SCN News, Number 13

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ADMINISTRATIVE COMMITTEE ON COORDINATION/SUBCOMMITTEE ON NUTRITION

Late 1995

A periodic review of developments in international nutrition compiled from information available to the ACC/SCN

RECENT ACC/SCN PUBLICATIONS

Report of a Workshop on the Improvement of the Nutrition of Refugees and Displaced People in Africa, Machakos, Kenya, 5–7 December 1994. (November 1995)

The meeting report is available from the SCN free–of–charge. The published report with full background documentation will be available shortly from the Applied Human Nutrition Programme (ANP), Nairobi. Includes chapters on: Quantity and Quality of General Rations, Prevention of Micronutrient Deficiencies, Selective Feeding Programmes, Public Health Issues Relating to Nutrition, Information Systems, Training, and Follow–Up.

Update on the Nutrition Situation, 1994 (November 1994)

Chapter 1: Overview; Chapter 2: Recent Nutrition Trends in 14 Countries: Chapter 3: The Nutrition Situation of Refugee and Displaced Populations.

Refugee Nutrition Information System Reports of the Nutrition Situation of Refugee and Displaced Populations. Every 2 months. #12, 13 October 1995, #13, 12 December 1995.

Copies of these publications can be obtained by contacting the ACC/SCN Secretariat. For books, a charge of US$10 – $20 per copy – price depending on size of volume and number of copies ordered (a discount is available) – will be made to those requesting from Australia, Europe, Japan, New Zealand, and North America, to help cover costs. Copies of SCN News, and the Refugee Nutrition Information System, are available free–of–charge worldwide.

SCN News is normally issued twice–yearly by the Secretariat of the UN ACC Sub–Committee on Nutrition.

Your contribution to future issues would be welcome. Please send us items for inclusion in “News and Views”, “Programme News” and/or “Publications”. Letters to the Editor for possible publication in future issues are also most welcome. SCN News aims to help the sharing of experience in nutrition.

If you wish to receive additional copies of SCN News, or would like to suggest other names to be added to our distribution list, please write to us.

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Edited by John Mason, *Assistant Editor* Viki Elliot, with contributions from Fiona O'Reilly. We are most grateful for contributions as shown in *Sources* after articles.

Included with this issue: "Mothers & Children" published by the Clearinghouse on Infant Feeding and Maternal Nutrition. Special Issue for the Fourth World Conference on Women. The issue includes a contribution by the ACC/SCN on "Maternal Nutrition and Health: A Summary of Research on Birthweight" (p.14–17)

FEATURES

Interview with Dr A Horwitz, SCN Chair, 1986–1995

Dr A Horwitz, Director Emeritus of the Pan American Health Organization, was elected SCN Chair in 1986, and recently retired from this position. During his tenure, SCN News (*and a number of other publications*) *were launched and expanded in distribution. Peter Greaves and John Mason interviewed him for SCN News.*

Dr Horwitz, you were Assistant Director of the National Health Service in Chile from August 1953 to February 1959 and then Director of PAHO from 1959 to 1975. Looking back over this long period during which you were involved with public health, could you give some perspective of the efforts and achievements you value most?

First, I would like to express my gratitude to Drs. Mason and Greaves for this interview for SCN News, a journal that, in my view, informs so well on the scientific bases of nutrition issues, particularly in the developing world. It has also contributed very effectively to present the real image of the UN Subcommittee on Nutrition to an increasing number of readers throughout the world.

Now, with reference to your question, it is certainly not simple to even try to synthesize 22 years of experience in health. Still let me point out that I was one of the organizers of the National Health Service of Chile (NHS). It integrated a number of dispersed and uncoordinated institutions of medical care and public health in one Service to progressively cover the whole population of the country. Actions for the protection of health and the prevention and treatment of diseases were developed, with particular attention to an information system to register, analyze and publish how health problems were evolving and the NHS was performing.

If I compare, 42 years later, the morbidity and mortality rates of Chile with the ones at the beginning of the NHS, when Chile was in an early period of demographic and epidemiological transition, the progress has been immense. As an example, infant mortality per 1000 live births was 126 in 1953. We were sure that there was gross under registration, so that the rate was higher. In 1994, infant mortality in Chile was 11.9 per 1000

live births. As a result, life expectancy has also increased very significantly. Total malnutrition of children under five is below 10%. Severe malnutrition has practically disappeared.

In a recent Forum in Santiago on "Health in the Process of Development of Chile", I was asked to speak about the organization of the NHS. The Minister of Health who engineered the Law that created the Service was also a speaker. Former Directors of the NHS also referred to their experience. There was consensus that the "golden period" of health in Chile was the one when the NHS was in operation. This is certainly rewarding.

In its time the NHS was a model for other countries in the Americas that wanted to use more effectively available resources to prevent and treat priority health problems with an integrated approach.

With reference to the Pan American Health Organization, I would like to mention that in my time the doctrine that health has an intrinsic value for all human beings i.e. it is an end in itself, but it is also an essential means for human and economic development, was proposed. Funds for health are a reproductive investment, not an expenditure. Member Governments of PAHO became convinced of the soundness of this approach. The need for external capital was evident to speed up the prevention and treatment of disease. The InterAmerican Development Bank, first, the World Bank, later, the Agency for International Development of the USA, and other countries, started to invest in health infrastructure, water and sanitation, university education in health sciences and technology, food and nutrition, veterinary public health, and other programs. This approach was reflected in the morbidity and mortality indicators as well as the availability of human and material resources. "Health Conditions of the Americas", published by PAHO every four years since 1953, registered the progress, or lack of it, in all countries of the Region.

Among the many programs developed by the Governments with the technical cooperation of PAHO it is worth mentioning that smallpox was eradicated from the Americas in April of 1971, long before all other Regions of the developing world.

When did you first become interested in nutrition and why?

At the NHS in Chile we gave high priority to nutrition because the malnutrition–infection complex contributed very significantly to infant and early childhood mortality. I referred already to the results.

In my time, PAHO strengthened and expanded the Institute of Nutrition of Central America and Panama (INCAP), created and supported with the Governments the Caribbean Food and Nutrition Institute (CFNI), and sponsored projects on nutrition in other countries of the Americas.

I have always believed that good nutrition is essential for the prevention of disease and the promotion of health and there is some evidence in this regard. Well nourished children with an effective immune system overcome more effectively different acute infections. In the classical study by Puffer and Serrano, "Patterns of Early Childhood Mortality", sponsored by PAHO, it is shown that malnutrition was the underlying or associate cause of mortality in 57% of the more than 35,000 deaths of children under five that were analyzed.

Recent research by Pelletier *et al*[1] indicates that any degree of malnutrition increases the mortality risk, including the marginal and subclinical forms. Furthermore, nutrition is essential for human development and, therefore, for economic development. Besides increasing the risk of small children dying, malnutrition impairs school performance and also labour productivity in adults.

1. Pelletier, D. *et al.* (1994) The Relationship Between Child Anthropometry and Mortality in Developing Countries. *Supplement to the Journal of Nutrition,* **124**(10S).

Do you see the importance of nutrition increasing? What emerging problems do you see as most important, and do you have views on haw to tackle them?

The Reports on the World Nutrition situation prepared and published by the SCN have effectively contributed to show the real prevalence of malnutrition and its importance. As a whole, about 2 billion people are affected by some form of malnutrition. Few, if any, social conditions could reach this magnitude of prevalence and risk. Progress has been rather slow. While the prevalence of protein–energy malnutrition among children under five was reduced from 42% in 1975 to 34% in 1990, the total number with PEM increased from 170 million to 184 million. The numbers of people affected by micronutrient deficiencies are staggering, despite the effective control technologies. Iodine deficiency disorders affect 500 million people; over 200 million preschool children are at risk of vitamin A deficiency; about 400 million women show signs of iron deficiency anaemia.

Although in many countries the prevalence of chronic diseases associated with malnutrition is increasing, I believe that the most important problem with a direct impact on the nutritional status of the people is poverty. It has grown in many countries of the world as a direct result of the economic adjustment policies and the model of market economy in operation in them. Poverty breeds malnutrition and, in turn, malnutrition increases poverty, a vicious circle. Based on a limited experience in a few countries, resources should be targeted to the poor, particularly mothers, so that they can become self−supporting and self−sufficient. With greater income, women tend to invest more in food and health for their families.

Urban Jonsson has stated this approach very clearly: "Social research and experience show that poor people should be recognized as key actors in development rather than passive beneficiaries of commodities and transfers. Their survival and coping strategies are among the most appropriate and resource−relevant actions. With such a view, development work must become participatory, with the aim of empowering poor people, communities, and countries. With empowerment comes ownership and sustainability."[2]

2. Jonsson, U. (1995) Towards an Improved Strategy for Nutrition Surveillance. *Food and Nutrition Bulletin,* **16**(2), 102.

As Director Emeritus of PAHO, with a distinguished career already achieved, what tempted you to take on the Chairmanship of the SCN?

I was impressed by the decision of the governments during the World Food Conference in 1974 to create the SCN as an approach to coordinate the activities of all international agencies concerned with food and nutrition in the world. It included participation of the bilaterals. The rationale was that nutrition as an outcome required the inputs of different sectors of development and diverse disciplines within them. At the international level, agencies should coordinate their efforts in the formulation of policies, programs and specific nutrition interventions based on the scientific evidence available. At the national level, the same process should occur. The Advisory Group on Nutrition (AGN) was created to respond to requests from the SCN on up−to−date information as well as to suggest to the SCN nutrition issues for the consideration of the Sub Committee. I was elected a member of the AGN, and after two years became Chairman. Then a vacuum occurred in the chairmanship of the SCN because the elected official decided to take a position at the InterAmerican Development Bank, and I was asked to serve *ad interim.* Since then I have been re−elected to four consecutive two year terms, concluding in September 1995, when Dr Richard Jolly became the Chairman of the SCN.

I did not seek the position, but when it was offered to me I felt almost an obligation to accept, since I believed in the objectives of the SCN and thought I might be able to move things forward. I felt then, as I still do, that good nutrition is essential for human development and well−being and that available resources, better invested and managed, could reduce more significantly malnutrition in the world.

Within the work of the SCN, what achievements do you particularly value?

I think the single most important achievement has been the fact that since 1977, representatives of UN agencies and of bilateral governments have met every year to examine nutrition problems and interventions based on up−to−date information provided by the AGN and the Secretariat. Decisions have been taken usually by consensus. It is an effective system of coordination by information. Agencies could then transfer to governments, through technical cooperation, the best approach that science and experience recommend for the solution of specific nutrition problems.

There are a number of other achievements I would like to list, and in doing so I want to pay tribute to the Technical Secretary of the SCN, Dr John Mason, whose energy and expertise were responsible in large part for their success:

- The publication of the World Nutrition Reports based on data stemming from different agencies, collected and collated by the Secretariat. They have been widely quoted by governments, agencies and scientists.

- The reports on the flow of resources for nutrition showing that international investments per capita are way below need.

- The analysis of nutrition problems prevalent in the world e.g. on iron deficiency anaemia and vitamin A deficiency.

• The updating of nutrition problems and programmes covering more than 40 countries of the world. Some of this has arisen from the symposia which it has become traditional to hold immediately before the annual meetings of the SCN.

• The reports on the nutritional status of refugees, which are of great significance for governments and agencies concerned with the tragic situation of these human beings.

• SCN News, which as already mentioned has served the interests of health and nutrition professionals and non–professionals cooperating in reducing malnutrition rates in the world.

• Taken as a whole, the SCN publications are highly valued and are often quoted by the nutrition scientific community and national and international agencies.

• The SCN proposed the International Conference on Nutrition that was organized by WHO and FAO. The Declaration and Plan of Action stemming from the Conference have become important sources for nutrition policy formulation and program implementation in many countries of the world.

• The Advisory Group on Nutrition (AGN), since its inception, has been very important for the SCN, facilitating decisions based on sound information reflecting the knowledge and experience of its members.

• With a view to the future, the Secretariat has proposed to the SCN different alternatives to develop within or without the ACC.

What do you see in the future for nutrition in the activities of international agencies and governments?

Because poverty is increasing in the world, malnutrition will remain or even grow and become more difficult and costly to reduce and eventually to control. It is essential that governments and international agencies give priority to nutrition and invest accordingly. Health and nutrition should be placed at the centre of human and economic development in all countries, but particularly in those where the malnutrition–infection complex is the major cause of death and disease of children under five and of mothers.

It is encouraging to note that a number of countries with a low gross national product per capita have been able to improve significantly the nutritional status of the people, although the process has taken a few decades. It is also worth noticing the increased interest and funds available to reduce or virtually eliminate the major micronutrient deficiencies. The contributions of basic and operational research for better understanding the causes and consequences of malnutrition, and the bases for controlling it, have been crucial. However, if governments and international agencies do not ascribe priority to nutrition and do not invest what is needed, the situation will deteriorate further.

I believe that the SCN should continue its coordinating and information activities, after deciding on membership and functions as proposed by the Secretariat.

What advice to you have for us all?

Keep the faith that you are committed to a most noble cause, the well–being of people whom you do not know but whose needs you feel intensely. Redouble your efforts in whatever you do in nutrition while being hold and imaginative.

Behavioural Change and Nutrition Programmes

A Symposium on the above topic was held during, the 21st Session of the ACC/SCN. Issues raised during the discussions are summarized here.

Source: Elena Hurtado, INCAP

A newborn baby, put to the breast soon after birth, gets powerful protection from disease by ingesting the antibody–rich colostrum from its mother. Yet in some societies, this colostrum is carefully discarded before starting breastfeeding. Up to four months or so of age, the infant intestine is very vulnerable to foods other than breastmilk, and can also be easily infected by pathogens in food and drink – hence the recommended practice of exclusive breastfeeding for four to six months. Within many societies this is not fully understood, and diarrhoea in the first few months of life kills several million children each year.

Parents want to care for their children as well as they can. They want to adopt practices best for their children to thrive. They will change their practices when convinced that they can be improved, and when they have the wherewithal to do so. Behaviour is at the heart of nutrition and health. Traditional behaviours may become known to be detrimental to nutrition, and their adaptation may be the key to better nutrition and health. And in societies undergoing rapid changes, the behavioural responses to that change are crucial. Often beneficial practices need to be protected – for example in the care of children by extended families when moving to urban areas, or continuing useful traditions such as fermenting food to reduce bacterial contamination.

The effective application of scientific advances in health and nutrition usually involves changes in behaviour of families and, particularly, mothers. Few would disagree that it is an obligation to ensure that children are immunized against the dangerous diseases of childhood, measles being a prime example. But to help mothers to bring their children for immunization, they need to be made aware of the benefits, informed of how to get access to them, and persuaded that this is worth the time and expense often involved. That immunization rates have reached levels of 80 or 90% in many poor countries over the last decade testifies to the extent to which mothers will adopt new practices when it is so clear that they are beneficial for their children. The widespread adoption of oral rehydration therapy in the home is a similar such example.

Behaviours beneficial to micronutrient malnutrition may require other types of awareness and motivation. In iodine–deficient areas a more complex linkage of awareness of goitre and cretinism with the possibility of prevention through purchase of iodine–fortified salt, assuring the availability and quality of that salt through persuasion and legislation, and embedding a behaviour that is clearly of benefit to the individual and community, is crucial but not easy. Perhaps more complicated still concerns preventing iron–deficiency anaemia in women, where the deficiency itself is less obvious, and the available interventions are less easy and less widely effective – such as ensuring daily (or possibly weekly) access to iron tablets, and sustaining the intake through pregnancy. Other examples apply to vitamin A deficiency which persists in many societies even though there is plentiful potential vitamin A in the food supply.

While behaviour is central, only part of this is determined by understanding and information. In many cases other resources enabling change are lacking, and need to be addressed at the same time. A major constraint in poor societies is the time available, particularly to women, to care for children and look after their families. Indeed, the practices adopted are to a great extent dictated by necessity and the availability of resources.

Technology can help – more efficient cooking stoves, for instance, can reduce the time necessary for collecting fire wood; piped water frees up major amounts of time otherwise spent fetching water. Nonetheless, changes in practice that involve greater demands on women's time are unlikely to be adopted. Similarly, a lot of behaviours at community and family level require access to resources from outside: obvious examples are supplies of vaccines, iodized salt, etc. Other resources do not need outside access, breastfeeding being a prime example; but breastfeeding practices are in reality dictated by economic needs for many working women. Promoting breastfeeding without taking account of the necessary changes in, for example, working conditions, may not be very effective. Finally, topical information can be crucial as an enabling factor. For instance, immunization rates can be greatly improved if information is provided as to which clinics provide immunization on what days. Similarly, ensuring that people know where to get iodized salt, and what price they should pay, is needed for sustained success of iodization programmes.

Despite wide agreement that changes in some specific behaviours could bring about major improvements in nutrition, only relatively minor parts of the resources in nutrition programmes are aimed at this. Moreover, modern thinking on how to foster beneficial change is not systematically applied where programme components do exist. Such considerations led the SCN to organize a Symposium on Behavioural Change and Nutrition Programmes held at UNICEF Headquarters, New York, on Monday 7 and Tuesday 8 March 1994, during the 21st Session of the SCN. The Session was opened by the late James Grant, Executive Director of UNICEF, and the Symposium was chaired by Urban Jonsson, then Chief of the UNICEF Nutrition Section. The Symposium was organized into three parts. The first, "What Behaviours?" was introduced by Elena Hurtado (INCAP, Guatemala). "Means of Changing Behaviours" were then discussed in papers by William Smith (Academy for Educational Development, Washington, D.C.), Marcia Griffiths (Manoff International, Washington, D.C.), Bjorn Ljungqvist (UNICEF, then working in Uganda and now representative in Cambodia), and Jane Vella (Jubilee Popular Education Center, N. Carolina). Finally, a panel of invited discussants considered the third topic "Experiences in Behavioural Change and Implications for Agency Policy", introduced by Reynaldo Martorell (Chairman, AGN, Emory University, Atlanta).

What Behaviours?

What kind of behaviours might be targeted for change as part of programmes to improve nutrition? Infant and child feeding behaviours provide a clear example of where there exist sound scientifically–based guidelines on practices that could improve nutrition – for example, there should be no pre–lacteal feeds, the newborn should be fed within the first hour after birth, the infant should be breastfed exclusively for 4–6 months after birth, and so on. This provided the focus for the first presentation by Elena Hurtado and was a subject repeatedly referred to throughout the Symposium. "Infant feeding behaviours refer to both maternal and child behaviours associated with food intake by the child and can include the following – food preparation... feeding/eating per se... and helping behaviours" explained Dr Hurtado.

Source: Elena Hurtado, INCAP

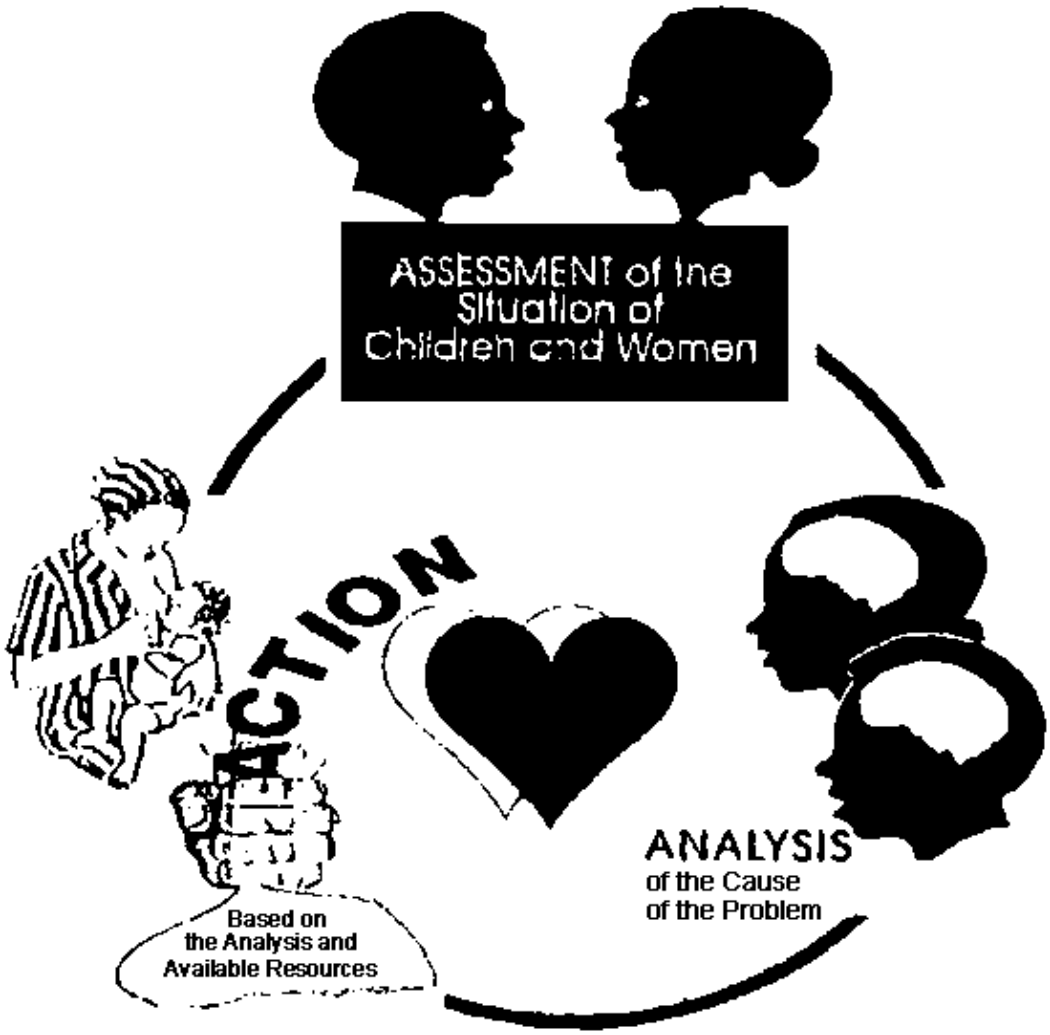
How to Change Behaviours

When such clear recommendations exist, how then is it possible to translate them into behavioural practice? Much of how it is done depends on the type of programme and behaviour change that is sought, and the prevailing environment and behaviour of the targeted population. Dr William Smith presented an overview of the available approaches for behaviour change, giving examples mainly from work on AIDS prevention programmes, and providing the reassuring message in his introduction that "behaviour does change – it changes in positive directions – it changes despite serious obstacles." Five ways of influencing human behaviour, drawing on the theoretical models developed by behavioural scientists were described: "one of them is **power**. You can pass a law, you can pass a regulation, you can create a sanction. You can use **logic**. You can give people certain facts... **Emotional appeals** are also very important. **Incentives** – providing someone with a reward for doing something – and **facilitation strategies**, making it easier to remove the obstacle that is preventing them from changing their behaviour... Designing products to offer advantages people want is another way of influencing behaviour. Some pioneering work in the nutrition area was to develop new kinds of food products (involving mothers in the process) that offer advantages that those mothers really want."

How do we decide on the method, or combination of methods that should be used in any particular situation? A good start is to carry out formative, qualitative research, working with the community and potential program participants, including health or agriculture extension workers, and school teachers. "This kind of research helps ensure that the programme strategy is based on programme participants' articulation of problems and needs and how to fulfill them" explained Marcia Griffiths in her presentation on "Social Marketing" which she defined as "the application of marketing principles to social program design and management". This kind of preliminary research, she explained, can reveal concepts that require clarification, such as "goiter is not God–given; iron pills will cause dark stools, but this is not a sign of illness; and young children do need some oil in their food..." The type of motivation required can be identified: "take breastfeeding – we have learned that mothers are not always swayed by being told about the antigens of breastmilk, but rather by ideas such as convenience – breastfeeding is the most convenient way to feed a baby..." she said. External factors needing change can also be revealed since there may be "misinformation from local health or agricultural extension workers; a policy that does not allow access to particular goods, such as iron pills that can only be obtained from the health center; and the unacceptability of pills when compared to syrups/tonics."

