted manuscripts. Additional information about the journal can be found on the web at: [http://www.gbhap.com/Nutritional\\_Neuroscience/](http://www.gbhap.com/Nutritional_Neuroscience/)

## Human Development Report (1998)



This year's report Human Development Report examines consumption from the perspective of human development. It concludes that despite a dramatic surge in consumption in many countries more than a billion people lack the opportunity to consume in ways that would allow them to meet their basic needs. Of the 4.4 billion people in developing countries, nearly three-fifths lack basic sanitation. Almost a third have no access to clean water. A quarter do not have adequate housing. A fifth have no access to modern health services. A fifth of children do not attend school to grade 5. About a fifth do not have access to sufficient dietary energy and protein. Others are consuming in ways that cannot be long sustained environmentally or socially. Poor people and poor countries need to accelerate the growth of their consumption but they need not follow the path trodden by the rich and high growth economies. Production techniques can be made more environmentally friendly. Patterns of consumption that harm society and reinforce inequalities can be changed. A determined effort must be made to eradicate poverty.

However, the Report doesn't conclude that more or less consumption is needed but rather a different pattern of consumption is required. Many of the approaches and technologies needed to make consumption more sustainable are already in use or are on the drawing board but they need to be applied far more broadly. Stronger international support is needed to moderate the inequity among and within countries. In industrialised countries, 7-17% of the population is poor and levels of deprivation have little to do with average per capita income.

This Report is an important contribution to the international debate on consumption and human development. It should serve as a stimulus to the many non-governmental and community movements that have long led the way on issues of consumption, poverty, environment and human development. These groups should form alliances that define a more human vision of consumption for the 21<sup>st</sup> century.

The Principal Coordinator of the Human Development Report is Dr. Richard Jolly, the SCN's Chair. Copies of the report can be obtained from the United Nations Development Programme, 1 UN Plaza, New York, New York 10017, USA.  
Web site: <http://www.undp.org/undp/hdro> ISBN 0-19-512459-6

### **Monitoring Vitamin A Programs** *edited by Jeny Cervinkas and Robin Houston*

This manual responds to the need for guidelines in the design and implementation of low-cost monitoring systems for vitamin A interventions. It is designed for program managers who are seeking easy-to-follow steps for establishing such systems. Experience has revealed new ways to improve the effective-

ness of interventions through better communications on dietary practices, expanded channels of supplement delivery, and new opportunities for fortification of staple foods. Such improvements must be supported by well-designed dietary information systems, quality control and enforcement.

Although the impact of vitamin A interventions can be measured periodically in a population using clinical and biochemical indicators, there is also a need for process monitoring on an ongoing basis. This will ensure the effectiveness of the interventions in delivering required quantities of the micronutrient on a continuous and sustained basis. Increasingly, interventions require the participation of several sectors and careful monitoring at various stages is a critical requirement.

Such monitoring systems can also provide a measure of progress toward the goal of ensuring adequate vitamin A status for the population. The guidelines are based on field experience in a variety of countries. However, they must be adapted to suit specific situations and locally determined needs.

In addition to the seven chapters addressing the various aspects of vitamin A monitoring, the manual contains a list of technical support for program monitoring and a supplement schedule for the prevention and treatment of vitamin A deficiency.

#### **Forthcoming Publications**

*Food fortification experiences in Canada* The MI in collaboration with Health Canada is producing a publication in which the long and successful history of fortifying foods with necessary micronutrients in Canada has been documented.

*The upcoming publication "Food Fortification in Canada"* outlines Canadian experiences with national food fortification programs as a means of sharing knowledge and as a successful example for other countries planning to undertake similar activities to prevent and control micronutrient deficiencies.

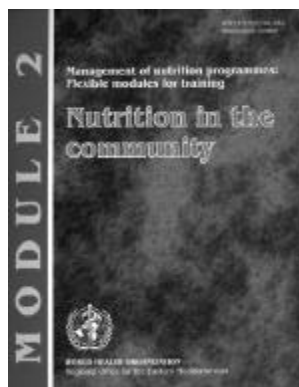
*Related MI publication: "Iron Fortification of Flour"*. The MI, in collaboration with USAID/OMNI is drafting a comprehensive 3-volume manual covering all programmatic, technical and analytical aspects of flour fortification, quality control and monitoring. The manual is now in final draft and will be printed shortly.

#### **New Publications**

Progress in Controlling Vitamin A Deficiency.  
Food Fortification to End Micronutrient Malnutrition: State-of-the-Art. Proceedings from a Satellite meeting to the IUNS, August 2, 1997, Montreal, Canada.  
Expert Consultation on Anemia Determinants and Interventions: Proceedings from September 1997 MI hosted meeting, Ottawa, Canada. ( See SCN News 15, p 53).  
Major Issues in the Control of Iron Deficiency.  
Economic Consequences of Iron Deficiency.

Requests for pricing and ordering information should be sent by email to: [mi@idrc.ca](mailto:mi@idrc.ca) Tel: 613-236-6163, Fax (613) 236-9579 The mailing address is Micronutrient Initiative, PO Box 8500, Ottawa, ON, Canada K1G 3H9. Web site: <http://www.idrc.ca/mi>

## Management and Training for Nutrition Programmes - Flexible Modules for Training (1998)



This nutrition training course has been established by the WHO Regional Office for the Eastern Mediterranean and the Nutrition Institute in Cairo, Egypt, in response to the need for more trained nutritionists in the Eastern Mediterranean Region. Nutrition has become a serious health concern in this Region, where socio-economic conditions vary widely, emergency situations (drought, war and earthquakes) are common, and consequently the problems of undernutrition, overnutrition, and micronutrient deficiencies often occur side by side. The course aims to provide training for programme managers and nutrition personnel at country level within the Eastern Mediterranean Region, and emphasises the use of active learner participation and the application of practical skills.

The course is organised into six skills-oriented independent modules:

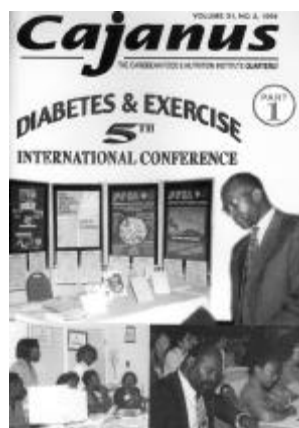
1. Essentials of nutrition and development
2. Nutrition in the community
3. Communication, extension and training
4. Management of nutrition programmes and projects
5. Supportive disciplines (biostatistics, epidemiology and computing)
6. Participant individual project

These have been published as a set of booklets, which will assist those responsible for nutrition in countries of the Region to conduct training at country level. Each module booklet, which can be used independently, contains the rationale, objectives and content of the module, followed by the facilitator's guide and the participant's guide. An introductory manual provides suggestions for training methodologies, and for organising and coordinating the course.

WHO-EM/NUT/196.0/E/L 1998. The course set of an introduction manual plus six modules, is available for limited distribution from Dr A. Verster, Regional Advisor, Nutrition, Food Security and Safety, WHO Regional Office for the Eastern Mediterranean, P.O. Box 1517 Alexandria - 21511, Egypt. Tel: +203 483 0090/7/8/9 Fax: +203 483 8916 Email: emro@who.sci.eg

## Diabetes and Exercise 5<sup>th</sup> International Conference

Almost everyone in the Caribbean is able to identify at least one person - whether a family member, neighbour or friend - who has diabetes mellitus. Most of these cases are the result of insulin resistance (Type 2 diabetes). The role of exercise in treating these cases is becoming more widely recognised not only as an adjunct to diet but as a therapy itself.



The conference included presentations on the practical aspects of diabetes and exercise paying particular attention to minimising the risks of exercise in type 1 (insulin dependent) diabetes. In type 1 diabetes, exercise by itself will not have a significant effect on overall glycaemic control but is encouraged primarily for its role in preventing cardiovascular

disease. Since hypoglycaemia may occur during or after exercise, guidelines on carbohydrate replacement were also given. In Type 2 diabetes (non-insulin dependent), exercise is an important component of the management along with diet and drug therapy because of its role in improving insulin resistance. Exercise in the treatment of children, pregnant women and the elderly with diabetes was also discussed. Programmes for exercise should be tailored to specific age groups, social settings and disability levels. A wide variety of activities, including dancing and "fun" activities, should be explored.

The main papers of the conference are summarised in CAJANUS-The Caribbean Food and Nutrition Institute Quarterly. Volume 31, No 2, 1998. Cajanus is available from the Caribbean Food and Nutrition Institute, P.O. Box 140, Kingston 7, Jamaica. Annual subscription: Free to subscribers in CFNI member countries; US\$6.00 for other developing countries, and US\$12.00 for developed countries.

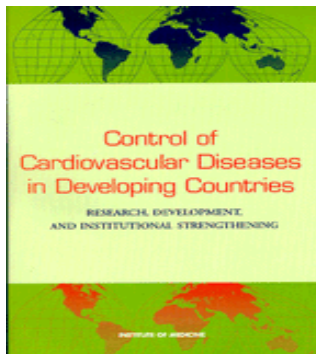
## Rapid Assessment Procedures (RAP): Ethnographic Methods to Investigate Women's Health by Joel Gittelsohn, Pertti J. Pelto, Margaret E. Bentley, Karabi Ghattacharyya, and Joan Jensen

This manual contains guidelines and procedures for carrying out an ethnographic study of women's health. It provides tools for the generation and analysis of data to facilitate programme development, implementation, evaluation, and improvement by governmental and nongovernmental institutions concerned with women's health. The main body of the manual focuses on a series of data collection exercises that will permit an organization to collect data on local perceptions and practices regarding women's health in the study area. It differs from other ethnographic manuals in its focus on the health problems of women rather than a specific disease or cluster of diseases. It provides detailed suggestions for the appropriate training of data collectors, and it provides for the optional use of specialized computer software packages.