Participation and Feedback

The technique familiarly known as the "Triple A Cycle" was described by Bjorn Ljundqvist in his presentation on "Participatory Approaches to Behavioural Change". The three "A"s of the cycle are Assessment, Analysis, and Action. How does it work? Taking infant feeding behaviour as an example, a mother may decide that she wants to breastfeed her child because she believes that this will be best for her baby's health, or because she has been motivated to do it for some other reason. She will then ANALYSE how she could achieve this. Depending on the strength of the behavioural intention, the mother may discover that what she has to do – the ways she has to change her behaviour in order to breastfeed – are justified (or not) by the perceived rewards. On the basis of her analysis, the mother would then put into ACTION (or not) the breastfeeding behaviour. This would then be followed by an ASSESSMENT of how well the ACTION produced the perceived rewards of the original behavioural intention. The mother may well then re – ANALYSE the situation and either farther modify her behaviour to achieve the perceived goals, or change the behavioural intention in a "I tried my best, but wasn't able to get what I wanted, so I will give up" kind of way, and so the cycle would continue. Inputs at all stages of the cycle might help in achieving the desired action: increasing the strength of the behavioural intention, so that the mother will be willing to go to greater lengths to ensure that she can breastfeed; removing obstacles that cause her to decide it is not feasible at the "analysis" stage; providing continuing support at the "action" stage; and providing reinforcement of the behavioural intention, positive support, and feedback at the "assessment" stage.



The Triple A Cycle: ASSESSMENT – ANALYSIS – ACTION

Source: Bjorn Ljungqvist, UNICEF

People need feedback – especially in "community–based programmes" they need to see the benefits of their actions. Growth monitoring has been used in some community–based programmes to provide feedback on actions to improve nutritional status. "Mothers and also fathers can see that there is a change in the nutritional status of their child" commented F. Kavishe (Unicef, Nairobi/ESAR). Based on this, they would then be able to decide on actions needed to maintain or improve the child's situation. In some cases however, the beneficial results of actions may not be obvious to the actors for some time. In this case, as G de Cunha (India) said "the message itself has got to make the person feel good about doing it."

"Adopting the Triple–A Cycle principles in programming by necessity puts the 'actors' (in the example above, the woman who wants to breastfeed) in focus, and the understanding of why actions do or do not take place becomes the basis for formulating programmes. In the case of nutrition programmes, the actors are usually poor people and not only understanding but also respect for their capabilities to cope with extremely difficult circumstances is a *sine qua non* in any efforts to promote change in their nutrition–related behaviours" said Dr Ljundqvist. Examining the role of external nutrition programmers in the process, he explained "I think it is irrelevant to ask if people or communities are participating in 'our' programmes. The question is rather if we are allowed to participate in *their* efforts to cope and shape a better future for themselves and their children. Will they really accept us as partners? In practice, of course, there is never an issue of us as external programmers participating as direct partners to poor people in the communities. Instead the issue is to what extent we, within our programmes, have been able to identify change agents or animators and provide them with skills and tools useful for the persons and the communities where actions have to take place. Have we been able to establish an effective facilitating system that is able to respond to the ideas and the needs articulated by the communities? And have we been able to facilitate for groups of people to come together and participate with one another in order to take action on issues of joint concern?"

Animate, Don't Dominate

In a presentation on “Nonformal Adult Education”, Jane Vella took up the issue of identifying change agents or animators, and providing them with skills and tools for working with individuals and communities to help them successfully achieve beneficial changes in behaviour: “what and how can we teach teachers of village health workers, physicians, nurses, managers of programs to achieve the sustainable learning and behavioural change needed?” she asked. Traditional teaching methods, characterized by teacher *domination,* are not appropriate or effective, she argued; rather the goal should be *animation* – a method of teaching which could then be passed on to the village health workers. “Since we teach the way we were taught, we have to ask ourselves how we begin to change the educational process and corollary theories and assumptions about learning in order to invite village health workers to *animate* rather than *dominate*”, she explained. “We all have had the experience of learning content we did not fully understand or believe in, skills we saw no use for, and attitudes incongruent to those of our own hearts. Nonformal adult education developed in the late fifties and early sixties as an alternative approach to teaching village men and women, working in rural communities and urban areas, using an approach that involved *listening* to the experience of adults and *drawing out* their response to new concepts and skills... when adult education is *animation,* people respond. When it is traditional teacher *domination,* people disappear.”

Why Isn’t Behaviour Change Included More in Programmes?

If we know of effective methods and techniques for promoting behaviour change, and if behaviour change is so important, why isn’t it used more widely in nutrition programmes in developing countries? As Dr Horwitz (SCN Chairman) commented “behaviour change is really at the heart of all health and nutrition programmes”.

Might part of the problem be that programme planners and decision–makers are failing to change the way they do things themselves? “We have a behaviour change problem in the community that we represent” commented G de Cunha. “There is something that is preventing us from doing what we know needs to be done, using the resources that are there” A solution to this problem may lie in the way the goals and objectives of programmes are conceived of. Currently they are expressed in terms of coverage, of prevalence, and of supplies. “Our goals and objectives are not sufficiently expressed as proportions of people who will do this or that” he suggested. The experience of the UNICEF–supported breastfeeding programme in Brazil illustrated this point. “The goals and objectives of the programme were expressed in behavioural terms. Formative research was conducted, and on the basis of that, a strategy was drawn up... the strategy was not to speak to the mother, and insist that she breastfeed her child, thus making her feel responsible and guilty if she was unable, but to show that the mother already had a desire to breastfeed her child six months and more, but what came between her child’s lips and her nipple was all of society” he said.

“You cannot, in behaviour change programmes, say I am doing this and I am doing that, and I am doing the other, but we don’t really have the money for this fifth thing. If you say that, you end up believing that a cask can hold water without one strip of wood. That was the message of the breastfeeding programme, that you have to tackle all the factors or you don’t have a programme.

But don’t link too many objectives together. Again, for example, the breastfeeding programme worked marvelously over two and a half, three years. Breastfeeding duration doubled, prevalence, which was around 80% went up to nearly 90% in the main towns, in the slums, bang on our target group, but then after three years of success, the programme was disactivated by the government, who did the wrong thing for the right reason, making the point that breastfeeding surely was not all that was involved in the health and nutrition of the infant. Surely there were other things, like ORS, surely there were other things like ARI, surely there were other things like growth monitoring. Of course, we being UNICEF, this was throwing the bible at the vicar. So we said, of course. The result was that from a single point story which we were telling about breastfeeding, we suddenly were telling five stories. There was that one breastfeeding horse that was far in front, and instead of saying all right, these horses pulling this chariot will try and catch up with that horse, that horse was dragged back and harnessed with the other four horses that were beginning and as a result the programme suffered and the figures began to prove that we were right, because the breastfeeding prevalence and durations began to decline.”

G de Cunha, India.

There may be another reason for the lack of behavioural change components in nutrition programmes. “Why are there so few experts?”, Dr Martorell asked. “In planning the symposium, I was struck by how difficult it was to identify speakers... at one time I commented that behaviour change experts seemed to be rarer than, particle physicists!” One response to this question was that perhaps this is because the study of behaviour seemed as *complicated* as particle physics. But this is not so, argued William Smith “behaviour change specialists really are not so rare, you just need to know where to look”.

"Dr Smith was very clear, he told us don't try to be experts in communications. Call us. Perfect. But I understood from Dr Ljundqvist that perhaps the nutrition programmer could become, at the same time, the nutrition communicator or the nutrition educator or vice versa. What are we going to tell governments? How to go about this? If this is essential, as apparently it is becoming more and more so, it must be implemented throughout the world, not only the developing world incidentally, the developed world also. Who is going to do this? Who is going then to train whatever quality of staff is needed? How? I think this has to become clear in the discussion."

Dr A Horwitz, Chairman, SCN.

Resources Enabling Change

In many situations resources provided from outside are required to enable the behavioural change to take place. If they are not there, or if people do not *perceive* them to be there, change cannot happen. One example given was that of a UNICEF IDD Programme in Tanzania, where nutrition education was not at first accompanied by provision of iodized salt. As F Kavishe explained "at one time we actually had to stop advocating that people should take iodized salt".

In another example, also from the IDD programme, this time involving the provision of iodized oil capsules, the resources were there, but people did not believe that the capsules contained iodinized oil and would not take them. The reason? The iodized oil capsules were being distributed in a car marked "family planning" – it was thought that they were anti–fertility drugs.

Another important enabling resource for behavioural change is time. For example, the effect a programme has on women's time is a significant enhancer or inhibitor of whether the behavioural change component is effective. An example given by Eileen Kennedy (USDA) was that of a World Bank funded and run credit scheme in Ghana targeted to women, in conjunction with a nutrition education component and a growth monitoring component. The philosophy was that by increasing women's income through credit, in addition to providing education to mothers, an income constraint would be relieved as well as a knowledge constraint, which would lead to both better household food security, and improved nutrition of women and children. It was discovered that the way this targeted credit with education programme operated throughout the country varied dramatically – some of the credit schemes increased the time constraint on women, others did not. The most effective of these strategies, however, was where credit with education not only increased women's income, but it did so in a way that decreased women's time constraints. The message is: promoting behavioural change success often requires removing other constraints, such as time.

Behavioural Change versus Capacity for Change

What do the words "behavioural change" imply? To some, they suggest an unreasonable level of control from outside influences – "this whole concept of behavioural change has a bit of a paternalistic connotation, it implies that it is us who think that somebody else should change their behaviour, and very often in a specified way: is that really true?" asked one participant. Similarly, others commented: "I worry when hearing you talking about your communication behaviour – who decides the messages? There is a philosophical question here about control... I think that behaviour change might be necessary, but rather than setting up objectives for behavioural change, we should be improving people's capacity to decide on actions or behaviours themselves".

Quoting the words of President Nyrere, Dr Kavishe said " 'the one thing all history teaches us is that people have to act for themselves and in their own interests. People know their own needs, once convinced that this can be overcome by their own efforts, they will make these efforts. Development brings people freedom provided it is development of people. People cannot be developed, they can only develop themselves. For a while it is possible for an outsider to build a man's house, but an outsider cannot give the man pride and self–confidence in himself as a human being. Those things a man has to create himself by his own actions. He develops himself by what he does, by making his own decisions, by increasing his understanding of what he is doing and why, by his own fall participation'. I think that is the kind of behavioural change that we are looking for" added Dr Kavishe.

Whatever the capacity of people to decide for themselves, however, the knowledge about what they should be aiming to achieve often lies in the hands of others, whose responsibility it is to judge when that knowledge should be passed on. There exist many examples where messages provided in the past have been judged later to have been incorrect, for example earlier emphasis on protein – but on the other hand, is it right to withhold knowledge believed at the time to potentially save lives? In reality, though, in nutrition programmes,

as G de Cunha said “when we talk about behaviour change we are talking about nutrition interventions that have already been decided... so what the behaviourist in a nutrition programme is attempting to do is to function like a good driver in a vehicle that is there already, with the destination already determined, in a car with a given capacity.”

Changes in the ways that children are nurtured – as the main example considered – can clearly be beneficial for their health, development, and nutrition. Promoting such behavioural change, when modern knowledge suggests clear benefit for the child, is not in principle an imposition, but an obligation similar to, for example, providing immunization. At the same time, the capacity should be enhanced among communities, families, and individuals to assess their needs, analyze potential behavioural changes, and to decide on the appropriate action.

What Next?

Promoting behavioural change is an important responsibility of those concerned with nutrition programmes. Well–established methods exist for promoting behavioural change, and for determining what precise approaches to use. Formative research, participatory assessments, and other tools developed from social marketing, from modern methods of adult education, and from community experiences, can be much more widely applied.

Probably the main message is that behavioural change is of central importance in improving health and nutrition; and there is no technical reason why this should not assume much greater importance in nutrition programmes. In turn, this will require careful planning, development of human resources, and the backing of agencies and governments to achieve this. Barriers in terms of lack of knowledge and absence of methods are minimal. The next step should be widespread adoption of these within many or most programmes aimed at improving nutrition and health.

V.E./J.M.

Poor Nutrition and Chronic Disease – Part I

> The first of a two part report of the proceedings of the ACC/SCN Symposium on Nutrition in the Epidemiology and Prevention of Cardiovascular Disease, Diabetes Mellitus, and Obesity in Developing Countries.

At the SCN’s 22nd Session held at the Pan American Health Organization, Washington, D.C., a Symposium was held on “Nutrition in the Epidemiology and Prevention of Cardiovascular Disease, Diabetes Mellitus, and Obesity in Developing Countries” on 12 June 1995. Bringing this topic to the attention of the SCN and the other participants aimed to serve four purposes. The first was to provide a review of the evidence that there may be an emerging complex of problems in developing countries with respect to these non–communicable diseases, and to examine how these problems – which are more commonly regarded as affecting affluent populations – are distributed across income groups. The second was to give an insight into the potential economic implications of these trends, particularly as they may impact on health systems. The third aim was to examine the causal factors behind these trends, including dietary, behavioral or life–style factors, and introduce the intriguing notion that malnutrition itself may be among the causes of these problems. And the fourth was to encourage participants to consider what could be done to help prevent these trends from continuing, and particularly how UN agencies could be involved in this.

The Symposium began with an overview of the topic by Dr J Jervell, member of the AGN and President of the International Diabetes Federation. Presentations then followed on “The Emergence of Chronic Diseases in Developing Countries” by Dr T Byers of the University of Colorado; “The Role of Foetal and Infant Growth and Nutrition in Causality of Cardiovascular Disease and Diabetes in Later Life” by Dr J Hoet, Professor Emeritus at Louvain University, Belgium; “The Contribution of Urbanization and Lifestyle Changes to Cardiovascular Disease, Diabetes Mellitus and Obesity in Developing Countries” by Dr A Wielgosz, Division of Cardiology, University of Ottawa; and “Prevention and the Role of Nutrition” by Dr G Beaton, Department of Nutritional Sciences, University of Toronto.

In Part I of this report of the Symposium proceedings, the introductory presentation by Dr J Jervell, and papers by Dr T Byers and Dr A Wielgosz on the epidemiology and causes of non–communicable diseases in adulthood, are reproduced. Part II, to be published in the next issue of SCN News, will cover the role of foetal

and infant malnutrition in increasing the risk of cardiovascular disease and diabetes in later life.

INTRODUCTION: OVERVIEW AND IMPLICATIONS FOR THE FUTURE

by Dr J. Jervell, President, International Diabetes Federation

Too much or too little of a good thing is deleterious. Too little food leads to malnutrition, undernutrition and micronutrient deficiencies. That we have come to address the consequences of overnutrition in developing countries is a measure of some success in combating undernutrition. We may even learn, during this symposium, that early *under*nutrition and later *over*nutrition are a particularly dangerous combination.

Non–communicable diseases are emerging not only with the same strength as they have done in the industrial world, but perhaps even more strongly, in the developing countries – especially those which are developing fast.

What are the diseases we are speaking of? We have a group of diseases which we call sometimes the "metabolic syndrome" in the western world, and this is because if you have one of them, you are more likely to have one of the others (see figure 1). If you have diabetes, you are more likely to have hypertension, you are more likely to get coronary heart disease and stroke, and your blood lipids are more likely to be deranged.

Figure 1. The Metabolic Syndrome or Syndrome X

Coronary artery disease

angina pectoris
myocardial infarction
sudden death

Stroke

Diabetes mellitus type II and impaired glucose tolerance

Hypertension
Dyslipidemia
Central Obesity

These diseases apparently have a common causation. In western medicine, today we talk about insulin resistance or hyper–insulinaemia, which may provide a link. Perhaps they may also be joined together as a consequence of earlier under–nutrition, and as a consequence of changing lifestyles.

We talk about diseases and we talk about risk factors. Diabetes, in addition to being a disease in itself, is also a risk factor for coronary heart disease. If you have diabetes you are three to four times as likely to get coronary heart disease and myocardial infarction, angina, and sudden death. If you have hypertension you get more stroke and more coronary heart disease. If you have dyslipidemia?, it's the same way.

But diabetes in itself is also a disease with symptoms and with specific complications. I was asked earlier today why do you talk so much about diabetes, is a little high blood glucose really dangerous? I repeat, it causes specific complications. Diabetes is the most common cause of blindness in adults in America; it's also the most common cause of amputations. In Japan it's the most common cause of renal failure in adults. So it's not only causing coronary artery disease and stroke, but specific complications as well.

These diseases may have a common preventive aspect, but once they have developed, you need very specific management plans to control their impact. So sometimes we say the primary prevention of these diseases is probably much the same, but the management, once they appear, is very costly and very different.

There are two main types of diabetes. One is insulin–dependent diabetes, an auto–immune disease which destroys the beta cells in the pancreas, the cells which produce insulin. It's called insulin–dependent because without insulin the patient dies. It is also known as *type I diabetes.*

As far as we know today, it is probably not particularly common in developing countries. This may be in part because it is undiagnosed – we do know that there is a lot of type I diabetes which is not diagnosed in developing countries. But this is not the main type of diabetes that we are talking about today. That is the non–insulin dependent diabetes, due to an insulin resistance and a reduced capacity to produce extra insulin to overcome this resistance. Sometimes this is called *type II diabetes.*

A pre–diabetic stage is called *impaired glucose tolerance.* WHO has decided that you have diabetes if 2 hours after having drunk a solution with 75 grams of glucose, you have a blood glucose of more than 200 milligrams per deciliter. If it is below around 140 mg/dl you are normal, but if it is in between 140–200 mg/dl you have impaired glucose tolerance, unpaired glucose tolerance is a risk factor for developing diabetes, and also increases the risk of getting a myocardial infarction.

Now there is also malnutrition related diabetes which occurs in some developing countries. There are two types of this. One is due to a pancreatitis, perhaps – it has been suggested due to inadequately processed cassava. The other is related to severe undernutrition throughout childhood and adolescence, and Joseph Hoet will talk more about this later today (see part II).

How common is diabetes in the world? I am talking about diabetes because we have good criteria for making the diagnosis, and a lot of good surveys have been done. It is much harder to get good data on causes of death from myocardial infarction in developing countries. Results of a study on the prevalence of diabetes in adults, by standardized criteria and age corrected are shown in figure 2. There is a wide range of prevalences. In the Pima Indians in Arizona, about 50% of the adults are diabetic, at the survey time: at the age of 40, 50% of Pima Indians have diabetes. They were described about a century ago as a population where diabetes was not seen; then they were poor agricultural people, now they live in the reservation and are very obese. What is striking in figure 2 is that high diabetes prevalence is either in developing countries or in under–privileged groups in developed countries, such as the Hispanics or the Indian populations in the U.S. Diabetes is extremely high in people who go directly from a hunter–gatherer existence, and skip the agricultural part of our development going directly into an urbanized life–style.

Some recent examples come from Pakistan. Surveys in Karachi have shown a prevalence in the adult population, about 25 years of age, of 16.5% diabetes. In my own country, which is Norway, the prevalence in a similar population would be 3%, and I can tell you we are fatter than the Pakistanis that we studied! Impaired glucose tolerance – the pre–diabetic state – in Pakistan was 10.4%, adding up to more than a quarter of the adult population having some form of glucose intolerance. This leads to increased risk of coronary heart disease, and indeed when we talked to cardiologists in Pakistan, they said that myocardial infarction in young men around 30–40 years was much more common than seen in the western world.

In Shikapur, up to one quarter of the population has glucose intolerance; in rural Baluchistan (a tribal area) the prevalence is 17%. So even there they have more glucose intolerance than in urbanized northern Europe.

Why are these non–communicable diseases, including diabetes, becoming so high? Is it due to genetics? Obviously, if you go on an individual basis, and ask a person who has non–insulin dependent diabetes or coronary heart disease or hypertension, or obesity, these conditions are commoner in their relatives, in their parents and grandparents. It is not just due to family life–style, there are definite genetic factors. But are the genetic factors responsible for the differences between ethnic groups? Probably some. Pima Indians are probably genetically disposed to get diabetes to a higher degree than most other populations of the world. But from all other continents and all other ethnic groups there are subgroups of populations who have diabetes incidences like these. For example, the Chinese at present have a prevalence of 2% of diabetes in their adult population; the Chinese in Mauritius have 13%. So they are not protected, they have just not become urbanized yet. The north Hong Kong Chinese population has a prevalence of diabetes of 5%, so it's developing there, and is higher than in Europe, for example.

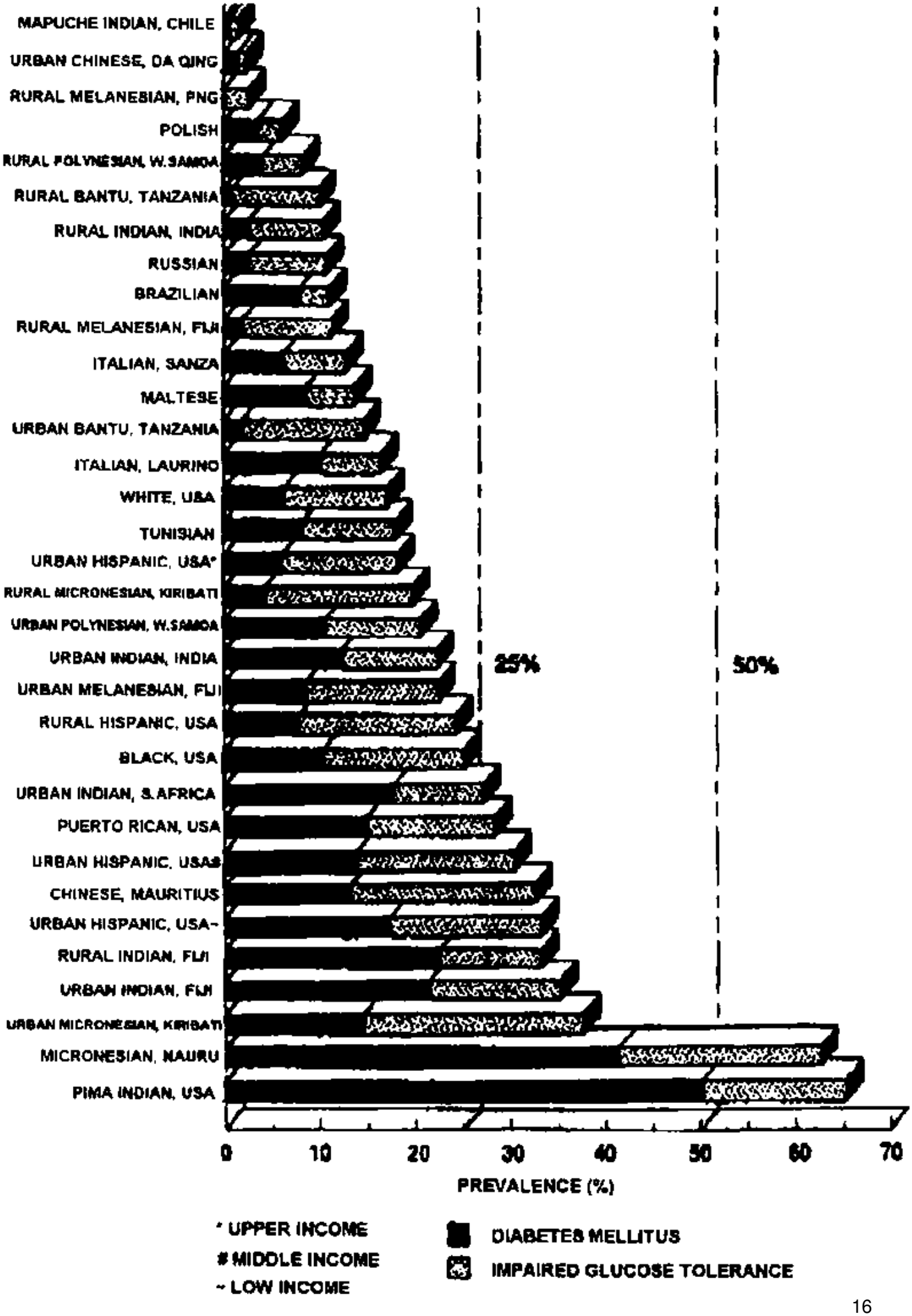

MAPUCHE INDIAN, CHILE
URBAN CHINESE, DA QING
RURAL MELANESIAN, PNG
POLISH
RURAL POLYNESIAN, W.SAMOA
RURAL BANTU, TANZANIA
RURAL INDIAN, INDIA
RUSSIAN
BRAZILIAN
RURAL MELANESIAN, FIJI
ITALIAN, SANZA
MALTESE
URBAN BANTU, TANZANIA
ITALIAN, LAURINO
WHITE, USA
TUNISIAN
URBAN HISPANIC, USA*
RURAL MICRONESIAN, KIRIBATI
URBAN POLYNESIAN, W.SAMOA
URBAN INDIAN, INDIA
URBAN MELANESIAN, FIJI
RURAL HISPANIC, USA
BLACK, USA
URBAN INDIAN, S.AFRICA
PUERTO RICAN, USA
URBAN HISPANIC, USA#
CHINESE, MAURITIUS
URBAN HISPANIC, USA~
RURAL INDIAN, FIJI
URBAN INDIAN, FIJI
URBAN MICRONESIAN, KIRIBATI
MICRONESIAN, NAURU
PIMA INDIAN, USA
25%
50%
0
10
20
30
40
50
60
70
PREVALENCE (%)
* UPPER INCOME
# MIDDLE INCOME
~ LOW INCOME
DIABETES MELLITUS
IMPAIRED GLUCOSE TOLERANCE

Figure 2. Prevalence (%) of total glucose intolerance (diabetes and IGT) in selected populations in the age range of 30–64 yr.