This manual is available from the International Nutrition Foundation, Boston, Mass., USA, 1998. (ISBN 1-892468-01-8) 196 pages, paperback. US\$15.00 plus \$3.00 shipping and handling. (Developing country individuals and institutions US\$10.00 plus \$5.00 shipping and handling).

## **Control of Cardiovascular Diseases in Developing Countries (1998)**

*edited by Christopher Howson, K. Srinath Reddy,  
Thomas Ryan and Judith Bale,  
Institute of Medicine*



Cardiovascular diseases (CVDs), the major forms of which are ischemic heart disease, hypertension and stroke, are increasing in epidemic proportions in developing countries. Of the 52 million deaths reported worldwide in 1990, 15 million are attributable to CVD. It is estimated that CVD is

now the developing world's leading cause of death. This report addresses the research needed to improve understanding of the scope of this challenge, the various risk factors involved, and ways of preventing and treating these diseases that will be both feasible and affordable for the developing world.

The explanation for the global epidemic of CVD targets the following:

- ◇ the declining mortality and fertility rates leading to an increase in middle and older age groups that are likely to develop CVD;
- ◇ economic development that allows adoption of a Western lifestyle, which may include a diet high in fat and salt; increased tobacco use; and less physical activity.

Recommendations on opportunities and priorities for research and development to reduce the CVD burden in developing countries as well as the institutional arrangements needed to achieve these goals include the following:

- ◇ determine the magnitude of the CVD burden in developing countries,
- ◇ develop targeted, effective primary prevention strategies,
- ◇ reduce tobacco use,
- ◇ detect and treat high blood pressure,
- ◇ initiate pilot studies to evaluate effective, low-cost drugs,
- ◇ develop and assess procedures for affordable clinical care for CVD.

The report concludes that it is necessary to build capacity to conduct research at the regional and local level. An organizational mechanism that will facilitate CVD prevention and control around the world is required. Only then are there likely to be significant decreases in premature death from this disease.

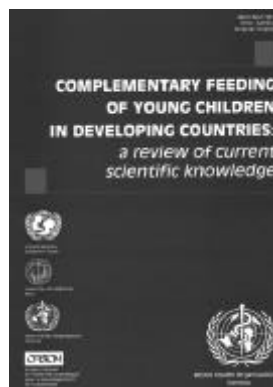
Copies of this report are available for sale from the National Academy Press, Box 285, 2101 Constitution Avenue, N.W., Washington, DC 20055. Tel: 800-624-6242 or 202-334-3313 (in the Washington metropolitan area), or visit the NAP's on-line bookstore at [www.nap.edu](http://www.nap.edu). The full text of the report is available on-line at: [www.nap.edu/readingroom](http://www.nap.edu/readingroom)

## **Canadian Journal of Development Studies Revue Canadienne D'études du Développement**

A special issue of the Canadian Journal of Developmental Studies is titled "The Quest for Food Security in the Twenty-First Century". It contains a total of 14 articles, 10 written in English and 4 in French. International targets for poverty reduction, agricultural biodiversity, and gender issues as they relate to food security are among topics discussed.

For more information or to order please contact: Canadian Journal of Development Studies, University of Ottawa, 538 King Edward Avenue, Box 450, Station A, Ottawa, ON. K1N 6N5 Tel: 613 562 5800 Extension 1561, Fax: 613 562 5100 Email: [cjdsrccd@aix1.uottawa.ca](mailto:cjdsrccd@aix1.uottawa.ca) Website: <http://www.uottawa.ca/publications/cjds>  
*The Price of the Special Issue is Can\$30 in Canada; \$US30 in other countries (add \$5 for airmail).*

## **Complementary Feeding of Young Children in Developing Countries: a review of current scientific knowledge (1998) UNICEF/UCLA (Davis)/WHO/ORSTOM**



This document provides the background information that is necessary for the development of scientifically sound feeding recommendations and appropriate intervention programmes to optimise children's dietary intake and enhance their nutritional status. The review is intended primarily for health professionals and others concerned with the nu-

trition, health, and well-being of children in developing countries. Although much of the information may also be relevant for young children in industrialised countries, the document focuses on the particular needs of children in low-income settings, and the recommendations have been formulated with consideration of the economic and environmental constraints that are common in developing countries.

The rationale for the current review is based on the availability of new scientific evidence in a number of areas of child feeding. Longitudinal growth studies suggest that the major period of growth-stunting is from early infancy to about 2 years of age. This corresponds to the time of the introduction of complementary foods. New data are also available on the required energy density and micronutrient needs of young children. These studies suggest that a new look at the use of complementary feeding is appropriate. The document is organised into nine major sections. Background information is presented on the maturation of physiological processes relevant to child feeding. The importance of breastfeeding and the age of introduction of complimentary foods are discussed. A broad range of technical information on different aspects of complementary feeding is examined including the energy,

protein and micronutrients required from complimentary foods at different ages and appropriate feeding frequency. The importance of sensory characteristics of these foods as determinants of intake is also included. Global information on child-feeding practices and current programmatic interventions to promote child feeding are also discussed. The report concludes with a summary of appropriate child-feeding practices and a discussion of future research needs. Over 500 scientific references are included with this review.

For further information please contact Randa Saadeh, WHO/NHD, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch

### ***The Right to Food in Theory and Practice (1998)***



What is the right to food? How important is it? What are its implications for every human being? Who is responsible for implementing it so that everyone, everywhere has enough to eat? These questions are of fundamental importance, not only to the world's more than 800 million underfed people, but also to national governments, international bodies, non-governmental organisations

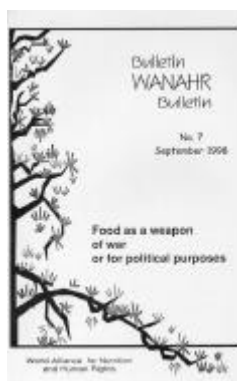
(NGO) and others concerned with economic development and the improvement of living standards worldwide.

This special publication, released to commemorate the fiftieth anniversary of the Universal Declaration of Human Rights, examines the rights related to food from both the human rights and the operational points of view. The booklet provides insight into the meaning of the right to adequate food and provides an overview of NGOs' actions in various parts of the world. The World Food Programme discusses the right to food in emergencies with special emphasis on the plight of internally displaced persons. Various articles about women's right to food, hunger mapping, follow-up action to the World Food Summit, the special Programme for Food Security, and the importance of national legislation in implementing the rights related to food are also discussed.

Available Food and Agricultural Organization of the United Nations, Viale delle Terme di Caracalla, 00100 Rome, Italy ISBN 92-5-104177-6 48 pp. Also available on line at: [www.fao.org/legal](http://www.fao.org/legal)

### ***World Alliance for Nutrition and Human Rights - WANAHR Bulletin edited by Michael Latham and Carolyn Campbell***

This bulletin (No. 7, September 1998) contains six papers on the use of food as a weapon of war and for political purposes. Some papers are more general and examine the use of food as a weapon from an historical and ethical perspective while



others are case studies discussing specific countries. The first article by Marc Cohen evaluates the ethical, religious and legal framework of food rights. The use of food as a weapon in many different countries and situations as diverse as India and Chile, East Timor and Cambodia, and Somalia and Iraq are discussed.

Austen Davis of *Medecins sans Frontieres* examines the food atrocities of the Sudan. He describes a situation where the entrenched government of a country wages a food war against a vast region of its own country. The situation in Sudan is perhaps unprecedented because the civil war has been going on for four decades. Apparently all sides see "food abuse as a very potent weapon" and this makes the work of NGOs and UN agencies extremely difficult.

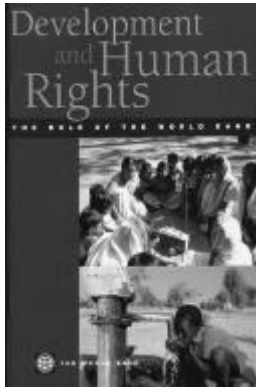
The next two papers deal with the impact sanctions have on the food and nutrition of a population. In Cuba, where U.S. sanctions have been in place for many years, the Cuban government implements policies that do a great deal to protect the health and nutrition of its people especially children. Sanctions against Iraq, on the other hand, have led to considerable hardship and an increase in child mortality for that population. However, lifting the embargo on the sale of oil could largely solve the disastrous humanitarian situation in Iraq.

The final papers are UN documents that discuss economic sanctions and human rights. The first is a report submitted to the Seventeenth session of the UN Committee on Economic, Social and Cultural Rights and discusses the relationship between economic sanctions and respect for economic, social and cultural rights. The second report, UN Document E/CN.4.1998/67 written by Max Van der Stoep, is a strong condemnation of human rights in Iraq. The editors of the WANAHR Bulletin conclude that it is never appropriate to infringe on the rights of a civil society just because their leaders have violated internationally accepted rules of behaviour related to peace and security.