(Source: (1993). *Diabetes Care,* **16**(1), 170)

We sometimes talk about urbanization as the causal factor. What do we mean when we talk about urbanization? I would rather call it an urbanized life–style, because certainly in my country you don't have to live in a city to lead an urbanized life–style. I believe that to really have a rural life–style you actually have to till the earth. You can live in the rural areas and lead very urbanized life–styles. There is a definite urbanization going on in the world. Probably something like 40–50% of the population is now living in cities, and there are marked changes in diet, varying from place to place. There is definitely less physical activity. There is more smoking. There are higher salt intakes – there have been studies showing that Africans moving from rural areas, changing to the higher salt intake of the Sub–Saharan African cities, get an increase in blood pressure within 6–8 weeks. There is a higher alcohol intake. People who are living in cities in the developing worlds say that there is definitely more stress than their parents had when they were rural.

Obesity is a risk factor. Obesity minus physical activity is more dangerous than obesity with physical activity. There are many good studies showing this, both for coronary heart disease, diabetes, and hypertension. So obesity is the risk factor but physical inactivity is equally risky. When I go to cities such as Karachi, or Accra in Ghana, I wonder how are people going to have physical activity programmes there – especially in Karachi, which is a city of 11 million inhabitants.

Humanity developed as hunter–gatherers, probably a couple of hundred thousand years before we discovered agriculture. Then there was another 10,000 to 5,000 years before we became urbanized, but we are supposed to be hunter–gathers. Kierin O'Dea, in Australia, has collaborated with a group of Aborigines who had become extremely urbanized and then taken them out to the hunter gatherer existence for short periods.

The 10 Aborigines were diabetic, living in an urban environment, but had had a childhood in the outback and had lived the traditional existence as hunter–gatherers. There were 5 men and 5 women – all had diabetes, and they spent 7 weeks together in the hunter–gatherer existence. They had a marked weight reduction, their body mass index went down and their diabetes improved. Their fasting blood glucose and 2 hour glucose after 75 grams (which is a glucose tolerance test) went down and their fasting insulin levels went down so they became more insulin sensitive. They also lowered their cholesterol, their triglycerides which are all risk factors for coronary heart disease, their blood pressure and the bleeding time went up which means that their blood was not so likely to coagulate. They were less likely to get thrombosis.

There are three survival factors if you are a hunter–gatherer, according to O'Dea. You should have a strong preference for energy dense food, honey and fats – but there is little honey available and wild animals have much less fat than domesticated animals, so these are scarce, but you survive better if you like these foods because you then store them as fat. You should have a great capacity to gorge, because when food is there you should get as much as you can inside yourself, to store it for later use, and then you should minimize physical activity as much as possible, only be physically active when it is necessary. I asked Dr O'Dea how much time these hunter–gatherers spend actually hunting and gathering and preparing food and she said about 4–5 hours per day. It's not natural to work as much as 8 hours a day for humanity, but still we do it. These beneficial tendencies for hunter–gatherers to gorge – to prefer energy–dense food and to be physically inactive when it is not necessary to be physically active – are not a good life–style in our society. It is too easy to be a hunter–gatherer in Washington.

Figure 3a. Correlation between mortality from diseases (total) 1964–67, in men aged 40 to 69 years (standardised rates/100,000 population) and infant mortality rates 1896–1925.

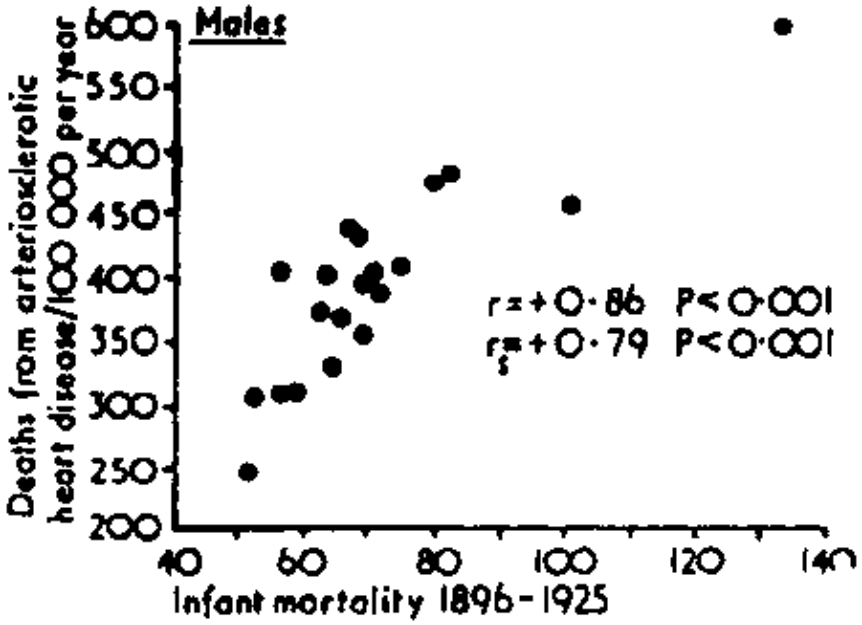


Figure 3b. Correlation between mortality from arteriosclerotic heart disease, 1964–67, in men aged 40 to 69 years (standardised rates/100,000 population) and infant mortality rates 1896–1925.

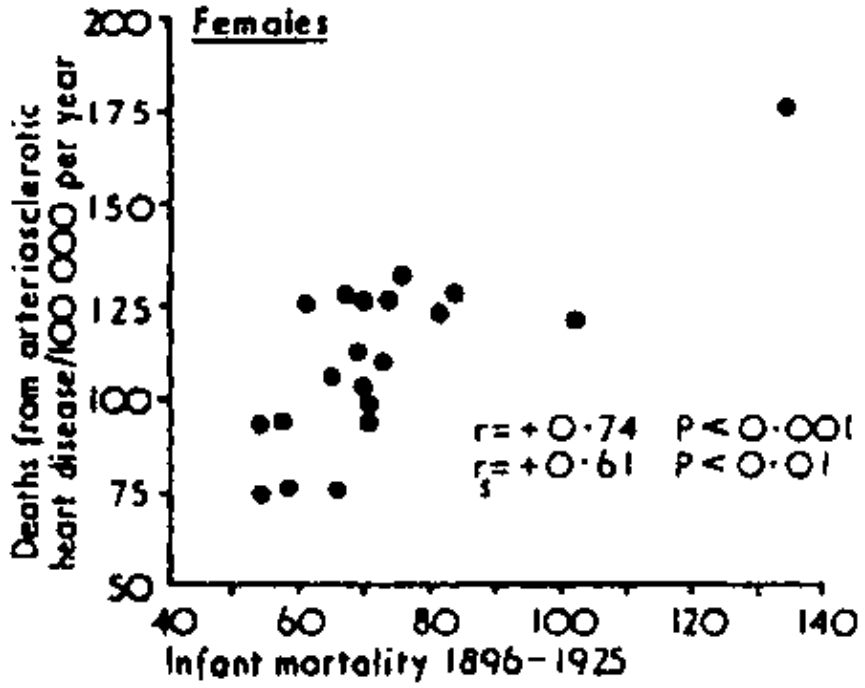


Figure 3c. Correlation between mortality from arteriosclerotic heart disease, 1964–67, in women aged 40 to 69 years (standardised rates/100,000 population) and infant mortality rates 1896–1925.

(Source: (1977). *British Journal of Preventive and Social Medicine,* **31**, 92.)

Studies of changes in diet in rural and urban Cameroon have found that the rural diet is very high starch, high fibre and very low fat; moving to the city, fat increases, starch goes down, sugar is introduced to a large extent. We had a meeting of diabetologists in Ghana recently to give advice on diet for diabetes there, and all agreed that the standard traditional African diet is the correct diet for people with diabetes (and the other non–communicable diseases), very high in fibre and complex carbohydrates.

Now are there other factors? A friend of mine Anders Forsdahl suggested in 1977 that perhaps if you were poor in childhood you were more likely to get coronary heart disease and premature death from arterial sclerosis in later life. He said this because he grew up in a very poor community in the 1930's in northern Norway, where his father was the district physician, and he later came back as a district physician himself and saw that there was an awful lot of myocardial infarction and high cholesterol levels. He then did a very simple study. He compared the infant mortality between 1895 and 1925 with later total death and death from coronary heart disease. You can see that there is a pretty good correlation, in figure 3.

This could be a nouveau–riche phenomenon, that you are poor in childhood, you just eat more of the wrong things, but it could also be some sort of programming going on and this is what Joseph Hoet is going to talk about later today, and which Barker and Hales have suggested. They have done studies of the birth weights and the 1–year–old weights of children in a county in England, and found that the lower the birthweight, and the 1–year–old weight, the higher the coronary mortality later in life. A low birth weight and for some reason high placenta weight, leads to higher blood pressure later. You get more diabetes in those who have low birth weights, and low weights at one year. The hypothesis that early under–nutrition is so important for developing the non–communicable diseases of the metabolic syndrome later in life is based on studies done in developed countries, and no good studies have yet been done in a similar fashion in developing countries.

If, however, this is true, we can expect an epidemic once development occurs, and perhaps that is what we are seeing in Pakistan. The prevalence of low birth weight in 1990 was more than 30% in South Asia, and it is between 10 and 20% in very many areas of the world.

Of course, there are other changes which cause higher prevalences of these diseases, not the least one being the demographic changes that are occurring. The World Bank's World Development Report (1993, p.32) compares the median age of death in various areas of the world: up to 1950, half the population died before they reached 20 years; in many countries this median had risen to around 40 or more by 1990, and the expectation is that this will continue. A totally different population pyramid will result, and we will therefore get a marked increase in the non–communicable diseases. So the success in preventing childhood mortality and morbidity leads to problems later, even though it is also a measure of success.

What we can wonder is perhaps whether the epidemic that we are seeing in the industrialized countries will come with even more force in the developing countries. Perhaps if the early undernutrition hypothesis is right, it may be a temporary phenomenon – hopefully – but not in our lifetime I think.

The expectation is that the communicable diseases will dominate the picture in the future. This is going to put a major strain on the resources of the health care system. In the developing countries today, meetings are being held by physicians and public health officials on how to actually manage these diseases when they occur. The primary prevention is, of course, the great challenge and should be high priority. I think we do know some of the lessons, although we need more research. Implementing these measures is difficult, but we have to start now.

THE EMERGENCE OF CHRONIC DISEASES IN DEVELOPING COUNTRIES

by T. Byers, M.D., M.P.H. and Julie A. Marshall, Ph.D., University of Colorado School of Medicine, Denver, Colorado.

The burden of chronic diseases now nearly equals that of communicable diseases, even in many developing countries (1). There is increasing evidence that chronic conditions such as coronary heart disease, cerebrovascular disease, diabetes, and many cancers, are in part a result of nutritional problems that have occurred years before. In this paper we will review some of the epidemiologic evidence about the emergence of nutrition–related chronic diseases in developing countries and will address the question of whether people in developing countries might have a special vulnerability to nutrition–induced chronic diseases.

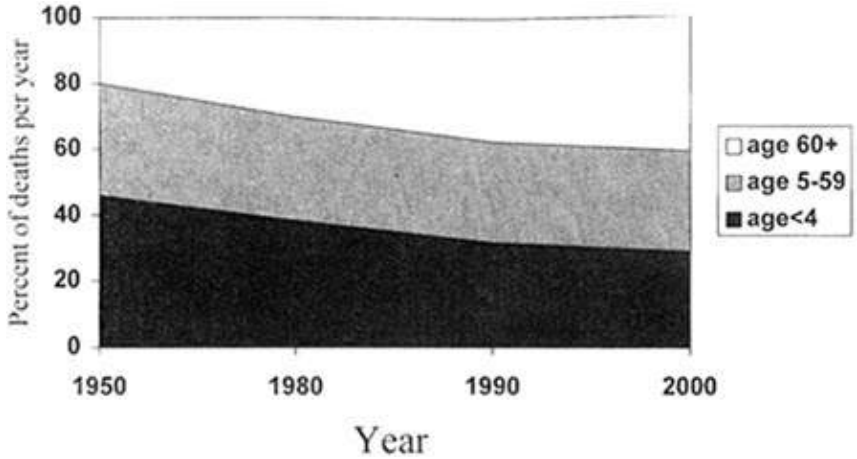


Figure 1. Changing Age at Death in Developing Countries

WORLD BANK, WORLD DEVELOPMENT REPORT, 1993 (REFERENCE #1)

A common theme in the literature is the phenomenon of a transition, variously called the “epidemiologic” or “demographic” or “health” transition, occurring in developing countries. As a result of declining mortality in early life, the population of developing countries is rapidly aging. The changes in chronic disease mortality are rather striking just within a generation. Fewer than 20% of deaths in 1950 were in the age group 60 and older, but over 40% of deaths will occur in this age group in the year 2000 (figure 1). Chronic disease deaths are increasing both because there are more older people, and because of the increasing prevalence of chronic disease risk factors. Today, two thirds of the chronic disease deaths occur in developing countries and only one third in the so–called industrialized nations (1). If we think in a politically and economically neutral way, then, about preventing chronic diseases in the world, it is within the developing countries that the biggest potential already exists for preventing unnecessary premature suffering and death from chronic diseases.

Disability–adjusted life–years (DALY’s) are a measure of the combined effects of mortality and morbidity in a population (1). DALY’s are computations of the years of life “lost”, both because of premature mortality and because of disability, scaled to the severity of the disabilities due to incident diseases. DALY’s lost in a particular year in a population are discounted for the relative value of future years (3% per year). The World Bank has estimated DALY’s based on both direct measures of health and on expert judgment, which is critical in making estimates for developing countries, where good data often do not exist. Cardiovascular diseases, cancer, and diabetes already have equivalent or higher risks on a per–population basis for disability adjusted life years in developing countries compared to industrialized countries (figure 2).

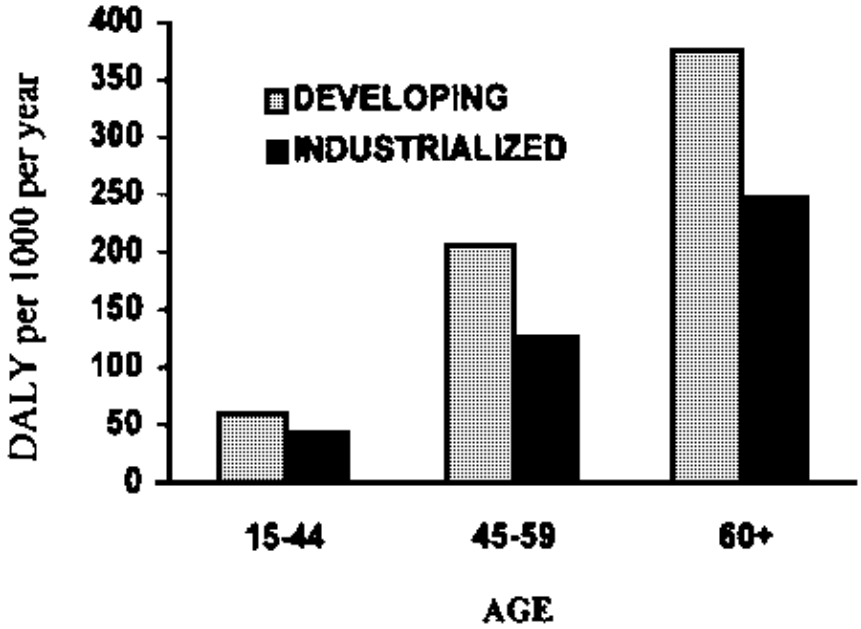


Figure 2. Disability–adjusted Life Years Lost (DALY's) per 1000 Population per year by Age and Economic Development

WORLD BANK, WORLD DEVELOPMENT REPORT, 1993 (REFERENCE #1)

The epidemiological data needed to fully assess trends in disease incidence in developing countries is limited, but there are some informative survey data from some countries that have undergone rapid transitions. In Singapore, in contrast to the rapidly declining trends in the industrialized countries, ischemic heart disease mortality has increased over 90% among men and over 135% among women over the period 1959–1983 (2). We know less about trends in risk factors in developing countries, but there are some data being collected now by the International Clinical Epidemiology Network (INCLEN), a network of epidemiologists conducting standardized surveys of chronic diseases and their risk factors in developing countries (3,4). These surveys measure risk factors cross–sectionally, but will have the capacity to examine trend data in the future. These surveys have shown that risk factors for cardiovascular diseases and cancer are already highly prevalent and variable across countries (3).

Obesity is a very important chronic disease risk factor to consider in detail because it is tied to many chronic diseases, and it is easy to measure. Obesity, a useful indicator of caloric imbalance, has been increasing in nearly all countries in recent decades among both men and women (5). Almost all anthropometric surveys in industrialized countries that have repeated results over time show that an increase in BMI is occurring (5) (figure 3).

In developing countries good trend data are usually absent, but within country contrasts in lifestyle and in diets are often reflected by contrasts in urban versus rural cultures. Fairly consistent patterns are seen in countries where surveys have been done showing the prevalence of obesity is considerably higher and the mean body mass index higher in urban than in rural areas (6). A survey in Costa Rica of urban versus rural dwellers has shown not only higher BMI in urban than in rural–dwellers, but also adverse trends for diastolic blood pressure, saturated fat intake, smoking, blood glucose and blood cholesterol concentrations (7). Migrants from developing to more industrialized countries show rapid increases in body weight. Japanese men migrating from Japan to Hawaii or California showed increasing prevalence of obesity and higher body mass index with "westernization" of the diet and physical activity habits (8). The same phenomenon has been seen in the Western Pacific where Samoans from more traditional areas have migrated into progressively more "western", "industrialized" areas, with a progressive increase in the prevalence of overweight (9) (figure 4). The "nutritional transition" is now underway in developing countries. The most prominent features of the changes in the "nutritional transition" are increases in the intake of fats in the diet, along with decreases in the intake of complex carbohydrates and fiber, accompanied by a decrease in physical activity.

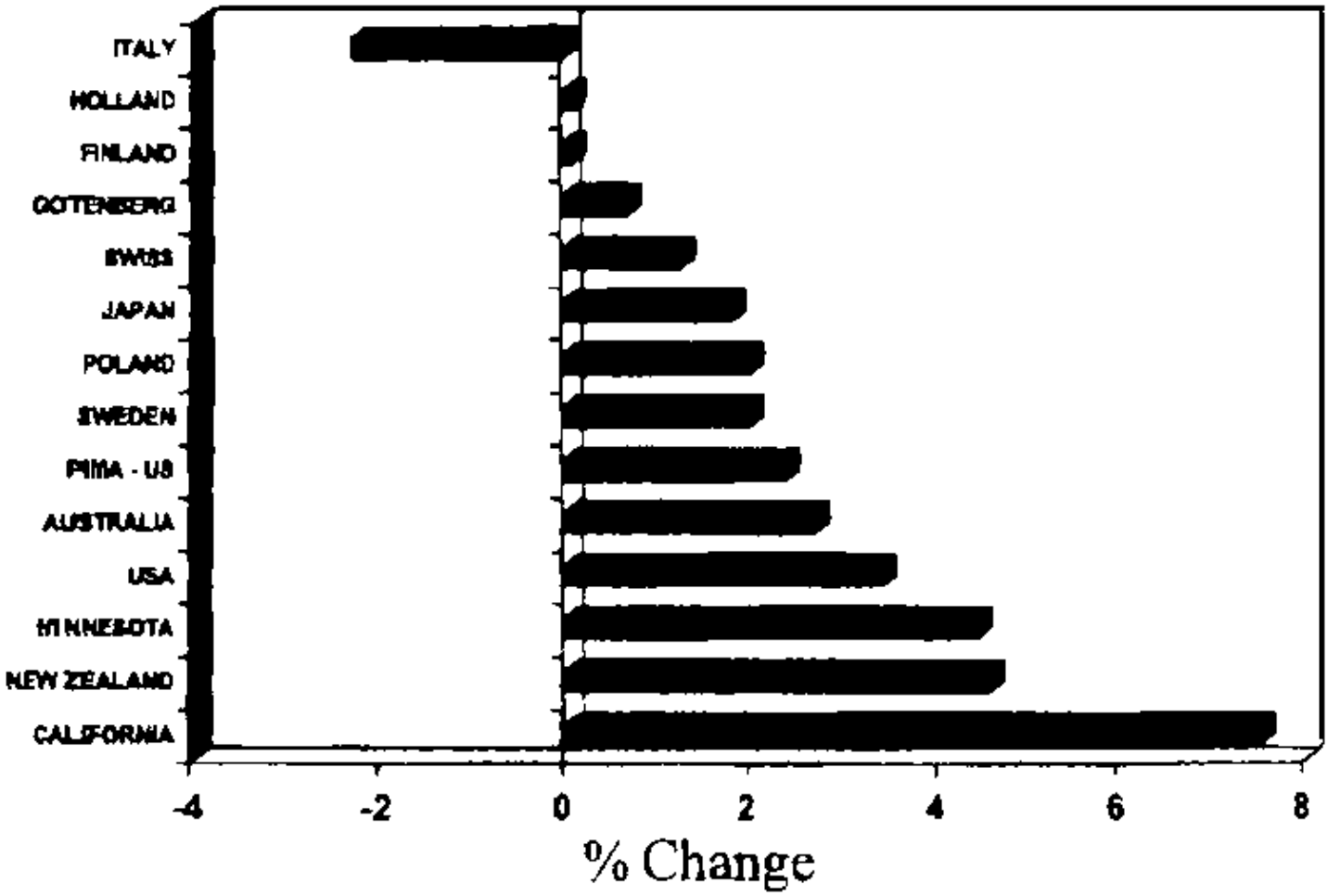


Figure 3. Percent Change in BMI per Decade in Countries with Repeat Surveys

BYERS ET AL (REFERENCE #5)

A metabolic syndrome, often referred to as “syndrome X”, defined by the combined occurrence of hyperinsulinemia, hypertriglyceridemia, hypertension, and central adiposity (fatness in the abdominal area out of proportion to fatness in the rest of the body), may be a particularly common manifestation of the nutritional transition in developing countries (10). Considerable anecdotal evidence from many populations suggests that “syndrome X” poses a special risk for peoples and populations previously undernourished (11, 12). But there may be a latent period, a “honeymoon generation” in which we can be fooled into thinking adverse physiologic changes are benign. In the United States, for instance, in considering the emergence of diabetes as a significant health problem in Native Americans, we have been fooled before. A paper published in 1965 described a “benign” form of diabetes in Navajos (13). These Native Americans had experienced changes in diet and physical activity, followed by increases in body weight, then the emergence of diabetes. But in the 1960’s their diabetes was regarded as a benign condition because the blindness, amputation, and renal failure had not yet begun to occur. Now a generation later, in retrospect, we can see that there was a “honeymoon generation”, a latency period between the onset of diabetes in the population and the occurrence of serious diabetic complications (14). The recent emergence of diabetes mellitus as an increasingly common problem in developing countries likely predicts a future wave of diabetes–related morbidity and mortality (15).

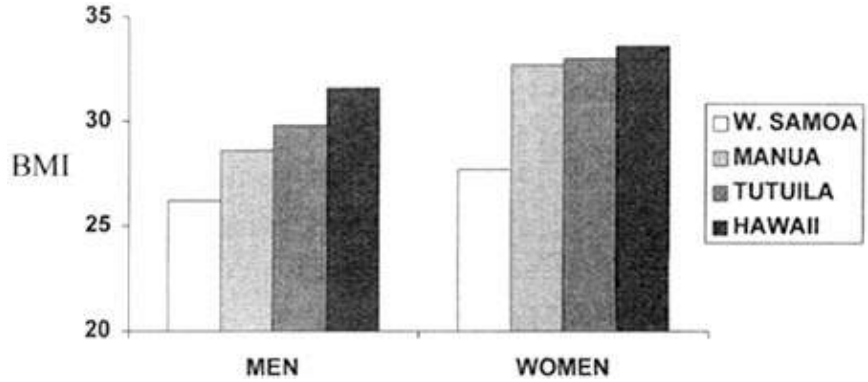


Figure 4. BMI in Samoans According to Their Degree of Western Acculturation

MC GARVEY ET AL. (reference #9)

An important question arising from the epidemiologic patterns that we are beginning to see and that we will clearly see in the future, is whether a special biological vulnerability might be present among populations that have previously been under–nourished, either in their own lives or in the lives of their ancestors, that might be placing them at higher risk for chronic disease in middle age and adulthood (16). How might such a special biologic vulnerability emerge? Our ancestors were metabolically and genetically mixed, and when they went through hard times, either traveling between the Pacific Islands, experiencing intermittent famines in the American southwest, or surviving the Caribbean hurricanes, those who were metabolically thrifty were able to survive (ie, they had a “thrifty genotype”) (16). Those who were genetically vulnerable then died off, so by natural selection we now have some populations who have undergone hard times in the past who are particularly vulnerable to adverse effects of overnutrition for their level of physical activity because they are genetically thrifty and metabolize foods in a more efficient way (16).

Nutritional deprivation can also happen *in utero,* where either genetic selection or phenotypic re–programming can occur (17). Low birth weight has been shown to be associated with many of the physiologic conditions that define “syndrome X” (18,19) (figure 5). The intrauterine environment, or perhaps other critical periods in early life (20), may not just select out certain fetuses for survival, but may actually program us nutritionally to have a particular metabolic phenotype. The data to support the conclusion of a thrifty genotype versus a thrifty phenotype is limited, but the common thread is that the ancestors of some peoples, or in fact their own early life environments, may have resulted in the creation of populations that are metabolically vulnerable to overnutrition.

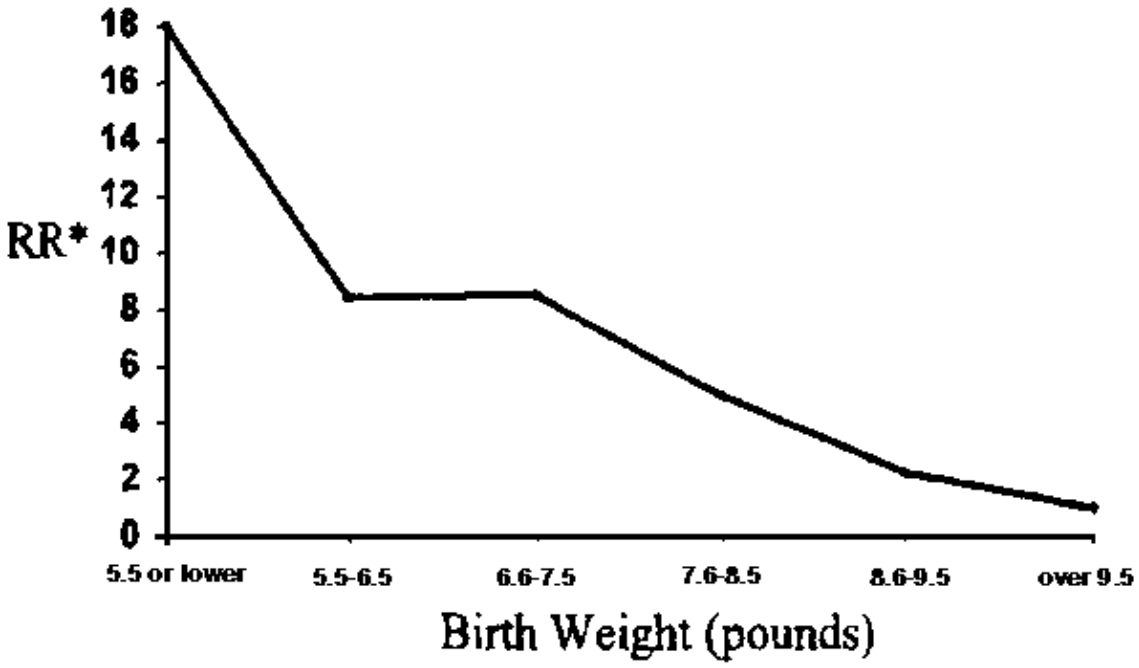


Figure 5. Relative Risk of Syndrome X Among Adult Men, According to Birth Weight

* Relative Risk for syndrome x (non–insulin–dependent diabetes mellitus, hypertension, and hyper–triglyceridemia), adjusted for adult BMI.

Reference: Barker, reference # 18

What data do we have to suggest that there is a particular special vulnerability with the nutritional transition that we are clearly seeing in developing countries? In England, where mortality rates have been stable or slightly declining in recent years, Indian migrants from South Asia have had increasing mortality risk for heart disease (21,22). Their body mass index is not particularly different from Englanders, but the waist to hip ratio of the South Asians versus the Europeans in England is substantially different: more central adiposity in South Asians, even though their total body mass index is very similar (21, 22). Central adiposity is thus much higher, as are diabetes prevalence and insulin levels among the South Asian immigrants. The migrants from South Asia in England then seem to have higher heart disease risk as part of “syndrome X”, and therefore they seem to have a special vulnerability to adverse effects from their changed diets. More research is needed on the question of special biologic vulnerability for peoples in developing countries. This special vulnerability may lead to much higher levels of premature morbidity, mortality and unnecessary suffering than would be predicted by the adverse changes in risk factors alone among middle aged adults in developing countries in the years to come.

There are two public health nutrition revelations of note. First, the control of nutrition deficiency diseases has been mostly completed in industrialized countries, but is still evolving in developing countries. The second is the control of nutrition–induced chronic diseases. We have not done a good job yet in industrialized countries with this second problem. Developing countries that are still trying to deal with the first challenge will now have to deal as well with the second one, which is rapidly emerging as the primary problem in terms of deaths and disability.

How can developing countries deal with, on the one hand, micronutrient deficiencies (eg, iodine deficiency, vitamin A deficiency, iron deficiency) that are still plaguing large parts of populations, while chronic diseases are emerging as well? Often this plays out as a rural problem for micronutrient deficiencies and an urban problem for caloric overload. What is the commonality in public health strategies for fortification, infection–control, and nutritional supplementation, that deal with micronutrient deficiencies, and for fat reduction, fiber promotion, and physical activity promotion, that relate to chronic disease–relevant nutrition? There is a potential common link in the promotion of fruits, vegetables, and whole grains in the diet.

Clearly, as we eat more fruits, vegetables, and whole grain in the diet we can substitute these for high fat foods. In addition, it is increasingly clear that the micronutrients in whole foods have profound effects on heart disease and cancer risk. Our clinical trials have thus far been unsuccessful in giving high doses of single micronutrients to prevent chronic diseases, but it is clear that there is a powerful effect in fruits and vegetables that reduces chronic disease risk. At the same time we cannot, of course, forget infection control, supplementation and micronutrient fortification, but the promotion of fruits and vegetables in the diet may be a useful commonality between strategies for preventing micronutrient deficiency and chronic diseases that can he a basis for food policy and education in the future. Because of the importance of caloric balance, and the emerging problem of obesity in developing countries, nutritional interventions should always include the promotion of regular physical activity, which can allow for greater intakes of foods, and thereby also prevent micronutrient deficiencies that can lead to chronic diseases.

We need to decide how we are going to educate people and what kinds of food policies we are going to promote. What kind of actions can we suggest that be taken? We need to improve surveillance of adult health risks and risk factors in developing countries. But in isolation surveillance is not going to be particularly informative unless we link our future surveillance to intervention policies and to intervention programs. So how do we strategically develop collection systems for surveillance data linking it to policies and interventions’? We need to develop, of course, culturally relevant interventions. In the case of foods, it is particularly important to develop interventions and educational approaches for developing countries that play on the strengths of their heritage and their history and their culture and really build on the roots of their civilizations.

"Well, then—two apples a day."

Finally, in developing countries, as well as in industrialized countries, we need to find out how to implement policies to promote healthy diets and physical activity. How can we really have policies that promote fruit and vegetable and whole grain intake, and how can we build and design our cities and our lifestyles to promote regular physical activity? These are important challenges for all countries (23,24). Price supports can encourage the production and consumption of some foods in preference to others, but price support systems can cause inefficiencies in free markets. If countries choose not to engage in price supports for promoting healthy commodities, they should at least be careful to avoid hidden subsidies for high fat diets, such as subsidies for the production of high fat meats or high fat dairy products. The challenge that faces developing countries is that with the emergence of obesity and chronic diseases due to changes in diet and physical activity in some segments of the society, undernutrition and poor economic development continue to lead to the opposite problems of starvation and physical stress in other areas. There must be a social balance between feast and famine, and between sedentariness and over−exertion. Otherwise, the future economic and social burden of high rates of heart disease and cancer will become a costly burden for developing countries.

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THE CONTRIBUTION OF URBANIZATION AND LIFESTYLE CHANGES TO CARDIOVASCULAR DISEASES, DIABETES MELLITUS, AND OBESITY IN DEVELOPING COUNTRIES

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First I would like to review the epidemiology of urbanization. Then I will discuss some of the relevant lifestyle changes that are associated with development and urbanization, pointing out how they affect cardiovascular diseases, diabetes mellitus and obesity in developing countries. Finally, I would like to examine obstacles or barriers that need to be overcome in order to maintain health and prevent the rise of these non–communicable diseases.

Table 1. Project growth of megacities

	Population in millions	
	1992	*2000*
Tokyo	25.8	28.0
Sao Paulo	19.2	22.6
New York	16.2	16.6
Mexico City	15.3	16.2
Shanghai	14.1	17.4
Bombay	13.3	18.1
Los Angeles	11.9	13.2
Buenos Aires	11.8	12.8
Seoul	11.6	13.0
Beijing	11.4	14.4
Rio de Janeiro	11.3	12.2
Calcutta	11.1	12.7
Jakarta	10.1	13.4
Tianjin	9.8	12.5
Manila	9.6	12.6
Cairo	9.0	10.8
New Delhi	8.8	11.7
Lagos	8.7	13.5
Karachi	8.6	11.9
Bangkok	7.6	9.9
Dacca	7.4	11.5

Urbanization

Most remarkable about the epidemiology of urbanization, is the rate of its occurrence. In 1960 about 30% of the world's population was urbanized. In four years' time, it will reach 50%. The fastest rate of urbanization is occurring in Africa, at 10% per year. In the Eastern Mediterranean region the population has doubled over the last two decades and in the 5 year span from 1985 to 1990, urbanization increased from 39% to 44%. It is likely to reach 50% by the turn of the century.

In some, urbanization is proceeding at an unprecedented rate and most of the growth is taking place in developing countries. Of 21 megacities (more than 10 million population) projected for the year 2000, 18 will be found in the developing world, as shown in table 1.

Lifestyle Changes

Along with urbanization come a number of lifestyle changes. Over the course of thousands of years, populations have struggled to achieve a balance between food intake and energy expenditure, for the most part, trying to avoid a caloric deficit. This is true whether the lifestyle was nomadic or settled. In many developing countries, we can still see traditional food sources and food types, that have not changed over the millennia. However, significant changes have occurred in the availability of food, its caloric value, and in

energy expenditure.

Table 2. Comparison of American and Rural Chinese Diets

	American	*Rural Chinese*
Total fat (% of kcal)	38–40	15
Dietary fibre (g/day)	10–12	34
Soluble carbohydrate (g/day)	240	470
Calcium (mg/day)	1140	540
Protein (g/day, 70 kg male)	90–95	64
Animal protein	70	7
Iron (mg/day)	18	34
Thiamin (mg/day)	1.4	2–3
Retinol (RF/day)	990	30
Total carotenoids (RE/day)	429	836
Vitamin C (mg/day)	73	140
Riboflavin (mg/day)	1.9	1.8
Energy Intake (k–cal/day)	2360	2640

One of the significant innovations associated with development and urbanization is mechanized transportation. The consequence of this is a decrease in physical activity. Furthermore, modern food production, processing and storage require less expenditure of human energy, thus contributing to the imbalance between consumption and output. I consider energy expenditure relative to food intake a crucial aspect of nutrition.

Sometimes the lifestyle changes brought on by innovation and development are overlooked because of an overriding “greater good”. Mass education is an example. We take young children and constrain their physical activity in classrooms over the course of 10 or 15 years. Granted, they become educated but at the same time they develop lifestyle habits that diminish their expenditure of energy. Of course, education can and should include physical activity but all too often it is neglected and as children become adults they become accustomed to a lesser degree of activity. Passive entertainment, facilitated by attractive technologies also contributes to a culture of decreased energy expenditure. An increase in salt and sugar intake is associated with modern food production, food storage, processing and marketing. Total fat consumption increases and the balance between saturated and unsaturated fat is altered, while the intake of anti–oxidants is decreased. Table 2 shows a comparison between a typical American diet and a traditional, rural Chinese diet. Perhaps the most striking difference here is the total fat as percent of calories, which is significantly higher in the Western industrialized diet (38% to 40% compared to 15% in the Chinese diet). The “urbanized” Western diet has much less dietary fibre and the intake of total carotenoids and vitamin C are half that of the Chinese diet. Yet interestingly, the energy intake in terms of kilocalories per day is higher among the rural Chinese who appear to burn off more calories than the average American.

Development brings about a change not only in the constituents of nutrition, but also in the culture of eating. Food is marketed with compelling messages to eat. The public is bombarded by advertising that encourages consumption. At the same time lifestyles are changing with less energy expenditure. The consequence is an imbalance in energy intake relative to output. This can only result in obesity and disease.

The poster shown in figure 1, from North Karelia (in Finland) advocates intake of fresh fruits, particularly berries. There is an interesting story behind this poster and behind the public health message. North Karelia until recently had the highest rate of cardiovascular disease mortality among men in the world. Although the initiative for change came from the public, when it became obvious that one of the things that had to change was the diet, many people resisted, complaining that their traditional diet was being tampered with. Anthropologists and sociologists were called in to study the traditional diet. They found that the so–called traditional diet, which had a high content of dairy products and animal fat, was consequence of the Second

World War, a form of compensation for hard times, and that the pre–war traditional diet had included a lot of berries rich in vitamin C. Finland is heavily forested and has abundant berries. The public began to respond to the message to get back to heart healthy diets. Many societies in developing countries are distancing themselves from their own heart healthy diets as they become urbanized and industrialized and start to adopt Western ways of eating. It is imperative that those traditional diets at least be documented so that they can be referred to and their continued consumption can be encouraged.

Figure 1

I would be remiss in talking about the consequences of modernization without mentioning the problem of tobacco, its production and marketing. There is no question that tobacco leads to premature death from non–communicable diseases, but it also has other effects, including some that impact on nutrition. Tobacco cultivation results in environmental spoilage and competition for limited resources, occupying up to 70% of the land available for agriculture in some developing countries. In Malawi and Tanzania, there is wide–spread destruction of forests to provide fuel for flue curing of tobacco. Unfortunately, such behaviour is motivated by short–term economic gains. Zimbabwe for example derives most of its foreign exchange from tobacco. No wonder then, that smoking is increasing in the developing world. In Jakarta, Indonesia, the prevalence is as high as 60% among men. This is a serious problem and it is not enough to talk about tobacco control. The objective must be tobacco eradication.

Urbanization and Adaptation

We heard earlier about the famous study of Japanese men who were examined and compared in Japan, Honolulu and California. We know that the prevalence of risk factors as well as the prevalence of coronary heart disease increased across a gradient of change. But I do not think the degree of change refers to the extent of urbanization. I do not believe that California is any more urbanized that Japan or Hawaii. What these findings reflect is the impact of migration and of undergoing a rapid change in lifestyle particularly to one that fosters non–communicable diseases.

The complexity of urban life requires adaptation i.e. survival skills. To succeed both individually and collectively, requires time. Newly urbanized or urbanizing societies have not had time to adapt. While Western societies still have problems of urban living to reckon with, they have had a head start in adapting. Societies in developing countries are much more vulnerable because they have not had the same opportunity to fully adapt and they are urbanizing at an unprecedented faster rate.

The transition to urban life involves changes in social relationships. These include changes in the structure of the family unit and in the roles of its individual members, particularly women. Research in social medicine is pointing out the importance of personal control, control of one's work and home environments. Social isolation and the lack of social support add to the stress and increase risk of disease and death. Much of the mortality difference within society is explained by the social gradient from rich to poor, advantaged to disadvantaged and educated to uneducated.

While many Western industrialized countries are beginning to enjoy a decline in mortality from cardiovascular diseases, there are indications of an epidemic rise in diabetes, obesity and cardiovascular diseases in the

developing world. Over half the deaths caused globally by cardiovascular diseases occur in developing countries. Admittedly in most of these countries there are significant problems with disease surveillance, making the validity of data often suspect. But I fully endorse the comments made earlier this morning, that we need to take the data that we have at hand, allow for best estimates and work with them. When we do that, we see that in 1990 there were about 8 to 9 million cardiovascular deaths the developing world. That represents about 70% more than the 5.3 million death that occurred in the developed world. Cardiovascular deaths in developing countries still represent a much smaller fraction of total mortality (15–30%) than the approximately 50% experienced in developed countries. But that is changing and the contribution of non–communicable diseases to total mortality is expected to rise in the developing world in an epidemic fashion.

Again I come back to the contribution of smoking. Peto and Lopez have estimated that smoking kills about 6 people a minute world–wide: one in the European Union one in the United States, one in other developed countries, one in the former USSR, one in China and one in other developing populations. Taking the former USSR as a rapidly industrializing part of the world and adding China and other developing nations, results in about half the mortality coming from the developing world. That is a significant toll. Unfortunately tobacco consumption is being driven by the forces of development.

Table 3 Barriers to Prevention

competing priorities
technology – based interventions
inadequate epidemiological data
poor presentation of messages to policy–makers and the media
failure to recognize the importance of prevention and cost–effectiveness
anonymity
economic and social constraints
vested interests
lack of community mobilization

Barriers to Prevention

The problems I have outlined call for action and in many places a response has begun. But there are barriers to preventive action and I would like to go over some of them, listed in table 3. One is competing priorities. Each developing nation has to determine its own priorities. Donor countries and donor agencies also have competing priorities. The global agenda is full. In the face of multiple requests to help out with a range of problems, often the responses are not proportional to the size of the problem. The need to treat seems more compelling than the need to prevent so we end up with the all too familiar “too little, too late”. Technology based interventions are favoured. They are more glamorous. They are the quick fix and that is why we see such heavy investments in interventions. It is often argued that there is inadequate epidemiologic data and as an epidemiologist I cannot but agree. However, I think there are enough data to support the initiation and implementation of preventive actions.

Another barrier is the poor presentation of messages to policy–makers and the media. We have to talk their language. We have to talk in ways that policy – makers understand and are sensitive to. In that regard, the economic burden of disease provides a compelling argument. The messages have to be clear and consistent. Discordant messages from the scientific community greatly undermine attempts to influence policy. The public can only resist change if they perceive that we ourselves are not even sure whether butter or margarine, both or neither are harmful, or that we keep changing the message. There is an urgent need to develop ethical guidelines on the dissemination of early scientific findings.

Encouraging leadership in the realm of preventive action is beset with barriers. There is often a failure to appreciate the importance of prevention and its cost–effectiveness. The effects are not immediate. Whoever embarks on a career of disease prevention is guaranteed anonymity. It does not bring quick results nor credit for what is done. Consequently, there are not too many heroes in this arena.

Even when the public is informed about heart healthy lifestyle choices, there may be economic and social constraints. Vested economic interests can block availability or impede necessary policy implementation. To effect change, the community must be mobilized. I mentioned North Karelia – there, the initiative came from the people themselves. When the population is mobilized to action, politicians fall in line and start to pay attention.

Who in the developing world is demanding change? Who even recognizes the problems and issues? Prevention of non−communicable diseases starts with education and heightened awareness that a problem exists. For many in all sectors, it is not apparent that a problem even exists, let alone that there are effective strategies available. We heard earlier today about physicians who do not prescribe an appropriate diet for their diabetic patients. Clearly a lot of work needs to be done.

There is a need to place health high on the list of national priorities. This can be achieved in a meaningful way only by a multi−sectorial partnership. The Victoria Declaration on Heart Health emphasizes the importance of a partnership of the community, of its various sectors, both political as well as non−governmental including international organizations and agencies concerned with health and economic development.

Conclusion

I would like to close with a thought about guiding the process of development. Countries in transition have a unique opportunity to profit from innovation and development while avoiding many of its detrimental effects including disability and premature death from non−communicable diseases. This can be achieved only if the lessons learned by already developed nations are made known and brought to the fore as part of the process of aiding development itself. To achieve this requires a code of behaviour that obligates investors and donors as well as recipients. Such guidelines would govern urban planning, introduction of new technologies, implementation of policies − in fact everything that we put under the banner of development.

Suggested Reading

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NEWS AND VIEWS

Combatting Iron Deficiency: Can Weekly Supplementation be Effective?

Iron deficiency is the commonest nutritional disorder in the world, affecting over two billion people, most of them living in developing countries. Infants, small children, adolescents, and fertile−age and pregnant women are particularly vulnerable.

Although iron deficiency is often assumed to be synonymous with anaemia, only about 50% of people with deficiency develop this condition, which is in fact a manifestation of prolonged or severe deficiency.

Currently most programmes for the control of iron deficiency in the developing world, where iron fortification of foods has not been widely implemented, take the form of daily supplementation of the diets of anaemic pregnant women, mainly in the last trimester of pregnancy. Critics of this method argue that clearly this does not address the problem of the lower level iron deficiency that precedes the onset of anaemia, and in any case this type of programme is often ineffective for several reasons. One reason for the failure of such a programme to alleviate iron deficiency and anaemia is that many women suffer undesirable side−effects from daily dosage (it is estimated that 20% or more of women receiving 60mg of iron daily are affected) which leads to an understandable reluctance of women to continue taking the supplements. Providing supplements daily is also time−consuming and costly to administer.

It has been suspected for some time that weekly iron supplementation could provide a solution to the problem of compliance due to undesirable side−effects, and that it could be feasible to use this strategy in a preventative as well as therapeutic way. As noted by participants at the 1995 Annual Session of the SCN "evidence from studies in China, Malaysia, Indonesia, Guatemala, and the United States of America indicated that weekly doses of ferrous sulphate were as effective as daily doses in improving haemoglobin status, without producing side−effects".

A Symposium on "Selected Strategies for the Control of Nutritional Anaemia" was held recently at the 7th Asian Congress of Nutrition, which took place in Beijing, China, from October 7−11, and amongst the topics discussed was the weekly dosage strategy. The results of two new studies were presented. The first, which took place in Malaysia, looked at the effectiveness of weekly iron supplementation in adolescent secondary school girls. According to the researchers "iron and probably folate deficiencies were found in 611 Sarawakian schoolgirls with initial haemoglobin from 8.0 to 13.0 g/dL. Weekly supplements of 60, or 120mg of iron with 3.5 mg of folate, obtained highly significant increments in haemoglobin in 12 weeks, with further improvements in the ensuing 10 weeks, and boosted iron stores". They concluded that "the use of weekly iron and folate supplements is a promising new approach in the control of nutritional anaemia in adolescent girls". In the second study, 405 pregnant Chinese women were randomly divided into four groups and given iron supplements either weekly, daily, or a placebo as a control. The researchers concluded from their results that "there was no significant difference between iron supplementation weekly and daily. Weekly iron supplementation is efficient and safe in controlling iron deficiency in moderately anaemic women."

Providing weekly doses of iron might well be a safe and effective way to prevent and alleviate iron deficiency and anaemia. Studies are ongoing and are beginning to reach conclusions. A sound scientific basis on which to formulate policy is almost in place.

> (Source: Viteri, F.E. (1995) *A New Concept in the Control of Iron Deficiency* (*ID*)*: Community−Based Preventive Supplementation (PS) of At−Risk Groups by Weekly Intake of Iron Supplements,* Tee, E.S., Cavalli−Sforza, L.T., Kandiah, M., Harimah, A., Chong, S.M., Satgunasingam, N. & Kamarudin, L. (1995). *A Study of the Effectiveness of Weekly Iron Supplementation in Adolescent Secondary School Girls in Malaysia: Preliminary Findings*; Liu, X.N., Zhang, J.L., Yen, H.L. & Viteri, F. (1995). *Haemoglobin and Serum Ferritin Levels in Pregnant Chinese Women in Response to Weekly Iron Supplements.* Abstracts of papers presented at the Symposium on Selected Strategies for the Control of Nutritional Anaemia held at the 7th Asian Congress of Nutrition, Beijing, China, October 7−11, 1995.)

Bioavailability of Vitamin A in Vegetables (Was Popeye Wrong Again?)

Spinach was popularly regarded − thanks to Popeye − as good for you, especially for iron; but this has been known to be wrong for many decades now. Surprisingly, results show there may be similar doubts in relation to vitamin A. The low availability of iron from plant sources − particularly "green leafy vegetables" − has been known for some time. For example, the FAO/WHO report on iron requirements[1] noted that "a low bio−availability diet (iron absorption about 5%)... is dominant in many developing countries, particularly among lower socioeconomic groups", and goes on to note that the estimated dietary requirements for iron from low bioavailability diets, for reproductive aged women ".. represent levels of intake that are deemed to be very unlikely on usual dietary patterns". Some have suggested that only by adding bioavailable iron to the diet (through supplementation or fortification) can anaemia be prevented among reproductive−aged women in poor societies with a primarily plant−based diet.