Produced by the WANAHR Secretariat, c/o Norwegian Institute of Human Rights, Universitetsgt 22-24, N-0162 Oslo, Norway Tel: +47 22 84 20 01 Fax: +47 22 84 20 02 Email: [erik@nih.no](mailto:erik@nih.no) Contributions to the WANAHR Bulletin are welcome. The Bulletin especially calls for contributions or communications from NGOs in the Third World wishing to become allies in the WANAHR network.



## ***Development and Human Rights: The Role of the World Bank***



With this publication, the World Bank Group joins the international community in celebrating the Fiftieth Anniversary of the Universal Declaration of Human Rights. The principles enshrined in the historic 1948 Declaration, and refined in later international agreements, continue to provide a touchstone for governments and citizens around the world. They also serve as a challenge for the

World Bank and other members of the UN family to advance through their work the ideals represented in the UN Charter.

The World Bank believes that the attainment of human rights is a central and irreducible goal of development. By placing the dignity of every human being--especially the poorest--at the very foundation of its approach to development, the Bank helps people to build lives of purpose and hope.

Through its support of primary education, health care and nutrition, sanitation, housing, and the environment, the Bank has helped hundreds of people achieve crucial economic and social rights. In areas of civil and political rights, the Bank's contributions are necessarily less direct, but perhaps equally significant. By helping fight corruption, improve transparency and openness in governance, strengthen judicial systems, and modernize financial sectors, the Bank helps to build environments in which people are better able to pursue a broader range of human rights.

In addition to commemorating this year's anniversary, the short booklet is intended to provide a vehicle for continued dialogue with external groups dedicated to the advancement of human rights.

The World Bank, 1818 H street, N. W., Washington, D.C. 20433. ISBN 0-8213-4340-8 30pp Tel: 202-477-1234, Fax: 202-477-6391 Email: books@worldbank.org

### ***Reducing the Odds – Preventing Perinatal Transmission of HIV in the United States edited by Michael Stoto, Donna Almario and Marie McCormick (Institute of Medicine)***

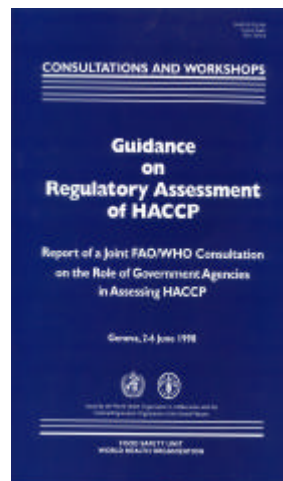
The basis of this report is the finding in 1994 that administration of the antiretroviral drug zidovudine (known as ZDV and previously as AZT) during pregnancy and childbirth could reduce by about two-thirds the chance that the child of an HIV-positive mother would be infected with HIV.<sup>1</sup> These findings led government agencies and professional organisations in the United States to propose and implement recommendations calling for counselling and testing of all pregnant women for HIV, mostly on a voluntary basis. This report addresses

ways to increase prenatal testing, improve therapy for HIV-infected women and children and generally reduce perinatal HIV infections. The report also considers the ethical and public health issues associated with screening policies as prevention tools, and their implications for prevention and treatment opportunities for women and infants.

1.Conner EM et al. Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. N Engl J Med 331:1173-1180, 1994.

This book will be available for sale from the National Academy Press, 2101 Constitution Avenue, N.W., Lock Box 285, Washington, D.C. 20055. Tel: 800-624-6242 or 202-334-3313 (in the Washington metropolitan area), or from the NAP on-line bookstore at: www.nap.edu The summary of this book is available on-line at: www.nap.edu/readingroom

## **Guidance on Regulatory Assessment of HACCP : Report of a Joint FAO/WHO Consultation on the Role of Government Agencies in Assessing HACCP(1998)**



For many years public health and food inspection authorities worldwide have supported the use of the HACCP system.

**HACCP- Hazard Analysis and Critical Control Point – is a system which identifies, evaluates, and controls hazards which are significant to food safety.**

In many countries HACCP is mandatory. Thus it is essential that government agencies be provided with guidance on their

roles and responsibilities regarding HACCP assessment.

This consultation held in Geneva June 2-6, 1998 focused on providing government agencies with guidance on regulatory assessment. The specific areas of interest were:

- ◇ the role and responsibilities of government agencies with regard to the assessment of HACCP. Governments may need to facilitate training programmes for industry and government personnel, provide the necessary expertise and training materials and formulate an overall program to access HACPP;
- ◇ the essential activities which need to be carried out when assessing HACCP. These include the development of a plan, the effectiveness of control measures, the hazard analysis and verification procedures.

The competencies of assessors and potential problems in regulatory assessment as well as legal considerations and cost/investment concerns were also considered. Future con-

sultations should consider the need for development of internationally accepted criteria for certification of HACCP assessors. The difficulty of translating technical documents into other languages necessitates the development of equivalencies for the essential terms in the area of HACPP and food safety.