> 1. FAO/WHO (1988). *Requirements of Vitamin A, Iron, Folate and Vitamin* B_{12}. Report of Joint FAO/WHO Expert Consultation. FAO, Rome.

Green leafy vegetables provide many micronutrients. Of major importance are carotenes, potential precursors of vitamin A. The consequences of deficiency in the intake or absorption of vitamin A are well known − the most evident being progressive damage to the eye or "xerophthalmia". Symptoms range from night blindness, through reversible signs in the eye, to ulceration and destruction of the cornea leading to blindness. Increased ill health and mortality have long been associated with vitamin A deficiency, and in recent years intervention trials have established with increasing certainty that providing vitamin A to young children in areas where the deficiency exists has a significant effect on mortality, of around 25% reduction.

In developing countries, strategies for combatting vitamin A deficiency have included: (i) the fortification of food; (ii) pharmaceutical supplementation; and (iii) dietary change − encouraging the consumption of dark−green leafy vegetables, yellow and red fruits and vegetables, and red palm oil which are all rich in

vitamin A precursors and which may be available but underutilized by the deficient population. Of these alternatives dietary change is advocated as sustainable, providing nutrients other than vitamin A, and adding variety to the diet.

A recent study conducted by researchers working in West Java, Indonesia, and published in *The Lancet*[2], has examined the extent to which an additional daily portion of local vegetables can improve vitamin A status in anaemic breastfeeding women. The study was carried out from September 1993 to January 1994 in two neighbouring villages in Bogor district, West Java. Here, a large variety of fruits, vegetables and staples are available all year. Women who were breastfeeding a child younger than 18 months who were anaemic (haemoglobin <130g/L) were screened out for eligibility for inclusion in the study (women with anaemia were selected because they were more likely to have low serum retinol concentrations). 191 women were enrolled in the study in 3 groups – women were matched in each of these groups for age of the breastfed child (many breastfeeding women do not eat fruits for 6 months after delivery, believing them to be harmful to their health). One group received a daily supplement of 100–150g of locally available vegetables (cassava leaves, water spinach, kartuk, spinach, or carrots). A second group received a wafer enriched with beta–carotene, iron, vitamin C, and folic acid – containing a similar amount of these micronutrients in a simpler matrix with better bioavailability. The third group received a non–enriched (control) wafer to allow for any possible effects associated with additional energy intake with the wafer. The supplements were provided 5 days per week for 12 weeks.

> 2. de Pee, S., West, C., Muhilal, Karyadi, D. & Hautvast, J. (1995). Lack of Improvement in Vitamin A Status with Increased Consumption of Dark–Green Leafy Vegetables. *The Lancet,* **346**, 75–81.)

In the enriched wafer group there were increases in serum retinol, breastmilk retinol, and serum beta–carotene. These changes differed significantly from those in the other two groups. Serum retinol and breastmilk retinol did not increase significantly in the vegetable group and serum beta–carotene showed only a very small increase, much less than in the enriched wafer group. Therefore it was concluded that the additional daily portion of vegetables did not improve vitamin A status at all, whereas the beta–carotene provided in the enriched wafer did.

Results were interpreted as showing that beta–carotene is very poorly absorbed from vegetables. This may he due to several factors, for example, physical inaccessibility of carotenoids in plant tissues may reduce their bioavailability – perhaps beta–carotene in fruits is more bioavailable. Other factors that might affect bioavailability, such as parasitic infestation, infection with bacteria, viruses, or protozoa, and intestinal malabsorption, were not different between the groups.

The authors conclude that the findings do not support the long–standing assumption that vitamin A deficiency can be combatted by increasing the intake of dark–green leafy vegetables. Red or yellow vegetables and fruits may be more effective. Red palm oil also remains a potentially important source. Their results need to be confirmed and more work needs to be done on factors influencing the bioavailability of carotenoids from different foods. Use of foods naturally rich in retinol (eggs, whole fish, and liver) and fortified foods should be developed further for overcoming vitamin A deficiency.

The conclusions may be in line with other findings, where behavioural change interventions on a large scale, although shown to improve consumption of vitamin A precursors, had provided scarce evidence of biological impact[3]. Among these, one of the best known projects succeeded in substantially improving the intake of ivy gourd in Thailand (a green–leafy vegetable)[4], but did not show biological impact in terms of changing serum retinol (with similar levels of deficiency to the Indonesia study cited above).

> 3. Gillespie, S. & Mason, J. (1994). *Controlling Vitamin A Deficiency.* State–of–The–Art Nutrition Report No. 14. ACC/SCN, Geneva.
>
> 4. Smitasiri, S. (1994) *Nutri–Action Analysis: Going Beyond Good People and Adequate Resources.* Institute of Nutrition, Mahidol University, Salaya, Thailand/Smitasiri, S. (1993) *Social Marketing Vitamin A–Rich Foods in Thailand: A Model Nutrition Communication for Behavior Change Process.* UNICEF, Bangkok, Institute of Nutrition, Mahidol University, Salaya, Thailand.

The possibility is thus raised that variable bioavailability amongst fruit and vegetables may contribute to inconsistent findings of biological impact. While it has been credibly argued that if plant sources of vitamin A precursors were generally not available, vitamin A deficiency would be much more widespread, it has also

been intriguing that significant amounts of the deficiency have been observed among traditional societies, like Indonesia, where there is plentiful carotene in the food supply. Possibly bioavailability varies, between sources and with other dietary components, notably fat. As the authors of the Indonesia study stress, there is an urgent need for well–designed studies to clarify the present situation, and especially to show which sources of vitamin A precursors, under what circumstances, are effective in preventing vitamin A deficiency. With this information, programmes aimed at behavioural change (see *Features*) can be expected to have greater biological impact.

China: Rising Living Standards hit Cabbage Consumption

Rising living standards in China are leading to dietary changes including decreased consumption of vegetables and increased consumption of meat and eggs, and the types of vegetables eaten are getting more diverse, helped by the increasing use of greenhouses.

One notable victim of these changes has been the cabbage. Each year, in early November, Chinese families have traditionally bought a supply of cabbage sufficient to last through the winter months for consumption on its own, or for addition to dumplings, bread, soup, and rice dishes. Now, however, less cabbage is being bought in favour of a wider variety of vegetables including spinach, garlic shoots, broccoli, egg plant, cauliflower, and tomatoes. As Han Yiwen, a store manager in Beijing put it “cabbage is no longer a main dish, it’s a side dish” – a fact that has generated feelings of loss amongst older Beijing residents who feel a certain sentimental attachment to the vegetable.

All may not be lost, however. Cabbage is still substantially cheaper than any of the newly available vegetables, and the Beijing Evening News reported that on the opening day of cabbage selling season, Beijing residents bought 25.3 million pounds of cabbage, more than three quarters of the amount dumped into the markets.

> (Source: *Passing of a Rite in China: Cabbage is a Casualty of Better Times* by Steven Mufson writing in the International Herald Tribune, 7 November 1995)

Uses of Anthropometry in Infancy

The important findings of a comprehensive inquiry into the use and interpretation of anthropometry in infants have been published in the Bulletin of the World Health Organization. The study, carried out by a WHO Working Group on Infant Growth, focussed mainly on the recently reported discrepancies between the growth patterns of infants as reflected in the current National Center for Health Statistics – World Health Organization (NCHS–WHO) growth reference, and those of infants fed according to current WHO recommendations. The discrepancies have raised questions, addressed in this study, about how such references are employed in anthropometric assessments, and how they should be designed in the future.

During infancy, anthropometric indicators, such as weight–for–age, length–for–age, and weight–for–length, are often used in individuals to assess whether growth is below or in excess of what is considered a normal healthy range. In order to draw conclusions about the growth of a particular infant, a representation of what is considered normal, healthy growth, against which to compare the observed growth is needed. Currently, as mentioned above, the NCHS–WHO growth reference for infants is used for this purpose.

Recently, however, it has been reported that the growth of infants fed according to current WHO recommendations, and living under favourable conditions in various geographical areas, has been less than expected on the basis of the current NCHS–WHO growth reference – especially during the latter half of the recommended exclusive breastfeeding period (i.e. after the age of 3 months), and so much so that health care workers have reached faulty decisions regarding the feeding of infants. Exclusive breastfeeding is recommended by WHO from birth to 4–6 months of age, after which the child should continue to be breastfed, while receiving appropriate and adequate complementary foods for up to 2 years of age or beyond.

The kind of feeding method used has been thought to be largely responsible for the observed variations in growth. The NCHS–WHO reference for infants is based on the Fels Longitudinal Study, conducted in Yellow Springs, Ohio, from 1929 to 1975. Most of the infants in the Fels study were bottle–fed, and of those who were breastfed, very few were breastfed for more than three months. The limitation of the sample to Caucasian infants from predominantly middle–class families, and the taking of measurements every 3 months rather than every month, which is not ideal for characterizing the shape of the growth curve, are also thought to play a part in the observed discrepancies.

In exploring the discrepancies, the Working Group recognized that the NCHS–WHO reference was never intended or designed to be put to use, as it often is, as a “standard” or “absolute diagnostic criterion to define malnutrition or pathology”, but rather it was meant to be a “general guide for screening and monitoring purposes”. This was recognized as an important consideration in the future construction of growth ‘references’ for use in anthropometric assessments.

In order to verify the reported inconsistencies in growth patterns, the Working Group reviewed, between April and June 1992, data sets on the growth of breastfed infants. The criteria for inclusion of a data set in the initial review were: (a) data available on growth during the first 12 months of life for a sample of at least 20 infants fully breastfed for at least 4 months; (b) measurement intervals no greater than 2 months in the first 6 months and no greater than 3 months in the second 6 months of life; (c) information available on the duration of breastfeeding, use of supplemental milk, formulas, and solid foods, and the timing of their introduction; and (d) documentation of socioeconomic conditions consistent with the likely achievement of the growth potential. Seven data sets fulfilled these criteria and were examined in detail: one each from Canada, Denmark, Finland, Sweden, and the United Kingdom, and two from the USA.

Of the 453 infants followed in the seven studies, 226 were breastfed for at least 12 months and not given solids, formula or other milk until after the age of 4 months. These infants are referred to as the “12–month breastfed pooled data set”. The growth of infants in the “ 12–month breastfed pooled data set” was compared with the growth patterns of the NCHS–WHO reference with the following results. Figure 1, taken from the report of the study, shows the mean z–score patterns of infants in the “12–month breastfed pooled data set”, relative to the NCHS–WHO reference. It shows that, for the three anthropometric indicators used, the nutritional status of the breastfed group *appears* to be declining relative to expected growth according to the NCHS–WHO reference. As reported in the study findings “mean weight–for–age declined continuously from 2 to 12 months to a low of almost –0.6 standard deviations at 12 months. The magnitude of the decline in length–for–age was not as great, with the mean z–score tending to stabilize or increase after 8 months: the mean value at 12 months was approximately –0.3 standard deviations. Mean weight–for–length at 12 months was also below the NCHS–WHO reference mean (approximately –0.3 standard deviations)”. In simple terms what this means is that the “breastfed pooled data set” babies grew at a different rate than the mainly bottle–fed NCHS–WHO reference population.

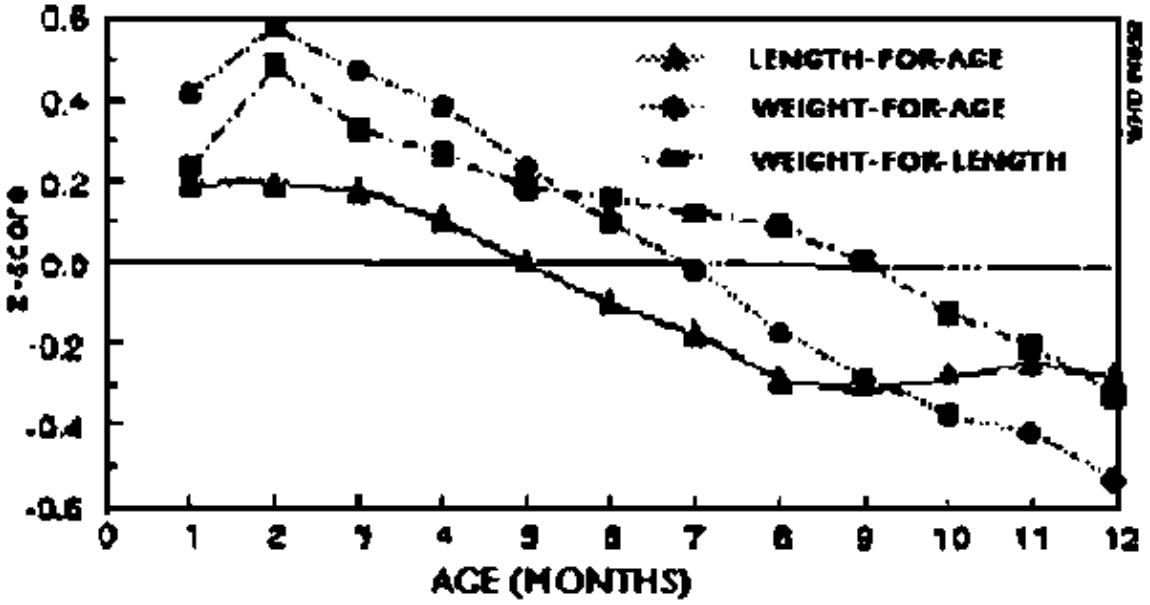

Figure 1. Mean z–score of infants in the “breast–fed pooled data set”, relative to the NCHS–WHO reference

The Working Group found that there was a return towards the current NCHS–WHO reference means for weight–forage, length–for–age, and weight–for–length between 12 and 24 months in most of the studies available to the Working Group with data on this age range.

The practical implications of these findings were explored in the second part of the study. The working group compared data from several “test” populations with the “12–month breastfed pooled data set” and the current NCHS–WHO reference. One of the test populations came from a cross–sectional study of predominantly breast–fed infants under 6 months of age in India. The infants had very low z–scores at birth and thus it is not surprising that they had much lower z–scores when compared with the “12–month breastfed pooled data set”

than with the NCHS−WHO reference. This was due to the higher medians of the pooled data set for all three indicators during approximately the first six months (as shown in figure 1, above). When compared with the current NCHS−WHO reference, the Indian infants' mean weight−for−age z−score increased between birth and 3 months, but then declined between 3 and 6 months. In contrast, when compared against the " 12−month breastfed pooled data set", the Indian infants showed a slight decline in weight−for−age from birth to one month, but an increase in mean z−scores thereafter, which is sustained until 5 months. Therefore, declining status in weight−for−age is likely to be identified beginning at 3 months using the current NCHS−WHO reference, but not until 5 months using the "12−month breastfed pooled data set". The results of a similar analysis conducted on subjects from a squatter community on the outskirts of Lima, Peru, yielded similar information.

The Working group concluded from its evaluation that the "present NCHS−WHO reference is not adequate" and recommended "the development of a new weight and length reference for all infants".

The analysis also led the Working Group to conclude that "the present WHO feeding recommendations, as practised in well−off populations, did not result in maximum growth during the first year". On this finding they commented "while an assumption of an equivalence of maximum with optimal growth underlies the rationale for the development of cut−offs based on the NCHS−WHO reference, this assumption has never been reviewed explicitly by an expert group" − on the other hand, present WHO feeding recommendations are based on an expert review. The Working Group recognized that future scientific information and worldwide improvements in sanitation may alter the present feeding recommendations, which are based on the best wisdom currently available to the global community. It therefore viewed as reasonable the selection of a population of infants fed according to WHO recommendations to evaluate the growth patterns of infants.

The Working Group concluded that a single growth reference would be preferable to separate charts for breastfed and formula−fed infants. Development of two separate charts is not practical and would create confusion when evaluating the growth of infants on mixed feeding. It also recommended that the practical utility of references based on infants breastfed for at least 12 months must be evaluated further. Growth curves based on the pooled analysis should be used in research settings to assess the growth of exclusively or partially breastfed infants and of infants fed formula alone. The proposed studies should include cohorts from both advantaged and disadvantaged populations. The objectives of the proposed research would be the identification of problems encountered by users (e.g. health care providers) in the interpretation of such curves and of the benefits or adverse consequences which may result from changes (relative to the current NCHS−WHO reference) in the proportions of infants classified as faltering, stunted, wasted, or obese or overweight, regardless of the mode of feeding.

Summary of Recommendations

The following recommendations (not listed in priority order) reflect the needs and gaps in knowledge identified during the Working Group's deliberations.

1. A new reference is needed, which enhances the nutritional management of infants

2. The reference population should reflect current health and feeding recommendations because of the frequent use of such references as standards.

3. The practical utility of using reference data based on infants who are fed according to WHO feeding recommendations should be evaluated in a broad range of settings.

4. The effects of different complementary foods on the growth of infants following WHO feeding recommendations merit close investigation.

5. Research is needed for identifying proxy measures for length.

6. Criteria for the evaluation of abnormal growth are needed

7. An evaluation is needed of reference data based on other anthropometric measurements (e.g. skin−fold thickness and arm and head circumferences).

> (Source: WHO Working Group on Infant Growth (1995). An Evaluation of Infant Growth: The Use and Interpretation of Anthropometry in Infants. *Bulletin of the World Health Organization,* **73**(2); 165−174.)

Immunization of Children Increases Globally

Following a drop−off in 1991 and three subsequent years of flat growth, world−wide immunization of children is now increasing again, according to newly released figures from the World Health Organization (WHO).

Data collected by the WHO Global Programme on Vaccines and Immunization (GPV) show that global immunization coverage rates for childhood diseases rose to 80% or more during 1994, the sole exception being for measles. That is nearly the same level as in 1990, the year of the World Summit for Children, when immunization rates reached their all−time peak.

Significantly, the number of new polio cases reported to WHO in 1994 fell below 10,000 for the first time ever, to just over 7,500 cases. However, because the disease is under−reported WHO estimates the real number of cases may be as high as 90,000.

The biggest improvements during the past year were achieved in the African region, where immunization coverage rates increased by up to five percentage points for selected diseases to well over 50% overall. Coverage for measles vaccine is now higher on average in African countries than in Italy, and higher for DPT than in Germany.

As a result of world−wide effort to immunize children, WHO estimates that last year alone almost 3 million child deaths were prevented from tuberculosis, diphtheria, pertussis, tetanus (including neonatal tetanus), polio and measles. Dr Jong Wook Lee, the GPV director, called the latest figures encouraging. “Although these increases are modest, they show the trend is now upwards and that the target of 90% immunization coverage globally by the year 2000 can be met,” Dr Lee said.

(Source: WHO Press Release, 3 October 1995)

Pneumonia in Malnourished Children

contributed by Kim Mulholland, WHO

Whilst a number of immunological deficiencies have been described in malnourished children, particularly those with kwashiorkor, most of the published studies have included children who recently suffered from measles, and it is not clear to what extent the abnormalities described are due to measles or malnutrition (1−3). Whether there are specific immunological deficiencies associated with malnutrition, or whether the immunodeficiency is simply because thinning of the respiratory mucosa makes it easier for bacteria to enter the lung, children suffering from malnutrition are more likely than well nourished children to develop pneumonia and more likely to die from it (4). Pneumonia and other infections in children presenting with malnutrition are often clinically inapparent. In two studies of malnourished Gambian infants 20−25% of children had pulmonary consolidation at the time of presentation, often without symptoms or signs. Other infections such as urinary tract infections may also be present (5).

Aetiology of Pneumonia in Malnourished Children

In a recent study in The Gambia, the aetiology of community−acquired pneumonia was studied in well nourished and malnourished children (6). That study employed blood cultures and percutaneous lung aspirate to detect bacterial causes of pneumonia. *Streptococcus pneumoniae* and *Haemophilus influenzae* were the organisms isolated most frequently from both malnourished and well nourished children, although other causes, particularly tuberculosis, were found more frequently in malnourished children. It must be remembered though that in The Gambia kwashiorkor, which is usually regarded as the most immunosuppressive form of malnutrition, is uncommon, and during the course of the study there was very little measles.

In addition to infections which are present at the time malnourished children are first seen, those children who are hospitalized are particularly susceptible to serious nosocomial (hospital acquired) infections, usually caused by *Staphylococcus aureus* or gram negative organisms such as *Klebsiella spp.* and *Escherichia coli.* As these infections are often fatal, any unexpected deterioration or fever in a hospitalized, malnourished child usually prompts treatment with parenteral antibiotics such as gentamicin with ampicillin or cloxacillin.

Clinical Signs of Pneumonia in Malnourished Children

It is now well established that in a child presenting with cough, fast breathing, and lower chest wall indrawing are the best indicators of the presence of pneumonia. These signs are the basis of the standardized case management approach that is now used by national ARI control programmes in many parts of the world. Unfortunately they are less sensitive in children with malnutrition (7). In other words reliance on fast breathing and chest wall indrawing will miss more pneumonia cases amongst malnourished children than amongst well nourished children. Furthermore malnourished children with pneumonia are more likely to have a normal or low temperature. These findings are not surprising. Fast breathing, lower chest wall indrawing and fever are signs of a healthy body adapting to the presence of infection in the lungs. A weakened malnourished child may be less able to adapt in this way. A study from Papua New Guinea showed that amongst malnourished children admitted to hospital with pneumonia, those who were afebrile, and therefore not responding normally to the presence of infection, were more likely to die (8).

Effectiveness of Drugs

Children with malnutrition often have disturbed gut and liver function. Impaired gut function may interfere with absorption of oral antibiotics. This is particularly likely with oral chloramphenicol palmitate which must be de−esterified by pancreatic lipase prior to absorption by the small intestine. Decreased absorption may also be a problem with other oral antibiotics but few pharmacokinetic studies have been conducted in malnourished children. For these reasons one may be inclined to recommend parenteral antibiotics for malnourished children. However the injection route is not without its problems in these children. Intramuscular injections are painful and difficult in a severely malnourished child with virtually no muscle, while intravenous lines carry serious risks of infection and fluid overload.

Recommendations

Severely malnourished children often have pneumonia and/or urinary tract infection at the time of presentation. Many clinicians argue that all such children who are admitted should receive a course of antibiotics, while others believe that antibiotics should be reserved for proven infections only. If the latter course is followed, the attending physician must look carefully for infections and have a very low threshold for the treatment of pneumonia and other infections, bearing in mind the fact that malnourished children may not display the usual signs of infection. Significant cough, respiratory rate >40/minute, fever (or hypothermia), or chest wall indrawing (including intercostal indrawing) may each be the sole presenting sign of pneumonia in a malnourished child, and any of these signs should be regarded as an indication for antibiotics.

In malnourished children with radiological consolidation which fails to respond to appropriate antibiotics, the diagnosis of tuberculosis should be sought by whatever means are available. Many such children will eventually need a trial of antituberculous therapy but such decisions should not be taken too quickly.

Conclusion

Malnourished children are at greater risk of pneumonia than well nourished children. They may not show the same physical signs of pneumonia, so physicians caring for severely malnourished children should have a low threshold for the use of antibiotics for suspected pneumonia. Whilst the main bacteria responsible for pneumonia in malnourished children are the same for well nourished children, other organisms such as gram negative organisms and staphylococci may be responsible, particularly in those children who have kwashiorkor, those who have had measles, and those who became ill in hospital.

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Breastfeeding and Morbidity in Affluent Populations

Many studies have provided evidence of a protective effect of breastfeeding against infection in infants, but the question of whether or not the effect is sufficiently large to be of public health significance in affluent populations remains unresolved. A study in California has now gone one step further in providing an answer to this question.

Studies which have compared the morbidity of breastfed infants to that of formula fed infants have shown conflicting results. Some, but not all, have found reduced diarrhoeal morbidity in breastfed infants – and similarly, the evidence of protection against otitis media (middle–ear infection) and respiratory illnesses has been mixed.

Of particular importance in assessing the protective effect of breastfeeding is the recognition of, and accounting for, the many other factors which might be responsible for differing levels of morbidity in infants – such as birthweight, parental socio–economic status, and other environmental factors. It has been suggested that inability to control for such confounding variables may be one reason for the inconsistencies in results amongst studies.

The study in California, whose results were recently published in the *Journal of Paediatrics,* has attempted to overcome this problem by matching two groups of infants for as many potentially confounding variables as possible, attempting to leave the method of feeding (breastfed or formula fed until at least 12 months of age) as the only factor differing between them that is likely to affect morbidity (the only significant difference in characteristics other than method of feeding between the study groups was use of day care, and this was controlled for in the analysis).

Morbidity data on the two groups of children were collected weekly during the first two years of life. Analysis of the data revealed that in the first year of life, the incidence of diarrhoeal illness amongst breastfed infants was half that of formula–fed infants. The proportion with any middle–ear infection was 19% lower, and with prolonged episodes (greater than 10 days) was 80% lower in breastfed compared with formula fed infants. There were no significant differences in rates of respiratory illness – but as the authors point out “the vast majority of episodes were mild upper respiratory illnesses. Previous studies have indicated that the protective effect of breastfeeding is greatest for lower respiratory illnesses.” Morbidity did not differ significantly between groups in the second year of life.

The authors of the study conclude that “taken as a whole, the results of this and other studies indicate that the protective effect of breastfeeding against illness is of public health significance even in relatively affluent populations. This study evaluated differences in morbidity associated with breastfeeding during the first 12 months of life. Although nursing for this duration is at present uncommon in the United States, other studies have shown a substantial protective effect even with breastfeeding of shorter duration. In addition to reducing morbidity, the evidence suggests that the cost savings in health care from promoting breastfeeding could be large, given that more than $1 billion is spent each year on diagnosis and treatment of otitis media alone, and that gastro–intestinal illnesses are a major reason for hospitalization during the first year of life”.

> (Source: Dewey, K., Heinig, M. & Nommsen–Rivers, L. (1995). Differences in Morbidity Between Breast–Fed and Formula–Fed Infants. *Journal of Paediatrics,* **126,** 696–702.)

Multivitamins, Folic Acid, and Abnormalities of the Soft and Hard Palate in Infants

The results of research in California, published recently in *The Lancet,* have provided evidence to suggest that there may be a link between folic acid intake before and during pregnancy, and occurrence of orofacial clefts

(such as cleft lip).

It is well documented that deficiency of folic acid, especially during the first weeks of pregnancy, is associated with an increased risk of foetal neural tube defects – and for this reason women are advised to take supplements of this nutrient before they conceive. Surprisingly little is known, however, about whether similar links exist between folic acid deficiency and other congenital anomalies.

In the California study, 731 mothers with infants born with orofacial clefts, and 734 mothers with non–malformed infants were assessed according to whether or not they had taken extra multivitamins containing folic acid during the period from one month before through two months after conception. Results showed that women who took multivitamins containing folic acid around the time of conception had a reduced risk of 25–50% of having children with orofacial clefts. Controlling for the potential influence of other variables did not substantially alter the results. The authors do point out that the results of their study may not have been attributable to folic acid specifically, but may be a consequence of other multivitamin supplement components, or behaviours, that are highly correlated with the use of multivitamins containing folic acid. They conclude "our results indicate a substantial risk reduction for orofacial clefts among pregnant women who used multivitamins containing folic acid periconceptionally. If this association proves causal, many of these anomalies will be preventable."

(Source: Shaw, G., Lammer, E., Wasserman, C., O'Malley, C & Tolarova, M. (1995). Risks of Orofacial Clefts in Children Born to Women Using Multivitamins Containing Folic Acid Periconceptionally. *The Lancet,* **346,** 393–96).

New Woman and Child Nutrition Improvement Project in India

Preparations are underway for new large–scale World Bank–assisted nutrition projects in five States of India – Maharasthra, Uttar Pradesh, Rajasthan, Tamil Nadu and Kerala. The "Woman and Child Nutrition Improvement Project" will aim to draw on the positive lessons from the Tamil Nadu Integrated Nutrition Project (TINP) and the Integrated Child Development Services (ICDS) while taking steps to deal with any identified shortcomings. The ICDS in particular has been frequently criticized in the past for its lack of focus on the youngest children (0–24 months), its lack of coordination with health services and its failure to become rooted in poor communities. These deficiencies will be systematically addressed in the preparation for the project, which also intends to break the inter–generational transmission of malnutrition whereby young malnourished mothers (often still in adolescence) give birth to low birth weight infants who, if they survive, become underweight children and later stunted adults.

The preparation process currently underway is supported technically and financially by UNICEF India, and has involved the convening of state and inter–state consensus–building workshops on nutrition problem assessment/analysis and strategy development, a World Bank Project Identification Mission and recently the initiation of a series of "social assessments". These social assessments – which will ultimately drive the bottom–up design of the project – will comprise a series of participatory appraisals and focus group sessions among marginalised social groups, such as scheduled castes and tribes, in both rural and urban areas. The objective is firstly, to better understand local perceptions of malnutrition, its degree of priority with respect to other social problems and the existing constraints to remedial action, and secondly, to more directly involve stakeholders in project design. The first round of assessments are intended to be completed by April 1996.

(Source: Stuart Gillespie, UNICEF)

Bangladesh Integrated Nutrition Project

Malnutrition is a critically serious problem in Bangladesh. 54% of children under five years are severely or moderately malnourished. 35–50% of new–born babies are below normal weight (less than 2,500 gms.). About 70% of mothers and children suffer from iron–deficiency anaemia. The prevalence of night blindness due to vitamin A deficiency is 1.7%. Iodine deficiency disorders affect 68.9% of the population. These and other problems of malnutrition lead to great burden on the health of the people. Malnutrition adversely affects physical growth, mental capacity, learning ability and productivity costs.

The Government of Bangladesh, UNICEF, and the World Bank, are collaborating in starting a major project aimed at nutrition improvement in Bangladesh.

Objectives

Bangladesh is a signatory to the goals which were adopted at the International Conference on Nutrition (ICN) in Rome (December, 1992). Similarly, Bangladesh is also committed to the spirit of the declaration made by the World Summit for Children (WSC) in 1990. This project is the first major dynamic attempt by Bangladesh to translate the nutritional goals into reality. Therefore, the project goals and objectives are in line with ICN and WSC goals and targets. In addition to this the concept of this project is consistent with the draft National Nutrition Policy.

Ultimate Goal

The project aims to develop a comprehensive national nutrition program. The ultimate goal of the program will be to reduce malnutrition in Bangladesh, particularly in women and children. It also aims to bring sustainable behavioural changes in food intake patterns and caring practices.

The project will have the following major components:

A. National Level Nutrition Activities;
B. A Community–Based Nutrition Component; and
C. Project Management, Monitoring and Evaluation.

Core Component of the Project

The Community–Based Nutrition Component (CBNC) will be the core component of the project. It will develop a community capacity to diagnose its own problem(s) of malnutrition, identify population groups and households which require special attention and set up a mechanism to help themselves. Its central approach is community mobilization, followed by regular Growth Monitoring Promotion (GMP) with a strong element of IEC. This involves the regular (monthly) weighing of pregnant women and children to monitor their growth and using this process to counsel mothers by showing them when there is a growth faltering and explaining the causes and how to take remedial measures. It also involves very selective and targeted supplementary feeding of nutritionally vulnerable children and women. The strategy is to change feeding and eating behaviours at the household level, so that the benefits are sustainable.

The proposed project aims to use supplementary feeding as a tool to demonstrate, educate, and generate community participation for nutrition development. Although small, the supplementation of food will form the nucleus of this participatory action programme. Such community–based nutrition interventions have been shown to be effective in other parts of the world. Without this kind of intervention, all the efforts to ensure food security and good health care, even if very successful, could not fully address the problem of malnutrition.

Supplementary feeding will serve as a demonstration tool to the mothers – to show what some appropriate food can do for the improvement of the nutritional status. Selected children will be fed a ration of 300 kcal/day, six days a week for a period of 4 months and mothers will be fed a 600 kcal ration every day for 6 months during pregnancy and 6 months into lactation. In case of illness, the beneficiaries will be referred to the nearest health care delivery system.

Organizational Arrangements:

The project will be implemented through a Project Directorate at central level under administrative control of the Ministry of Health and Family Welfare (MOHFW). A national Steering Committee headed by the Secretary, MOHFW will be set up for policy guidelines and overall supervision of the project.

At village level female VDP members will be selected to work as Community Nutrition Promoters (CNP). Similarly at union level VDP leaders will work as Community Nutrition Organizers (CNOs). CNPs and CNOs will receive monthly honoraria amounting to taka 500.00 and 1000.00 respectively. If suitable candidates are not available, CNPs and CNOs chosen from the community could then join the VDP organization.

Community Mobilization

The project at community level will enhance community mobilization to share this programme as their own development activity. This will be enhanced by participation of village mothers, committee members, CNP and local personnel: this will be accelerated by the IEC components and other awareness creating programmes.

NGO Involvement

In view of the strong element of community mobilization in CBNC and the experience of several NGOs in similar nutrition activities in the country, it is proposed to involve selected NGOs substantially in the implementation of this component.

Information, Education and Communication (*IEC*)

Person–to–person IEC activities will be carried out under CBNC. Therefore the need for a separate component for IEC is mainly to provide for two distinct sets of activities: (i) development of appropriate IEC messages and production of IEC materials; and (ii) delivery of messages through mass media. Materials produced through the former process will be fed into CBNC as well as the media campaigns. Audience research would first be carried out to understand fully the cultural and behavioural aspects relevant to nutrition, to assess the exact IEC needs in this regard and subsequently to develop the messages. The production of IEC materials would follow. Mass Media will be used for awareness of BINP in general. An appropriate media–mix would also be introduced.

Project Management, Monitoring and Evaluation

Monitoring is a very important part of the proposed project, particularly for two reasons: (i) the project itself is new for Bangladesh and thus lessons need to be learnt as it progresses; and (ii) the activities (especially the inter–sectoral ones) will be carried out by various ministries/departments and some NGOs, thus making the importance of monitoring even greater. The monitoring process will help detect the achievement of the targeted outcomes and direct guidelines for necessary modification if needed. Continuous monitoring of the project as well as mid–term evaluation at the end of three years and final evaluation will be based on a predetermined set of indicators which measure inputs and process as well as outputs and outcomes.

Involvement of UNICEF

UNICEF has provided necessary technical assistance to the Government (Ministry of Health & Family Welfare) in conceptualization and preparation of the project. During the project implementation period UNICEF will provide assistance to the project in the field of Training, IEC/Social Mobilization, Monitoring, Evaluation etc.

Project Cost

Estimated project cost is US$67.3 million out of which the World Bank/IDA and the Government of Bangladesh will bear 59.8 and 7.5 million respectively.

(Source: UNICEF, Dhaka. December 1995)

MICS – An International Household Survey Initiative for Monitoring Progress Towards World Summit for Children Goals

Prompted by a commitment by the United Nations to report at mid–decade on progress toward achieving health, nutrition, education, and water and sanitation goals set at the 1990 World Summit for Children, and the paucity of reliable, current national data for goal–indicators, UNICEF, in collaboration with other agencies – including WHO, UN Statistical Office, and the US Centers for Disease Control – has for the last year been engaged in promoting national sample household surveys world–wide to collect the required data for a small number of internationally accepted Mid–Decade Goal indicators. These surveys, which have come to be known as Multiple–Indicator Cluster Surveys (MICS), are intended to produce nationally representative and statistically robust estimates, of sufficient quality to withstand international scientific scrutiny. They are designed as an integral component of national capacity building for programmatic action and policy review in each of the goal areas. They foster inter–sectoral collaboration in this process.

A standardized questionnaire and survey methodology – including sampling guidelines – were developed in late 1994 and are documented in *A Practical Handbook for Multiple Indicator Surveys* (*Monitoring Progress Toward the Goals of the World Summit for Children*). The *Handbook,* along with data entry and analysis software, was distributed to all UNICEF country offices in January 1995. UNICEF offices were directed to assess local data availability and where necessary, to initiate plans for MICS, in collaboration with appropriate government agencies, and in the framework of National Plans of Action for Children and Women. Technical assistance, coordinated internationally by UNICEF's Planning Office, has been provided to many countries through international and regional training workshops and country missions.

The core questionnaire collects information on the quality and accessibility of drinking water and the adequacy of sanitation facilities; child education; immunization of children and, in the case of tetanus toxoid, mothers; and diarrhoea incidence and treatment. Of particular interest to the SCN News readership, the questionnaire also covers salt iodization, anthropometry, and vitamin A supplementation. Salt used in the household is tested with standard kits by the interviewers. The anthropometry module focuses on child weight and follows procedures described in the booklet *How to Weigh and Measure Children* (UN Statistical Office, 1986). Questions on vitamin A focus on household exposure to particular programmatic initiatives (whether the household has received supplement capsules, or has fortified food products, or has been exposed to public health messages).

Table 1. Countries with Populations of 1 Million or more doing a MICS by Indicator and Region

Region	# of surveys	Underweight	Vitamin A	IDD	Total Countries
West Africa	20	19	14	17	21
East Africa	16	14	14	15	19
MENA	14	13	8	9	17
S. Asia	6	6	5	6	6
E. Asia	10	8	9	10	15
LA & Carib	18	13	14	12	22
CEE–NIS	7	2	3	3	24
Total	91	75	67	72	124

The guidelines in the *Handbook* are flexible and framed in a way to be relevant to a range of country situations: but they are only guidelines. Thus there will be a local flavour to each survey, with respect to sample size and design, the number of modules included, and other areas of inquiry. What has been stressed, however, is the importance of adhering to the wording of questions and of having a sample size sufficiently large to produce good national estimates. As of now, of 124 developing countries with populations of 1 million or more – including the countries of Central and Eastern Europe and the Newly Independent States of the former Soviet Union – 91 have either completed a survey or are committed to completing a survey by early 1996. Of the 91, 56 involve stand–alone MICS, while 35 entail appending MICS modules, or their substance, to other national surveys. Some countries, such as China and India have implemented these surveys at the sub–national level. In India, some 200 MICS have been conducted at the state level.

Not all surveys collect data on every indicator. The anthropometry module has been excluded in several instances due to cost considerations. Therefore, data on underweight children will be available for only 75 of the 91 countries referred to above; on salt iodization for 72; and on vitamin A for 67 countries. Table 1 gives the regional breakdown of survey activity. The level of activity in Africa is particularly notable.

Few results in final report form are as yet available. It is reasonably hoped that data from all surveys will be available at least in preliminary form by May 1996. For the purpose of National reviews that take stock at mid–decade it is essential to have up–to–date readings. The Secretary–General is expected to present his own report on progress since the World Summit for Children in September 1996.

The level of survey activity indicated by the table is a good indication of the poverty of current data on these important indicators. The MICS initiative should go a long way toward redressing this problem. Quite apart from international goal–monitoring, and probably more important, the survey results are expected to be extremely useful at the level of national policy reviews, mobilization of action and national capacity building in programme monitoring.

(Source: Planning Office, UNICEF, 3 United Nations Plaza, New York NY 10017, USA, 5 January 1996)

Progress in Micronutrients in Africa

The first meeting of the Eastern and Southern African Sub–Region of the OAU/UNICEF/WHO/FAO African

Micronutrient Task Force was held at the Red Cross Training Institute, Addis Ababa, Ethiopia, for three days, 28–30th August 1995. Participation was also invited from English speaking West African countries, Egypt and Sudan.

The meeting was convened and jointly organized by OAU and UNICEF ESARO and financially supported by UNICEF, WHO and the Micronutrient Initiative (MI). There were 50 participants from 18 countries and 6 agencies.

The objectives of the meeting were: (1) to take stock of progress made in the achievement of the mid and end of decade goals for micronutrients and identify critical constraints and support needed in accelerating their achievement; (2) to continue with advocacy in order to maintain and sustain high level commitment for the elimination of micronutrient deficiencies; and (3) to assist governments to plan and implement national micronutrient programmes using an integrated combination of high dose supplementation, food fortification, dietary approaches and public health measures to achieve sustainable elimination of micronutrient deficiencies

Main Issues

Based on the four main areas discussed in group work (intervention strategies, food fortification and role of industry, training and networking), participants identified the following main issues which were considered to be critical for accelerating action and ensuring large scale impact of micronutrient programmes.

Intervention Strategies

1. Although there has been commendable progress in action with regard to the control of IDD and recently vitamin A deficiency, there is very little progress in controlling iron deficiency anaemia.

2. There is need to integrate the long–term food based and public health measures with short term and medium term strategies of supplementation and fortification.

3. There is need for an integrated approach e.g., EPI, EPD, MCH–FP, Primary health care and deworming.

4. There is a lack of nutrition education which emphasizes the local availability of micronutrient rich foods.

Actions at Community Level

1. Develop country specific guidelines that empower communities to distribute low dose vitamin A supplements (e.g. 10,000 IU).

2. Promote the production and use of “drought resistant” crops rich in micronutrients.

3. Empower communities to be able carry–out (appropriate) household or village level food fortification, processing and preservation.

4. Empower communities to demand for foods fortified with essential micronutrients (through IEC).

5. Mobilize and support communities/households to fortify local staples (i.e. food to food complementation).

6. Train extension and community level change agents in the use of the Assessment, Analysis and Action (Triple A) and community animation approaches in order to ensure sustainability of programmes.

Actions at National Level

1. Use supplements but emphasize food based strategies at all levels (community, district levels).

2. Lack of up−to−date and quantitative data on Micronutrient deficiency should not delay action in carrying−out interventions in micronutrient deficiency areas.

3. Other programmes like EPI, MCH, EDP and infectious disease control can be used to improve the coverage of the supplementation programs in the countries.

4. Develop a National Strategy for combating micro−nutrient deficiency at community level.

5. Targeted intervention should be undertaken where necessary.

6. Micronutrient programs should be integrated in other nutrition−relevant projects.

7. Identify focal institutions or persons who should serve as co−ordinators for micronutrient malnutrition control.

8. Continue Advocacy to industrial producers, decision makers, other actors and to communities on food fortification.

9. Carry−out food consumption surveys to enable better planning of fortification (i.e., the foods, the levels, etc.).

10. Need to evaluate the needs and the opportunities for fortification in the country (which foods, where is the fortification, by who, at what cost, etc.).

11. Analyze existing information that can be useful for planning and management of food fortification.

12. Training should be tailored to specific tasks.

13. Plan for building in micronutrients issues into ongoing educational systems (primary, secondary and professional schools).

14. Need to develop a training policy/strategy for micronutrients.

15. Need to train district level cadres on micronutrient, management and programming.

(Source: Communication with Dr F. Kavishe, September 1995)

ICCIDD Communication Focal Point

The International Council for the Control of Iodine Deficiency Disorders (ICCIDD) has established its Communication Focal Point in the International Communication Enhancement Center at Tulane University's School of Public Health and Tropical Medicine.

Among the activities of the Communication Focal Point is the ICCIDD Clearinghouse, mandated to collect and classify all types of materials related to IDD and its control such as Books, Reports, Videos, Slides, Manuals, Posters, Brochures, Evaluations, Articles, etc. Some materials, such as published journal articles, are included but they are not a priority because the assumption is that information about their content and how to acquire these are available through other channels. We do not assume, however, that information about the content of all published materials is widely available. In this regard, we try to present the contents in an alternative manner which can be quickly reviewed.

The ICCIDD Focal Point is also charged with the dissemination of information about the material in the Clearinghouse and how these may be obtained. There are three ways in which information on the content of the ICCIDD Clearinghouse is disseminated:

1. Through a publication of the contents called NOTES.

2. Through response to specific queries by searching the database by authors, subjects, keywords, titles, etc. The results of the query are then sent to the interested party.

3. By providing our entire database (database files and the software with a user's guide) which allows anyone to perform their own searches on any author, title, subject, date, key word, or material classification which is of interest to them. Data file updates will be provided semi–annually. If anyone would like a copy of this database on diskette, please contact:

Tulane University SPHTM
ICCIDD Communication Focal Point
1501 Canal Street, Suite 1304
New Orleans, LA 7011
Telephone/Fax: (USA) 504–585–4090

Internet address:
TCIHD@MAILHOST.TCS.TULANE.EDU

In addition to the Clearinghouse, the ICCIDD Communication Focal Point has developed a Universal Iodized Salt Logo and "visiting–card" size IDD Fact & Figures cards in English, Spanish and French. It also played a key role in introducing IDD Day on October 21, jointly sponsored by ICCIDD, UNICEF and the Kiwanis International, the service organization committed to raise $75 million for UNICEF to eliminate this scourge.

(Source: Communication with Thomas E Scialfa, Coordinator ICEC, November 1995)

Fourth Executive Director of UNICEF – Carol Bellamy

On 1 May, 1995, Carol Bellamy took up office as the fourth Executive Director of the United Nations Children's Fund (UNICEF). Ms Bellamy joined UNICEF from her post as Director of the US Peace Corps, a service organization which has 6,500 volunteers in more than 90 countries. Ms Bellamy has a distinguished career in law and finance, and has worked extensively in the public sector, including five years in the New York State Senate (1973–1977). In 1978 she became the first woman President of the New York City Council, a position she held until 1985. She was a member of the Statewide Coalition to Fight Infant Mortality, and chaired the New York City Task Force on Adolescent Pregnancy.

Ms Bellamy was a member of the New York State Commission on Judicial Nomination, the New York City Commission to Review Health and Hospitals Corporation, the Executive Committee of the Citizens Budget Commission, and co–chair of the New York Public Transportation Improvement Coalition. She also served as a member of New York State's Blue Ribbon Commission on State Legislative Practices and Ethics, as chair of the Congressional Office of Technology Assessment's Advisory Panel on Public Works Technologies, Management, and Finance and on the Peace Corps Advisory Council. Ms Bellamy graduated in law from New York University in 1968. She is a former Fellow of the Institute of Politics of the Kennedy School of Government at Harvard University and an honorary member of the Phi Alpha Alpha, the US National Honor Society for Accomplishment and Scholarship in Public Affairs and Administration. Ms Bellamy graduated with honours from Gettysburg College in 1963. She was born in Plainfield, New Jersey, on 14 January 1942.

(Source: UNICEF Biographical Information Note, May 1995)

Richard Jolly, New Chair of the SCN

UNICEF/95–0103/John Isaac

Dr Richard Jolly of UNICEF was nominated as Chair of the ACC/SCN at the recent Session, held in PAHO in June. The appointment was endorsed by the ACC system in September, for a two year period.

From 1982–1995 Richard Jolly was deputy to UNICEF's Executive Director, James P. Grant, and took part in all UNICEF major programme developments, during that time, including the initial formulation of the Child Survival and Development Strategy, the emergency response to the African drought in the mid 1980s and the acceleration of immunization and ORT towards the 1990 goals. Following the World Summit for Children, he ensured UNICEF's full support to help countries implement the goals agreed at the summit, especially in the areas of health, nutrition, water, education and family planning.

In the early 1980s, with the study "Adjustment with a Human Face", Dr Jolly spearheaded efforts to direct attention to the needs of children, women and the poor, in the making of economic adjustment policies. Under his direction, UNICEF's programme concerns shifted from an almost exclusive focus on women as mothers to support for women as women.

During the 1980s, Dr Jolly was Chair of the Steering Committee of the Joint Nutrition Support Programme (JNSP). This programme, funded by the government of Italy, at a level of more than US$80m, supported innovative nutrition projects in nearly 20 countries. These included the Iringa project in Tanzania, which contributed greatly to the current emphasis on community–based programmes; and the goitre control programme in Bolivia, a forerunner of the worldwide campaign to end IDD.

Dr Jolly maintains a special concern for Africa. From 1987 to 1991 he was Vice Chairman of the interagency task force chaired by Professor Adedeji which followed up the UN Programme of Action for African Economic Recovery and Development (UNPAAERD). In 1992 he led UNICEF's Programme preparations for the OAU/UNICEF International Conference for Assistance to African Children (ICAAC).

Earlier, after graduating from the University of Cambridge in 1956, he spent two years as a Community Development Officer in Baringo District, Kenya, concerned with literacy, women's activities, village water supplies, and other community action. He then studied economics at Yale University (gaining his doctorate for a study later published as "Planning Education for African Development". After a year in Makerere College, Uganda, he worked from 1964–66 and again in 1970 in the Office of National Development and Planning of the Government of Zambia, concerned with the economic framework of Zambia's First and Second National Development Plans and with the sections on human resources.

Dr Jolly is committed to interagency collaboration to strengthen the whole UN effort in development. For three years, he chaired CCSQ (Ops), the most senior committee which brings together all UN agencies involved in development. For three separate years he chaired the Joint Consultative Group on Policy. During this time the UN agencies identified common objectives, took major steps towards agreeing guidelines for strengthening the Resident Coordinator system, agreed methods on harmonized cycles and common premises, and established the first interagency mechanism for training senior level field personnel.