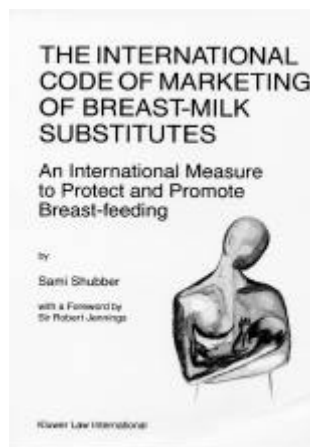
Issued by the World Health Organization in collaboration with the Food and Agricultural Organization of the United Nations. For further information and to obtain copies of the document, please contact the Food Safety Unit, Programme of Food Safety and Food Aid, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2555 Fax: 41 22 791 4807 Email [foodsafety@who.ch](mailto:foodsafety@who.ch) WHO Food Safety documents are also increasingly on the web at <http://www.who.ch/fff/>

***The International Code of Marketing of Breast-Milk Substitutes  
An International Measure to Protect and Promote Breast-Feeding (1998)***

*by Sami Shubber*

This book consists of an analysis, interpretation and explanation of the International Code of Marketing of Breast-Milk Substitutes. It begins with a survey of the historical development of the International Code, and covers various consultations and drafts leading to the adoption of the Code by the World Health Assembly in 1981. The book then deals with the aim of the International Code, its material scope, definitions, information and education, advertising and promotion of products covered by the Code, the health care system, health workers, company employees, labelling, quality of the products covered by the Code and its implementation and monitoring.

The author offers, throughout the book, his own interpretation of the various provisions of the International Code, in the light of his experience as a Senior Legal Officer of the World Health Organization, responsible for legal matters relating to the Code at the time of its adoption. He also gives examples of actions taken relating to the International Code at the national and international levels. The question of whether or not there is an

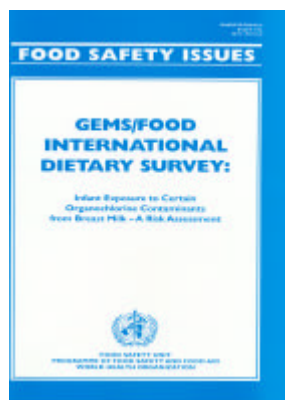


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***GEMS/Food International Dietary Survey: Infant Exposure to Certain Organochlorine Contaminants from Breast Milk - A Risk Assessment (1998)***

*by D. Schutz, G.G. Moy and F.K. Käferstein*



This paper reviews reports of contaminants occurring in human milk at levels which may be of significance for health. The paper discusses possible adverse effects from these contaminants for the nursing infant, and examines the risk management measures which have been suggested or undertaken by governments.

**SCN News July, 1999**

**An upcoming issue of SCN News will have the theme**

**Nutrition and Healthy Ageing**

**Please send us materials, books, notice of events, letters to the editor, etc. that you would like us to consider for this issue.**

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*Refugee Nutrition Information System*  
 Report on the nutrition situation of refugee and displaced populations  
 Published every three months with an interim electronic mail update

*SCN News* - A period review of developments in international nutrition compiled from information available to the ACC/SCN, published twice yearly. Contains features, news and views, programme news and reviews of publications

**No. 17, December 1998** - features: Nutrition and HIV/AIDS including HIV and Infant Feeding and the role of micronutrients in HIV transmission.

**No. 16, July 1998** - features: Nutrition of the School-aged Child; A summary of Working Group Discussions, Oslo 1998; Abstracts from the Symposium on Challenges for the 21st Century: A Gender Perspective on Nutrition through the Life Cycle

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**No. 13, late 1995** - features: Interview with Dr A. Horwitz, SCN Chair, 1986-1995; Behavioural Change and Nutrition Programmes; and Poor Nutrition and Chronic Disease Part I.

**No. 11, mid 1994** - features focusing on Maternal and Child Nutrition.

**No. 10, late 1993** - features: Nutrition and Food Aid, Nutrition and Human Rights, The Nutrition Transition.

**No. 9, mid 1993** - Focus on Micronutrients. Features: Addressing Micronutrient Malnutrition, Micronutrient Deficiency - The Global Situation,

**No. 8, late 1992** - features: Highlights of the World Nutrition Situation, Food Prices and Nutrition, Food Security and Nutrition 1971-91, Long-Term Effects of Improved Childhood Nutrition.

**No. 7, mid 1991** - features: Refugees' Nutrition Crisis, Breastfeeding, Birth Spacing and Nutrition, Community-Based Development - From a Programme Towards a Movement, Micronutrient Intakes, Incomes and Prices.