Richard Jolly is a member of the Governing Council of the Society for International Development and was Vice President from 1982–1985. In 1987 he became Chairman of SID's North South Roundtable. Recent meetings from the North South Roundtable under his chairmanship have led to reports on Reform and Strengthening of the United Nations (including presentations in ECOSOC) and to reports and meetings on The Economics of Peace, Mass Movements of People (organized as part of the 40th anniversary of UNHCR) and The Challenge of Africa and Southern Africa. A recent series of meetings of the North South Roundtable (1993) was on "The Bretton Woods Institutions and the United Nations: challenges for the 21st century".

Richard Jolly gave the third Barbara Ward Lecture at the SID World Conference in Amsterdam in 1985 on "Adjustment with a Human Face", which drew on the study he directed for UNICEF on "The Impact of World Recession on Children" (published a year earlier). This set forth specific actions which could be taken to protect children, and other vulnerable groups in the course of adjustment policy. He was co–editor and author with Andrea Cornia and Frances Stewart of UNICEF's study on this theme, also entitled "Adjustment with a Human Face" (published in 1987).

"I am pleased and honoured to take on the Chairmanship of the SCN, which I have long considered one of the most creative of the interagency bodies. I am excited to come to the job to play my part in facilitating interagency action, especially to accelerate the rate of improvement in nutrition worldwide. In this I give particular importance to Africa, where there has be so little improvement in recent years and where challenges are so enormous." Richard Jolly said of his new appointment.

Starting January 1996, Richard Jolly will be Special Advisor to the Administrator of UNDP and architect of UNDP's Human Development Report.

XVII International Vitamin A Consultative Group Meeting

The above meeting, scheduled to take place in Guatemala City from 18–22 March, 1996, will take the theme of "Virtual Elimination of Vitamin A Deficiency: Obstacles and Solutions for the Year 2000". Invited presentations on this theme will be included in the programme together with oral, poster, and video presentations to be selected from submitted abstracts on the following topics: population assessment of vitamin A deficiency and marginal vitamin A deficiency; biologic significance of vitamin A deficiency and marginal vitamin A deficiency; and appropriate interventions, especially food–based approaches and highlighting food fortification.

Policy makers, implementors, and scientists in health, nutrition, biochemistry, agriculture, horticulture, and development are expected to be amongst the more than 300 participants attending the meeting, which is sponsored by IVACG and a local organizing committee coordinated by the Instituto de Nutrición de Centro America y Panama (INCAP).

For farther information please contact: IVACG Secretariat, ILSI Research Foundation, 1126 Sixteenth Street, N.W., Washington, D.C. 20036, USA. Phone: (202) 659 9024 Fax: (202) 659 3617 Email: OMNI@DC.ILSI.ORG.

(Source: IVACG Press Release, April 1995)

Diet, Nutrition & Chronic Disease – Lessons from Contrasting Worlds, London School of Hygiene and Tropical Medicine Sixth Annual Public Health Forum

The above Forum will take place from 31 March – 3 April 1996 in the Goldsmiths' Lecture Theatre in the London School of Hygiene & Tropical Medicine (LSHTM) in central London.

The aims of the Forum are to: bring together scientists, policy makers and those working in public health from both developing and developed countries to share knowledge and experiences of the growing problem of chronic non–communicable diseases; increase international awareness, by describing the global burden of chronic non–communicable diseases, and predicting the likely trends, particularly in developing countries; evaluate the impact of changes in diet, nutrition and lifestyle that predispose to chronic non–communicable diseases in modern societies; identify and prioritize major research issues; suggest strategies to enable health policy makers, particularly from developing countries, to obtain information on the burden of chronic non–communicable diseases and to plan effective counter–measures; and produce a major publication summarizing the current state of research into chronic non–communicable diseases and strategies for prevention worldwide.

For further information please contact: Alice Dickens, Conference Organizer, London School of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT, United Kingdom. Phone: (44 171) 927 2314 Fax: (44 171) 580 7593 Telex: 8953474 Email: forum@lshtm.ac.uk.

(Source: LSH&TM Booklet, undated)

The Second European Congress on Nutrition and Health in the Elderly, Hotel Marienlyst, Elsinore, Denmark, May 9–12, 1996

The elderly constitute an increasing proportion of the population. Nutrition has an important impact on the maintenance of health and quality of life, and the prevention of illness, in the elderly. The importance of optimal nutrition for the elderly is now recognized and the above congress has been organized for the sharing of experience and research results in age, nutrition and function of the elderly with a broad scientific audience.

The 1st European Congress on Nutrition and Health in the Elderly was arranged to present the Euronut, SENECA study, in 1991 in the Netherlands. It was decided to continue European congresses on nutrition and health in the elderly. The main theme of the Second European Congress will be: ageing, nutrition and body composition. The main sponsor of the Congress is the Danish Dairy Board.

For farther information, please contact the Congress Secretariat, Conventum Congress Service, Hauchsvej 14, DK–1825, Frederiksberg C, Denmark. Phone: 45 31 31 08 47 Fax: 45 31 31 06 14.

(Source: Congress 1st Announcement, undated)

28th International Geographical Congress

The Hague, August 5–10, 1996, are the location and dates of the 28th International Geographical Congress. The Congress will take the theme of "Land, Sea and Human Effort", and promises to offer something for everyone who is engaged, either scientifically or professionally, with the issues of people in the environment. The extensive schedule will include general sessions, symposia, state–of–the–art lectures, commission/study group sessions, joint sessions, day trips, scientific field trips, and business meetings.

For farther information please contact: Congress Secretariat, 28th IGC, Faculteit Ruimtelijke Wetenschappen Universiteit Utrecht, Postbus 80.115, 3508 TC Utrecht, The Netherlands. Phone: 31 30 532044 Fax: 31 30 540604 Email: r.vanderlinden@frw.ruu.nl.

(Source: Congress Preliminary Program, undated)

XII International Congress of Dietetics

The above Congress, hosted by the Nutritionist–Dieticians' Association of the Philippines, under the auspices of the International Committee of Dietetic Associations, will take place from 18–23 February 1996 at the Philippine International Convention Center. For further information please contact: Congress Secretariat, XIIth ICD, c/o Nutritionist–Dietician's Association of the Philippines, PO Box 4486, Manila, The Philippines or Prince Tower Condominium, 14 Tordesillas Street, Makati, Metro Manila, Philippines 1200. Fax: (63–2) 815 1935; 522 1090 Phone: (63–2) 810 5034; 521 4884.

(Source: Congress Final Announcement and Call for Abstracts, undated)

International Conference on Health Promotion and Nutrition

Wageningen, the Netherlands, January 25–26, 1996. Organized by the European SUPER project team.

In 1996 the European SUPER project will celebrate its fifth anniversary. With the recognition that nutrition–related diseases are one of the main causes of premature death in Europe, the project, also known as the Nutrition Multi–City–Action–Plan, began in 1990 with the objectives of: fostering a positive change in knowledge and attitudes regarding healthy diets and a change in dietary behaviour to improve public nutrition as a contributing factor to the long–term reduction of nutrition–related diseases (cardio–vascular disease, cancer, etc.); bringing about a positive change in environmental factors which influence public nutrition; and incorporating the programme into local structures. The project is coordinated by the Department of Communication and Innovation Studies of the Wageningen Agricultural University, and currently eight European cities are involved (all cities are members of the Healthy Cities Project of the World Health Organization).

To celebrate the anniversary and to share experience from the project with others the project team has decided to organize an International Conference on Health Promotion and Nutrition on the 25th and 26th January 1996, in Wageningen, the Netherlands. The conference aims to bring together professionals from the field of health promotion and nutrition who have a commitment to the WHO principles of Health for All and Health Promotion. The purpose is to share scientific and practical experiences gained from the SUPER programme to help illustrate how to achieve the goals of equity, participation and collaboration in practice.

The conference is aimed at assembling all persons actively involved in the promotion of health and nutrition, e.g. health promotion professionals, public health researchers, nutritionists, community dieticians and community workers.

The conference will be held at the Wageningen International Conference Centre (WICC–IAC).

For further information please contact: Lenneke Vaandrager, Department of Communication and Innovation Studies, De Leeuwenborch, Hollandseweg 1, 6706 KN Wageningen, The Netherlands. Phone: 31 317 490287 Fax: 31 317 418552.

(Source: Conference Information Folder, undated)

Second International Congress of Food and Cancer Prevention

The elderly are constituting an ever increasing proportion of the population and there is growing interest amongst the general public, industry, and policy−makers in improving health and quality of life during old−age, including the prevention of age−related cancers. Results of scientific research over the past few decades have clearly shown that nutrition can play an important role in the prevention of cancer, and the aim of the International Congress for Food and Cancer Prevention II is to discuss scientific developments in this field.

The Congress, to be held in Ede, The Netherlands, from May 19−22, 1996, is directed towards research into nutritional factors involved in the primary prevention of cancer. The title “Food and Cancer Prevention” implies a broad approach, in which both vegetable and animal products will be included.

For further information please contact: Congress Office, Wageningen Agricultural University, FCP II Congress, c/o Joost Meulenbroek, PO Box 9101, 6700 HB Wageningen, The Netherlands. Phone: +31 317 482029 Fax: +31 317 484884 Internet: JOOST.MEULENBROEK@ALG.VL.WAU.NL.

(Source: Conference First Circular and Pre−registration form, May 1995)

6th International Course on Food Processing

The International Agricultural Centre (*IAC*)*, based in Wageningen, The Netherlands, is organizing two course programmes on Quality Assurance and Marketing in Food Processing Enterprises, and on Food Fortification for the Elimination of Micronutrient Malnutrition as part of its International In−Service Training Course on Food Processing* (*ICFP*) *The following information about the courses is extracted from the course booklet.*

The course on Quality Assurance and Marketing (ICFP−QAM) is intended for professionals from business advisory, training and support institutions and technical and technological services for formal small and medium scale food processing enterprises, and entrepreneurs in small and medium scale enterprises. This programme aims to broaden participants’ views on problems of small and medium scale food processing, to upgrade participants’ knowledge concerning the analysis of problems and the selection of appropriate technologies, and to impart techniques for the implementation of selected technologies, focusing on quality assurance and marketing. The course will take place from August 11 − November 16, 1996.

IAC participates in The Program Against Micronutrient Malnutrition (PAMM), a global network based in Atlanta, USA, that is working towards the virtual elimination of iodine and vitamin A deficiency disorders and a one−third reduction of iron deficiency anaemia by the year 2000. Assistance for the development of interventions includes support for dietary supplementation, food diversification and fortification of common foods with physiological amounts of micronutrients.

Food Fortification is the most sustainable long−term strategy to control iodine deficiency disorders (IDD). It is also an important short and medium−term strategy to combat vitamin A deficiency (VAD) and iron deficiency anaemia (IDA). A six week course programme on Food Fortification for the Elimination of Micronutrient Malnutrition is offered by IAC, Wageningen. It provides information on fortification technology and processes, appropriate food vehicles that may be fortified, and fortificants that convey micronutrients.

The programme is designed for those working in advisory positions for food fortification technology applications in national Micronutrient Malnutrition programmes such as: government employees with an advisory role to the food processing industry, industry employees, in−charge of food fortification processing; and private consultants, hired as advisors on technical and operational questions on food fortification by government and/or industry.

This programme aims to provide participants with insight and views on how to develop and refine the skills to promote and manage the fortification of strategic foods with micronutrients for national programmes and to create acceptance of food fortification among concerned groups, i.e. the government, private enterprises and consumers. The course will take place from October 6 to November 16, 1996.

For further information please contact: International Agricultural Centre (IAC), PO Box 88, 6700 AB Wageningen, The Netherlands, Lawickse Allee 11. Phone: 31 317 490111 Fax: 31 317 418552 Email: iac@iac.agro.nl. Telegrams INTAS Telex: 45888−INTAS NL.

(Source: Courses booklet, undated)

Refresher Courses in Human Nutrition in London, UK.

In 1996 the Human Nutrition Unit (Department of Public Health and Policy) of the London School of Hygiene and Tropical Medicine is offering a choice of seven Study Units from their MSc course on Human Nutrition which make ideal refresher courses for professionals and visiting scholars in the fields of nutrition and health.

Each course, which lasts for five weeks, comprises 2.5 days per week of timetabled teaching. The courses are as follows:

8 January – 9 February 1996
1. Nutritional Epidemiology in Public Health
2. Diet & Disease

19 February – 22 March 1996
3. Maternal & Child Nutrition
4. Nutritional Assessment & Malnutrition

22 April – 24 May 1996
5. Nutrition Programme
6. Policy in Food and Nutrition
7. Nutrition in Emergencies

The refresher courses are organised and taught by the staff of the Human Nutrition Unit, with the assistance of visiting lecturers for some specialist topics. Course activities will include integrated class teaching, group work, library work, computer–based exercises, discussions, role–play, and case–studies, using tutors' and participants' experience. Students will be encouraged to bring relevant material.

Course participants are expected to include middle and senior level professionals working in the areas of health and/or nutrition in government, non–government, and development agencies worldwide.

For further details please contact: Dr A Tedstone, Human Nutrition Unit, 2 Taviton Street. London WC1H 0BT, UK. Phone: 0171 927 2128 Fax: 0171 383 5859 Telex: 8953474 LSHTM Email: A.Tedstone@lshtm.ac.uk.

(Source: LSH&TM Leaflet, undated)

Courses at the Institute of Nutrition and Food Hygiene (INHA), Cuba in 1996

The Institute of Nutrition and Food Hygiene (INHA) of Havana, Cuba, was established in October 1984. It is a research center for the scientific study of problems of food and nutrition related to the promotion of human health, prevention of diseases associated with food quality or inadequate diets, and with the dietetic management of disease. The INHA is the National Reference Centre of the Ministry of Public Health in all aspects which relate nutrition to human health.

In 1991, INHA became a WHO Collaborating Center in Research and Training in Human Nutrition, especially in those aspects related with non–communicable diseases. Scientific links have been established with the Institute of Nutrition of Central America and Panama (INCAP), in Guatemala; the Institute of Nutrition and Food Technology (INTA), in Chile; the Caribbean Food and Nutrition Institute (CFNI) in Jamaica; several universities and research centres in Venezuela, Ecuador, Colombia, Argentina and Mexico; the Dunn Nutrition Centre in the United Kingdom; the German Institute of Nutrition in Potsdam, Germany; and the Agricultural University in Wageningen, the Netherlands.

INHA will be holding the following International Postgraduate Courses in 1996.

1. *International Masters Degree in Nutrition in Public Health.* September 9 1996 – July 18, 1997. Coordinator: Prof. Troadio Gonzalez. Fee US$ 7,800

2. *Sanitary Control of Cosmetic Products.* February 19–23,1996. Coordinator: Dr Lidia Altunaga. Fee US$ 365* or 315**

3. *Risk Analysis and Critical Control Points in Foods.* March 4–8, 1996. Coordinator: Dr Angel Caballero. Fee US$ 365* or 315**

4. *Food–Borne Diseases.* March 11–15, 1996. Coordinator: Dr Manuel Grillo. Fee US$ 350* or 245**

5. *Food Toxicology.* March 25–April 5, 1996. Coordinator: Lic. Miguel O. Garcia–Roche. Fee US$ 410* or 280**

6. *Micotoxicology.* April 8–19, 1996. Coordinator: Lic. Olga Sanchez. Fee US$ 400* or 280**

7. *Food and Nutrition of the Healthy Man:* Theory and Practice. May 20–31, 1996. Coordinator: Prof. Troadio Gonzalez. Fee US$ 600* or 420**

8. *Mother and Child Nutrition in Primary Health Care.* June 3 – July 12, 1996. Coordinator: Prof Manuel Amador. Fee US$ 1,650* or 1,155**

9. *Anthropometric Indicators of Nutritional Status.* July 15–30,1996. Coordinator: Lic. Armando Rodriguez. Fee US$ 715* or 615**

10. *Quality Control in Food Assay Laboratories.* September 2–13, 1996. Coordinator: Ing. Maria V. Luna. Fee US$ 400* or 280**

11. *Physiological Requirements and Protein Quality.* September 16–20, 1996. Coordinator: Lic. Mario Abreu. Fee US$ 400* or 280**

12. *Fats in Human Diet: Effects on Health.* October 14–18,1996. Coordinator: Dr Alaejandrina Cabrera. Fee US$ 330* or 210**

13. *Food and Nutritional Surveillance.* October 28–November 1, 1996. Coordinator: Prof John Gay. Fee US$ 300* or 210**

14. *Computer Programs Applied to Dietary Assessment for Food and Nutrition Surveillance.* November 4–22, 1996. Coordinator: Lic Armando Rodriguez, Fee US$ 1050* for three modules (US$ 350/module) or US$ 750** for three modules (US$ 250/module)

15. *Food Security.* November 25–29, 1996. Coordinator: Dr Santa Jimenez. Fee US$ 300* or 210**

16. *Data Analysis in Nutritional Studies.* December 2–13,1996. Coordinator: Lic Pedro Monterrey. Fee US$ 700* or 600**

> * Price includes registration fees, printed materials, lodging, and meals in the Guest's House of the Institute of Nutrition and Food Hygiene. Teaching activities take place in the same location.
>
> ** Price includes only registration fees and printed materials.

For further information please contact: Professor Mirta Hermelo, MD, PhD. Head, Dept. of Postgraduate Education, Institute of Nutrition and Food Hygiene, Calzada de Infanta 1158, La Habana 10300, Cuba. Phone: (537) 78 1835 or (537) 70 8947 Fax: (537) 33 3375.

> (Source: Communication with Professor Manuel Amador, Deputy Director, INHA, September 1995)

SOURCES OF NUTRITION TRAINING MATERIALS

Compiled by the International Committee of the Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush, London W6 7NJ, UK. Fax +44 171 602 1756.

The following organizations produce and/or distribute English–language materials useful to trainers in tropical low–income countries. Some have materials in French, Spanish and other languages. To obtain the materials please write directly to the organization not the Nutrition Society.

Prices for the materials listed are given where known but may change; they are in US$ or UK£ unless stated otherwise. If there are two prices the first is for low–income and the second for industrialized countries. Post and packing (p&p) is sometimes extra. We suggest you write for details of recent materials, prices and methods of payment before ordering. Single copies of priced items are sometimes sent free to low–income countries.

Inclusion of an item does not necessarily mean the Nutrition Society recommends it although we have tried to list the more useful materials available. We thank everyone who supplied information and would be pleased to receive corrections and additions for updating this list.

Academy for Educational Development, 1255 23rd St NW, Washington DC 20037, USA Fx +1 202 862 1947. Examples: *Q/A on infant feeding* 1991, *Learning to listen to mothers* 1993 Free/$4

African Medical & Research Foundation (AMREF), Publishing Department, Box 30125, Nairobi, Kenya Fx +254 2 506112. Some items also available (using local currency) through AMREF offices in Uganda, Tanzania, South Africa, USA & UK (TALC). Examples (prices dependent on exchange rates):

☐ Distance learning for village educators *Breastfeeding course* £20

☐ Books *A guide for training teachers of health workers* 1993 £3.50, *Helping mothers to breastfeed* 1992 £2.50 *Community nutrition for eastern Africa* 1994 £7.00

AHRTAG, Farringdon Point, 29–35 Farringdon Rd, London EC1M 3JB, UK Fx +44 171 242 0606. List of training materials *Breastfeeding information resources* Free/£5

Caribbean Food & Nutrition Institute, Box 140, Mona, Kingston 7, Jamaica Fx +809 927 2657. Examples: flash cards $4/$8/set, leaflets $3/$6/set, flipcharts $2.50/$5 each.

Centre for Health Education, Training & Nutrition Awareness (CHETNA), 2nd Floor, Drive–In Cinema Building, Thaltej Rd, Ahmedabad 380 054, Gujarat, India. Example: Chart/Booklet *Anaemia Training Kit*

Department of Health, Nutrition Unit, Room 501A, Skipton House, 80 London Rd, London SE1 6LW, UK *Nutrition core curriculum for nutrition in the education of health professionals* Free

Food & Agriculture Organization, Food Policy & Nutrition Division, 00100 Rome, Italy Fx +39 6 5225 3152. Example: Training pack *Field programme management. Food & nutrition: population & nutrition* 1988

Helen Keller International, 90 Washington St, New York NY 10006 USA Fx +1 212 943 1220. Examples:

☐ Training guides *Vitamin A training activities for community health & development* 1993 $10, *Ending hidden hunger* 1993 $30

☐ Cards *Guidelines for prevention of blindness due to vitamin A deficiency* 1988 $1 & poster $3, *Health workers find, treat, prevent vitamin A deficiency* 1988 $1, *Know the signs & symptoms of xerophthalmia* Undated $1

☐ Brochures with slide strip or slides *Vitamin A/Child Survival* 1990 $6, *Saving a child from xerophthalmia* 1990 $4.50

ICCIDD Focal Point, Tulane University School of Public & Tropical Medicine, 1501 Canal St, Suite 1300, New Orleans, Louisiana 70112, USA. Sources of IDD materials *ICCIDD Notes.* Free

International Baby Food Action Network (IBFAN), c/o GIFA, Box 157, 1211 Geneva 19, Switzerland Fx +41 22 798 4443. Examples:

☐ Information kit on breastfeeding *Fighting for infant survival* 1989 Free/Sfr5

☐ Guide to code on marketing breastmilk substitutes *Protecting infant health* 1993 ed. Free/Sfr5

International Vitamin A Consultative Group, Nutrition Foundation, 1126 16th St NW, Washington DC 20036, USA Fx +1 202 659 3617. Example: *Nutrition communications in vitamin A programs: resource book* 1992?Free

London School of Hygiene & Tropical Medicine, Human Nutrition Unit, 2 Taviton St, London WC1H 0BT, UK Fx +44 171 383 5859. Prices UK/EU/other countries. Examples:

☐ Manuals *Statistical exercises in nutrition* £10/$20/$25, *Basic Nutrition* £8/$ 16/$ 17, *Assessment of nutritional status* £12/$24/$30

☐ Videos *Techniques of anthropometric measurement, Interpretation of anthropometric measurements, Assessment of problems in the community* £20/$40/$50 each

Liverpool School of Tropical Medicine, Liverpool Epidemiology Programme, School of Tropical Medicine, Pembroke Place, Liverpool L3 5QA, UK Fx +44 151 708 8733. Computer learning package *Nutritional Surveillance Learning Module* 1994 £25

Nurture, Center to Prevent Childhood Malnutrition, 3333 K St NW, Suite 101, Washington DC 20007, USA Fx +1 202 298 7988. Examples:

☐ Leaflet *First Foods* 1992 Free
☐ Slide sets on breastfeeding, birth spacing, child survival $25 each.

Task Force SIGHT *&* LIFE, Box 2116, 4002 Basel, Switzerland Fx +41 61 688 1910 (supported by Hoffmann–Roche). Example: Video *The battle against nutritional blindness* ?Free

Teaching Aids at Low Cost (TALC), Box 49, St Albans AL1 5TX, UK Fx +44 1727 846852. Examples:

☐ Sets of 24 slides with text/tape. *Iodine deficiency disorders* 1995, *Breastfeeding problems* 1991, *Protein Energy Deficiency – signs & causes* 1990, *Breastfeeding* 1989, *Anaemia – reporting blood films* 1986 *Weaning foods & energy* 1985, *Xerophthalmia* 1985, £4.50–£16 + p&p

☐ Flannelgraphs *Nutrition & Child Health* £21.50 +p&p

☐ Sheets *Child–to–child activity sheets* 1990s £2 +p&p

☐ Books *Facts for life* 1993 £2, *Children for health* 1993 £2, *Communicating health* 1993 £5.80, *Helping mothers to breastfeed* 1992 £2.50, *Nutrition for developing countries* 1992 £3.95, *Protein energy malnutrition* 1992 £5, *Maternal & child health in practice* 1988 £3.40, *Teaching health care workers* 1985 £5, *Helping health workers learn* 1982 £6, All + p&p

South Pacific Commission, Publications Section, BP D5, Noumea Cedex, New Caledonia Fx +687 263818. Prices for outside S. Pacific. Examples:

☐ Colour posters *Alcohol is dangerous, Atoll foods* $5 each
☐ Leaflets of South Pacific foods $2 each
☐ Flipchart on baby's health $ 10
☐ Games *Bingo, Snakes & Ladders* $5–28
☐ Videos *First foods for my baby, Healthy food choices* $20 each

University College, London, Department of Biochemistry & Molecular Biology, Gower St, London WC IE 6BT, UK; email dab@biochem.ucl.ac.uk; Fx +44 181 907 9933. Computer programmes (IBM compatible PC) for nutrient analysis of 470 foods & activity diary/energy expenditure calculation £25 EU, £30 airmail outside EU

University of the South Pacific, Continuing Education, Box 1168, Suva, Fiji Fx +679 300 482. Nutrition community education books 1990 *Family food supply, Preparation of Pacific Island foods; Food, drinks & life, Food, drinks & fitness, Food, drinks & non–infectious diseases, Food, drinks & infectious diseases, Preservation of Pacific Island foods, Food in schools, Assessing community food & nutrition needs, Food needs for family members, Teaching & learning, Making & using training materials* Also available from SPC (see above). Approx $10 + p&p each.