**Supplement**: Some Options for Improving Nutrition in the 1990s

**No. 5, early 1990** - features: Nutrition and School Performance, Uses of Anthropometry, Malnutrition and Infection (Part II), Flows of External Resources for Nutrition.

**No. 3, early 1989** - features: Does Cash Cropping Affect Nutrition?, Nutrition in Times of Disaster.

**Nos. 1 and 2, March 1988** - features: Vitamin A Deficiency, Urbanization, World Nutrition Situation, Economic adjustment.

## Country Case Studies

**Brazil** by R. F. Iunes & C. A. Monteiro. September 1993.

**Egypt** by H. Nassar, W. Moussa, A. Kamel & A. Miniawi. January 1992.

**India** by V. Reddy, M. Shekar, P. Rao & S. Gillespie. December 1992.

**Indonesia** by I. T. Soekirman, G. S. Idrus Jus'at & F. Jalal. December 1992.

**Tanzania** by F. P. Kavishe. April 1993.

**Thailand** by Y. Kachondham, P. Winichagoon & K. Tontisirin. December 1992.

**Zimbabwe** by J. Tagwireyi, T. Jayne & N. Lenneiyi. December 1992.

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Many thanks to all those who contributed to this issue

## Reports on the world nutrition situation

*Third Report on the World Nutrition Situation, December 1997*

*Update on the Nutrition Situation 1996, November 1996*

*Update on the Nutrition Situation, November 1994*

*Second Report on the World Nutrition Situation, Volume II, Country Data, March 1993*

*Second Report on the World Nutrition Situation, Volume I, Global and Regional Results, October 1992*

*Supplement on Methods and Statistics to the First Report on the World Nutrition Situation, December 1988*

*First Report on the World Nutrition Situation, November 1987*

ACC/SCN State-of-the-Art Series (SOA)  
Nutrition Policy Discussion Papers

*Challenges for the 21st Century: A Gender Perspective on Nutrition Through the Life Cycle*  
by Philip James, Suttalak Smitisiri, Per Pinstrup-Anderson, Rajul Pandya-Lorch, Christopher Murray,  
Alan Lopez & Isatou Semega-Janneh. April 1998 (SOA No. 17)

*Nutrition and Poverty*, by S. Gillespie, N. Hasan, S. Osmani, U. Jonsson, R. Islam, D. Chirmulay, V. Vyas & R. Gross. November 1997 (SOA No.16)

*How Nutrition Improves*, by S. Gillespie, J. Mason, R. Martorell. July 1996. (SOA No.15)

*Controlling Vitamin A Deficiency*, by S. Gillespie and J. Mason, January 1994. (SOA No.14)

*Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries*, by G. Beaton, R. Martorell, K. Aronson, B. Edmonston, G. McCabe, A. Ross, B. Harvey. December 1993. (SOA No.13)

*Nutritional Issues in Food Aid*, August 1993. (SOA No.12)

*Nutrition and Population Links -- Breastfeeding, Family Planning and Child Health*, including papers by S. Huffman, R. Martorell and K. Merchant, R. Short, P. Ramachandran. (SOA No.11)

*Nutrition-Relevant Actions - Some Experiences from the Eighties and Lessons for the Nineties* by S. Gillespie and J. Mason, October 1991. (SOA No.10)

*Controlling Iron Deficiency*, edited by S. Gillespie, J. Kevany, and J. Mason, February 1991. (SOA No.9)

*Managing Successful Nutrition Programmes*, edited by J. Jennings, S. Gillespie, J. Mason, M. Lotfi and T. Scialfa, October 1990. (SOA No.8)

*Appropriate Uses of Child Anthropometry*, by G. Beaton, A. Kelly, J. Kevany, R. Martorell, and J. Mason, December 1990. (SOA No.7)

*Women and Nutrition*, including papers by J. McGuire and B. Popkin, M. Chatterjee and J. Lambert, J. Quanine, P. Kisanga, S. Bajaj, H. Ghassemi, October 1990. (SOA No.6)

*Malnutrition and Infection - A Review*, by A. Tomkins and F. Watson, October 1989, reprinted June 1993 (SOA No.5)

*Women's Role in Food Chain Activities and their Implications for Nutrition*, by Gerd Holmboe-Ottesen, Ophelia Mascarenhas and Margareta Wandel, May 1989. (SOA No.4)

*The Prevention and Control of Iodine Deficiency Disorders*, by Basil S. Hetzel, March 1988, reprinted June 1993. (SOA No.3)

*Delivery of Oral Doses of Vitamin A to Prevent Vitamin A Deficiency and Nutritional Blindness*, by Keith P. West Jr and Alfred Sommer, June 1987, reprinted June 1993. (SOA No.2)

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*How Nutrition Improves* Report based on ACC/SCN Workshop held on 25-27 September 1993 at the 15th IUNS International Congress on Nutrition, Adelaide, Australia by S. Gillespie, J. Mason, R. Martorell. (SOA No. 15)

*Controlling Vitamin A Deficiency* Report based on ACC/SCN Consultative Group Meeting held in Ottawa July 1993. Prepared by Gillespie and Mason, January 1994 (SOA No.14)

*Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries*, by G.H. Beaton, R. Martorell, K.J. Aronson, B. Edmonston, G. McCabe, A.C. Ross, B. Harvey. December 1993 (SOA No.13)

*Nutritional Issues in Food Aid* Report of symposium on "Nutritional Issues in Food Aid" held at the 19th Session of the ACC/SCN in Rome, February 1992. Includes papers on the support of public works by food aid as a nutrition intervention, experiences of feeding programmes, and protecting refugees' nutrition with food aid. August 1993 (SOA No.12)

*Nutrition and Population Links - Breastfeeding, Family Planning and Child Health.* Papers from the ACC/SCN 18th Session Symposium, by Sandra Huffman, Reynaldo Martorell, Kathleen Merchant, Roger Short & Prema Ramachandran. February 1991 (SOA No. 11)

**Nutrition-Relevant Actions** - Some Experiences from the Eighties and Lessons for the Nineties Book developed from the original background paper for the ACC/SCN ad hoc group meeting held in London in November 1990. Proposes a framework for the analysis of policies and programmes affecting nutrition, before reviewing experiences during the 1980s in several countries, and moving on to consider options for improving nutrition in the 1990s. Complements and expands on Supplement to SCN News No.7. Prepared by Stuart Gillespie and John Mason, October 1991. (SOA No. 10)

**Controlling Iron Deficiency** Report of ACC/SCN workshop held in Trinity College, Dublin, June 1990. Focuses on iron supplementation and practical means of improving large-scale programmes. Also introduces fortification and diet change. Gives information from six large-scale programmes. Prepared and edited by Gillespie, John Kevany, and John Mason, February 1991. (SOA No. 9)

**Managing Successful Nutrition Programmes** Report of ACC/SCN workshop held at IUNS meeting in Korea, August 1989. Includes reports on 16 large-scale nutrition programmes, and summary of discussions on targeting, staff issues, community participation, management information systems, sustainability and replicability. Edited by Joan Jennings, Stuart Gillespie, John Mason, Mahshid Lotfi and Tom Scialfa, October 1990. (SOA No. 8)

**Appropriate Uses of Child Anthropometry** Report based on workshop held by ACC/SCN, June 1989. Basic concepts, uses for screening, growth monitoring, population assessment, and surveillance. Prepared and edited by G. Beaton, A. Kelly, J. Kevany, R. Martorell, and J. Mason, December 1990. (SOA No. 7)

**Women and Nutrition** Background, and papers presented at SCN Symposium, held at UNICEF, New York, February 1989. Papers include "Beating the Zero Sum Game" by McGuire and Popkin, "Reflections from India and Pakistan" by Chatterjee and Lambert, "Grameen Bank Experience" by Quanine, "Improving the Nutrition of Women in Tanzania" by Kisanga, "Nutrition Security System at Household Level" by Bajaj, "Issues in Need of a Global Focus" by Ghassemi, October 1990. (SOA No. 6)

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**No. 13, late 1995** -- features: Interview with Dr A. Horwitz, SCN Chair, 1986-1995; Behavioural Change and Nutrition Programmes; and Poor Nutrition and Chronic Disease Part I.

**No. 12, early 1995** -- features: The Role of Care in Nutrition -- A Neglected Essential Ingredient; Summary of findings from the recently published ACC/SCN "Update on the Nutrition Situation, 1994"; Specific Deficiencies Versus Growth Failure: Type I and Type II Nutrients; and Enrichment of Food Staples Through Plant Breeding. A New Strategy for Fighting Micronutrient Malnutrition. (out of print).

**No.11**, mid 1994 -- features focussing on Maternal and Child Nutrition: Adolescent Growth; Prepregnancy Nutritional Status and its Impact on Birthweight; Maternal Nutrition During Pregnancy as it Affects Infant Growth, Development and Health; The Consequences of Iron Deficiency and Anaemia in Pregnancy on Maternal Health, the Foetus and the Infant; Impact of Maternal Infection on Foetal Growth and Nutrition; Maternal Micronutrient Malnutrition: Effects on Breast Milk and Infant Nutrition, and Priorities for Intervention; Vitamin A Deficiency in the Mother-Infant Dyad; Maternal Protein-Energy Malnutrition and Breastfeeding; and Maternal Nutritional Depletion.

**No.10**, late 1993 -- features: Nutrition and Food Aid, Nutrition and Human Rights, The Nutrition Transition.

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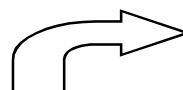
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