UNICEF, Programme Publications, 3 UN Plaza, New York, NY 10017, USA Fx +1 212755 1449 or request free copies from your UNICEF Country Office. Examples:

☐ Training guides: *Breastfeeding management & promotion in a baby–friendly hospital – 18 hour course for maternity staff with* 40 slides 1993 $40, *Training guide to lactation management* 1992 $20

☐ Videos *Hidden Hunger* (micronutrient deficiencies) $20, *The Silent Scourge* (iodine deficiency). *Feeding low birth–weight babies*

☐ Books *Children for Health* 1993 £2, *Facts for life* 1993 £1

Voluntary Health Association of India, Tong Swasthya Bhavan, 40 Institutional Area, South of IIT, New Delhi 110016, India Fx +91 11 6885377. Examples:

☐ Flash cards *Feeding your baby* Rs20, *Balanced diet for the family* Rs25
☐ Booklet *Practical guide on supplementary feeding* 1990 Rs5
☐ Posters *A sick child needs more nourishment* Rs1.50
☐ Kit *Infant milkfood unsafe at any price* Rs15

World Health Organization, Distribution & Sales, 1211 Geneva 27, Switzerland Fx +41 22 791 0746. Examples:

☐ Manuals/Training guides *Guidelines for training community health workers in nutrition* 1986 $10/$14.40, *Teaching for better learning: a guide to teachers of primary health care staff* 1992 £17.50, *Nutrition Learning Packages,* 1989 $19/$27, *Educational handbook for nutrition trainers,* 1993 $35/$59

☐ Leaflet *Health workers Find, Treat, Prevent Vitamin A deficiency* Free

World Health Organization, CDR, 1211 Geneva 27, Switzerland *Breastfeeding counselling* 5 day course includes training guides, participants' manuals, checklists, overheads and slides. Limited supplies. Free to breastfeeding trainers in developing countries; $50 for pack with single copies of each item.

IUNS NEWS

Preliminary Scientific Programme on the XVI International Congress of Nutrition

"From Nutrition Science to Nutrition Practice for Better Global Health" will be the theme of the 16th International Congress of Nutrition which will be held from July 27th – August 1st 1997 in Montreal Canada. Information on the preliminary scientific programme is given below.

Plenary Lectures

Topics

- Nutritional epidemiology for prevention of chronic disease
- Genetically modified foods (plant, animals, fish): impact on human nutrition (health)
- The micronutrient initiative: progress to 1997
- Stable isotopes in nutrition research: from the metabolic unit to field studies
- Food security in the 21st Century

Debates

Topics (*Controversies in Nutrition*)

- Iron: is the problem deficiency or excess?
- Trans fatty acids in margarines: to be banned or not?
- Placebo controlled nutrient – supplementation trials are unethical

Interdisciplinary Symposia

Themes

- Towards optimal nutrition for infants
- Energy metabolism
- Nutrition and disease: paths to prevention in developed and poverty stricken countries

- Food and nutrition in infection
- Food safety
- Role of animal products in human health
- The ecological and social aspects of nutrition habits
- Nutritional/medicinal aspects of herbs and wild plants
- Women's health and nutrition issues
- Urbanization and nutrition; nutrition transition in emerging countries
- Nutrition of indigenous people
- Nutrition and ageing
- Prevention of cardiovascular disease: a global perspective
- Utilization of palmitic acid: technology to clinical application
- Functional foods: technology, toxicology and health claims

Subspeciality Symposia

Themes

- Amino acids: physiology and clinical significance
- Bone health: impact of nutrition and lifestyle
- Physiological significance of bioactive proteins and immune factors in human milk
- Etiology of nutritional stunting
- Nutrition and acquired immune deficiency syndrome
- Piglets as a model for research in developmental metabolism
- Trace elements in the food supply: are we eradicating deficiencies?
- Gene therapy
- Food modification of disease susceptibility
- Role of anti−oxidants in cell proliferation and tumorigenesis
- Role of industry in satisfying consumer need for choice
- Metalloproteins: metabolic significance
- Protein/energy requirements of elite athletes
- Technologies in genetic modification of livestock and fish
- Non−conventional sources of protein in human diets: nutritional adequacy
- Bioactive factors in the food supply: impact on health
- National nutrition surveillance strategies: a global perspective
- Alternatives to use of animals as models for nutrition research
- Fat quality and human health
- Overcoming malnutrition: a new direction in operational nutrition research
- Vitamins and gene expression

Workshops

There will be 12−15 workshop sessions/day for the first 3 days. They will be held between 1600 and 1730 each day. Chairpersons will be appointed for each of the workshops, however, most of the presenters at the workshops will be chosen from submitted abstracts. The topics may be complimentary to the chosen symposia themes but may also cover any other areas.

Suggested Topics for Workshops

- International harmonization of recommendations for nutrient requirements: a realistic goal?
- Applications of isotope tracers in assessment of nutritional status in developing countries
- Transmitting the nutrition message to health professionals
- Risk analysis of food toxicants
- Nutrition intervention for cancer prevention
- Nutritional aspects of predominantly vegetarian diets
- Nutritional value of fermented milk products
- Nutritional training for non−nutrition specialists: new approaches
- Nutrition and respiratory diseases
- Vitamin A: an update on global deficiency
- Dietary fibres: is it time for health claims?
- Impact of nutrition education on community health
- Dietary sources of ergogenic aids for elite athletes: fact or fiction?
- Environmental pollution and nutrition

• Growth standards for infants and children

For more information with regard to the scientific programme please contact: Dr Stephanie Atkinson, Department of Pediatrics, Room 3V42, McMaster University, Faculty of Health Sciences, 1200 Main Street West, Hamilton, ON. Canada L8N 3Z5 Phone: 1 905 5212100 ext. 5644 Fax: 1 905 5211703 Email: SATKINS@FHS.MCMASTER.CA.

For information on IUNS activities in general please contact: Professor Aree Valyasevi, President, IUNS, c/o Institute of Nutrition, Mahidol University at Salaya, Nakorn Chaisri, Nakorn Pathom 73170, Thailand. Phone: 66 2 4419035 or 4419039 Fax: 66 2 4419344 or 5169403 *or* Professor Joseph Hautvast, Secretary–General IUNS, c/o Dept of Human Nutrition, Wageningen Agricultural University, Bomenweg 2, PO Box 8129, 6700 EV Wageningen, The Netherlands. Phone: 31 8370 82589 Fax: 31 8370 83342.

PROGRAMME NEWS

Agencies and Governments report on their activities in nutrition.

AUSTRALIA

Australia's Food and Nutrition Policy Three Years Down The Track

Australia launched its National Food and Nutrition Policy in September 1992, just prior to the ICN in Rome in December. While many of the strategies in the Australian Policy match very well with the *ICN Plan of Action for Nutrition,* Australia never developed a National Plan of Action (NPAN), choosing rather to use the momentum that the Policy and the ICN engendered to commence work on priority strategies in the Policy.

Achievements of the Policy to date include planning for a National Nutrition Survey which commenced in February this year. This will be the first national nutrition survey to provide both nutritional status and dietary intake data on age groups two years and upwards – essential baseline data for monitoring program impacts. Other major projects include the development of a national monitoring and surveillance system; a national nutrition education curriculum with complementary resources on health promoting schools, for both primary and secondary schools; the development and promotion of resources to promote the Australian Dietary Guidelines; projects to improve the availability and accessibility of nutritious foods in remote parts of the country; as well as a number of projects which target particular at risk groups.

At present an independent evaluation of the extent to which the various strategies have been addressed, as well as processes used in implementing the policy, is underway. The evaluation will involve widespread consultation with stakeholders in all relevant sectors across the country. The results of this evaluation will be used to guide the next phase of implementation. Already it is apparent that a plan of action is vital to provide a clear blueprint for future activities. Having a well–developed food and nutrition monitoring plan should greatly assist in developing the NPAN.

Along with Australia, many countries will no doubt have experienced the challenge of achieving sustainable effective intersectoral committees to guide policy implementation. We in Australia might do well to look across to our Pacific neighbours, many of whom have had food and nutrition policies for a decade or so, and who have thought long and hard about overcoming the difficulties of achieving effective multisectoral food and nutrition committees. In the next phase, we will be looking to increased leadership from such key sectors as primary industry and education, in addressing those strategies that they are in a much better position to address, than is the health sector.

For further information please contact: Paul van Belkom, Director, Nutrition Section, Commonwealth Department of Human Services & Health, GPO Box 9848, Canberra, ACT 6201, Australia. Phone: (06) 289 8651 Fax: (06) 289 8121.

(Source: Communication with Paul van Belkom, Director, Nutrition Section, Commonwealth Dept. of Human Services and Health, 25 August 1995)

FAO

FAO's Director General Calls for a World Food Summit

Currently, an estimated 800 million people in developing countries are chronically malnourished. By the year 2030, the world's population will rise to 8.7 billion, increasing demands for resources and heightening the need to intensify agricultural production. Yet, the agricultural sector's share in total development finance has fallen from 24% in 1982 to 16% in 1992; external assistance for improving agriculture in developing countries has declined from US $10 billion to US$7.2 billion during the same period.

The Director General of the Food and Agriculture Organization of the United Nations, Mr. Jacques Diouf, has proposed to convene a World Food Summit in November 1996 in Rome, with the aim of renewing the commitment of world leaders to eradicate hunger and malnutrition and achieving food security for all. As of June 1995, 75 Governments in all regions of the world had expressed their commitment to support the Summit and further commitments are expected.

The summit would provide a forum for Heads of Governments to assess the state of global food security and focus their attention on securing the most basic of human needs, food. Through the personal participation of Heads of State and Government, the Summit will mobilize all the relevant government departments to provide comprehensive solutions to food insecurity.

It is anticipated that the summit will lead to the adoption of concerted policies and actions by governments and international institutions. The high visibility of the Summit is expected to raise awareness in the public and private sectors, as well as among the communications media and public.

FAO is exploring all appropriate avenues to make the World Food Summit a true milestone in pursuit of the fundamental right to sufficient access to food. The preparation for the Summit involves consultations with governments, intergovernmental and non–governmental organizations, and the private sector. A wide–ranging series of technical background papers dealing with agricultural production, marketing, trade, population, nutrition and the environment are being prepared.

UN Food Standards Body Approves Use of Growth–Promoting Hormones in Meat Products

The Codex Alimentarius Commission, the joint FAO/WHO body responsible for international food standards, has adopted recommendations on the Maximum Residue Limits for growth–promoting hormones used in food production, despite a European Union ban on the use of these substances in its member countries.

Veterinary drugs which promote growth in animals are used in major meat producing countries such as the United States of America and Australia. The Codex Commission approved these maximum residue levels after extensive reviewing of scientific information had shown their safety to the consumer.

The Commission met at FAO Headquarters in Rome from 3 to 8 July. It discussed principles for Codex procedures to assure the quality and safety of the food supply. The Commission had previously adopted guidelines on measures to combat the illegal use of non–approved or unsafe drugs used in food production. In addition, this meeting confirmed that all Codex decisions on food safety must be based on sound scientific analysis and evidence.

In other developments, the Commission adopted standards for food additives and revised those for commodities including rice, wheat flour, couscous, canned frozen and salted fish and weight reduction formula foods. New rules for food inspection and certification at entry points were also adopted.

The Codex Alimentarius Commission has a membership of 151 countries which account for 98 percent of the world's trade in food products. The value of these products in 1993 was around 220 billion dollars. FAO expects the value of world agricultural exports to rise 20 percent from the 1993 figure by the year 2000, partly as a result of the liberalization of trade policies arising from the GATT Uruguay Round agreements.

The Commission's standards have been recognized by the World Trade Organization (WTO) Agreement on Sanitary and Phytosanitary Measures and the Agreement on Technical Barriers to Trade. These agreements call on WTO members to base their national food safety and quality standards and technical regulations on Codex standards.

"FAO will continue its efforts in assisting member countries to strengthen food safety and quality standards, inspection and quality control, production and harvesting, storage, post–harvest protection, transportation and marketing", said Mr. Howard Hjort, FAO Deputy Director–General, in a statement to the Commission.

Codex and the World Trade Organization

The Uruguay Round of Multilateral Trade Negotiations which began in Punta del Este in 1986, concluded in Marrakech in 1994. These talks were the first GATT negotiations to deal with the liberalization of trade in agricultural products. The Uruguay Round also included negotiations on reducing non–tariff barriers to international trade in agricultural products and concluded with two binding Agreements: the Agreement on the Application of Sanitary and Phytosanitary Measures (the SPS Agreement) and the Agreement on Technical Barriers to Trade (the TBT Agreement).

The Marrakech Agreement established a new World Trade Organization (WTO) to succeed the former GATT, the General Agreement on Tariffs and Trade. The Agreements will be applied by Members of the WTO.

The Agreement on Sanitary and Phytosanitary Measures

The SPS Agreement confirms the right of WTO Member countries to apply measures necessary to protect human, animal and plant life and health. The purpose of the SPS Agreement is to ensure that these measures are consistent with obligations prohibiting arbitrary or unjustifiable discrimination on trade between countries where the same conditions prevail, or which are a disguised restriction on international trade. It requires that, with regard to food safety measures, WTO Members base their national measures on international standards, guidelines and other recommendations adopted by the FAO/WHO Codex Alimentarius Commission, where they exist, except they may adopt stricter measures if there is a scientific justification for doing so or if the level of protection afforded by the Codex standard is inconsistent with the level of protection generally applied and deemed appropriate by the country concerned. The SPS Agreement covers all food hygiene measures and food safety measures such as the control of residues of veterinary drugs, pesticides or other chemicals used in meat production.

The SPS Agreement states that any measures taken which conform to international Codex standards, guidelines or other recommendations are deemed to be appropriate, necessary and non–discriminatory. Furthermore, the SPS Agreement calls for a programme of harmonization of national requirements based on international standards. This work is guided by a WTO Committee on Sanitary and Phytosanitary Measures to which representatives of Codex Alimentarius, the Office International des Epizöoites (OIE) and the International Plant Protection Convention (IPPC) are invited.

The Agreement on Technical Barriers to Trade

The Agreement on Technical Barriers to Trade (the TBT Agreement) is a revision of the Agreement of the same name first developed under the Tokyo Round of GATT Negotiations in the 1970's. The objective of the Agreement is to prevent the use of national or regional technical requirements, or standards in general, as unjustified technical barriers to trade. It covers all types of standards including quality requirements for foods except requirements related to Sanitary and Phytosanitary Measures and includes a very large number of measures designed to protect the consumer against deception and economic fraud. The Agreement basically provides that all technical standards and regulations must have a legitimate purpose and that the impact or cost of implementing the standard must be proportional to the purpose of the standard. It also says that if there are two or more ways of achieving the same objective, the least trade–restrictive alternative should be followed.

The TBT Agreement places emphasis on international standards, WTO Members being obliged to use international standards or parts of them except where the international standard would be ineffective or inappropriate in the national situation. The TBT Agreement does not include a programme of harmonizing national standards.

The main body of Codex work concerns "Technical Regulations" and "Standards" as defined by the WTO TBT Agreement. These standards have been established by the Codex Alimentarius Commission to assist in the harmonization of national requirements and therefore facilitate fair practices in international trade. Very simply, all of the information in the Codex Alimentarius which does not fall within the scope of the SPS Agreement, falls within the scope of the TBT Agreement. This covers the technological provisions of Codex standards and the product and commercial quality descriptions built into some of the standards. It also covers provisions in Codex Standards meant to promote nutrition or to provide nutrition and other important information to consumers.

Codex standards, guidelines and codes of technological practice covering these matters are international reference points for the TBT Agreement.

Expert Meeting and Training on HACCP in Food Control

A great deal of national and international activity related to the utilization of the Hazard Analysis Critical Control Point (HACCP) based systems in food safety assurance is under way. HACCP was initially developed by the food industry for use by food processors to prevent and control food hazards, thereby improving food safety. Today, the HACCP principles and method are considered to be among the most effective and efficient ways to enhance food safety and they have direct application to official food control and the establishing of food safety standards in the international food trade.

FAO has recognised the need for food safety standards for both national and international trade and for facilitating trade as an important aspect of national development. To gain further insight into the problems of improving food safety and the usefulness of the HACCP based systems to assist in resolving food safety problems, FAO sponsored an “Expert Technical Meeting on the Use of HACCP Principles in Food Control”, held in Vancouver Canada from 12–16 December 1994. Among the experts’ important recommendations was the suggestion that FAO establish an inventory of HACCP models and training materials and prepare a core curriculum for a practical HACCP training programme. This HACCP training programme was to take into consideration the many significant aspects discussed by the experts related to existing deficiencies in current training in HACCP, cultural and language sensitivities, skills and technical knowledge deficits and resource constraints experienced by many developing countries.

In keeping with this recommendation, FAO established a temporary technical working group to assist in developing the training programme. Consideration was given to pilot testing the training programme in cooperation with the government of Thailand and the food industry of Thailand. The Centre of Export Inspection and Certification of Agricultural Products (CEICAP), Ministry of Agriculture and representatives of the Thai Industry welcomed the suggestions and agreed to test the training programme once developed.

The working group consisted of representatives from CEICAP, Thai Industry, HACCP experts, HACCP training experts and training experts. The meeting was convened at FAO Headquarters, Rome, Italy, from 13–17 February 1995. The Working Group formulated a two week HACCP Training of Trainers core curricula which was subsequently tested at a training programme for government and industry representatives in Cha–Am, Thailand from 31 July – 11 August 1995 with a greater than anticipated success. This curricula will now be considered for expansion to other countries within the Asian and Pacific region, and will be modified as needed to apply to other regions of the world.

Nutrition Education

Concerning nutrition education activities, FAO has prepared and published basic documents and materials for a nutrition education programme. The title of the materials provided in a package is “Get the Best from your Food.” This material has been distributed worldwide to all countries, FAO offices, International Conference on Nutrition focal points, Codex focal points, NGOs and industry associations.

An Expert Consultation on Nutrition Education for the Public was held in Rome from 18–22 September 1995.

FAO Publications

Codex Facts and Notes: Involving people in the FAO/WHO Codex Alimentarius Commission

The Codex Alimentarius Commission works to protect consumer’s health and ensure fair practices in international food trade. **Codex Facts and Notes** are being issued by the Secretariat of the Joint FAO/WHO Food Standards Programme to inform the public about Codex. **Codex Facts and Notes** will be issued through national Codex Contact Points on a regular basis.

The fact sheets will contain information about the Codex Alimentarius Commission and its work. They will announce the publication of Codex food standards, describe the work of the Codex specialist Committees, and provide general factual information. Up–to–date information about important developments within Codex, especially for topics that are under debate by Codex Member Countries will be provided.

The Codex Secretariat hopes that **Codex Facts and Notes** will help people understand the work of the Joint FAO/WHO Food Standards Programme and encourage them to become involved through their national Codex Contact Points with the Commission’s work.

For more information, contact:

Secretariat of the Joint FAO/WHO
Food Standards Programme, Food and Agriculture Organization of the United Nations,
Viale delle Terme di Caracalla 00100 Rome, Italy

Telephone: (39–6) 5225.1
Telefax: (39–6) 5225.3152/5225.4593
Telex: 610181 FAO I
E–mail (INTERNET): CODEX@FAO.ORG

Publications in Spanish

A training publication in Spanish on Food and Nutrition Project Development for Communities, entitled **Manejo de proyectos de alimentación y nutrición en comunidades** has been released. The Spanish language version of the **FAO Guidelines for Participatory Nutrition Projects** is now available.

For further information on all the above please contact: Director, Food Policy and Nutrition Division, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy. Phone: (39 6) 52251 Fax: (39 6) 52253162.

(Source: FAO, 1995)

INTERNATIONAL ATOMIC ENERGY AUTHORITY

In a number of ways, the work of the IAEA is contributing to efforts directed at overcoming hidden hunger and other nutrition problems. The rationale for the IAEA's involvement is twofold. First, adequate nutrition is an essential component of any strategy for improving health, and the IAEA's Statute specifically identified "enlarging the contribution of atomic energy to peace, health and prosperity" as the major objective of programmes. Second, isotope techniques have a wide variety of applications – some of them unique – for targeted research in human nutrition, for assessing nutritional status, and for monitoring the effectiveness of nutritional intervention programmes.

IAEA Programmes and Plans in Areas of Micronutrient Malnutrition

Since 1990, the IAEA has been supporting a co–ordinated research programme (CRP) in 11 countries on "Isotope–Aided Studies of the Bioavailability of Iron and Zinc from Human Diets". Its main focus has been to obtain critical information needed for planning and implementing national nutrition programmes on dietary diversification and modification, food fortification, and micronutrient supplementation and in assessing the efficacy of intervention efforts.

Continuing work is forseen, in collaboration with WHO. It is being done to obtain a better understanding of the quantitative relationships between the absorption of food iron from a meal and the amounts of the main food components that are known to affect iron bioavailability. (One simple example of the importance of these interactions is that drinking tea with a meal blocks iron absorption almost completely.)

It is also expected that the IAEA will support several technical co–operation projects in Africa and Latin America during 1995–1996. Among other objectives, they will seek to develop iron–rich weaning foods for babies using local food products. A variety of *in vivo* and *in vitro* isotope techniques are needed for this work, using both radioactive and stable isotope tracers.

With respect to iodine *nutrition,* the IAEA has not yet directly supported work on this subject. However, many programmes have provided indirect support, particularly in relation to the use of RIA for the diagnosis of neonatal hypothyroidism (which is generally caused by nutritional iodine deficiency in the mother).

Several new IAEA programmes on vitamin–A malnutrition are planned. They include a CRP in 1995 to develop new methods for assessing vitamin–A status, to apply existing methods when feasible, and to develop new models for interpreting isotope kinetic data. Secondly, a new area of investigation will be supported which includes the production of foods intrinsically labelled with isotopes of carbon and hydrogen to assess the bioconversion of carotenoids under specific dietary and physiologic conditions. Thirdly, the IAEA will support the use of some techniques in a joint nutrition intervention project with WHO beginning late in 1994 or early 1995 in Latin America.

Concerning trace elements, the data generated through IAEA–supported research covering 25 study groups in 16 countries has already been used in the preparation of working documents for the WHO/FAO/IAEA

Expert Consultation on Trace Elements in Human Nutrition (A soon–to–be–published report will propose new values for the dietary intakes of trace elements required to sustain good health.) The data also have served as input to a database on dietary intakes of 35 minor and trace elements in 47 different countries.

IAEA–supported Maternal Nutrition Programmes

The IAEA has contributed in two important ways to improving maternal nutrition during pregnancy. The first was its joint support, with the International Dietary Energy Consultancy Group (IDECG), of a report on the scientific basis and practical application of the doubly labelled water (DLW) method for measuring energy expenditure. Furthermore, the IAEA has supported several multi–centre and individual studies of energy expenditure during pregnancy. The results of some of these studies provide part of the basis of a reevaluation of dietary energy requirements which is being conducted by FAO, WHO, IDECG, and the UNU.

The DLW method, which was developed by Nathan Lifson and modified by investigators worldwide, is a form of direct calorimetry. It is based on the differential elimination of deuterium and oxygen–18 from body water subsequent to a loading dose of these stable isotopes. Once the two isotopes are administered, their fates are different; they are eliminated at different rates – deuterium only as water, and oxygen–18 as water plus carbon dioxide. The difference between the two elimination rates is therefore a measure of carbon dioxide production during the observation period, typically four to 21 days.

Measurement of the body's energy expenditure is important for several reasons. Specifically, it provides very useful information for a wide variety of assessment concerning nutritional interventions. For example, dietary supplements to previously undernourished children may increase the energy available not only for growth but also for activity, which could have great relevance in terms of school or athletic performance. In pregnant or lactating mothers, the drive to sustain pregnancy and lactation may reduce energy available for other functions, including physical activity.

In children with respiratory disorders such as allergies or cystic fibrosis, medications are prescribed which facilitate their breathing. However, as a secondary effect, the treatment may increase energy expenditure and therefore have an indirect and negative effect on weight gain.

Understanding the interactions between the various human functions that are energy–demanding is a key to providing adequate dietary intake. Meeting this need requires measurements of energy expenditure.

IAEA–Supported Child Nutrition Programmes

The IAEA has contributed in some important ways to the improvement of dietary formulations for severely malnourished children through applications involving deuterium, oxygen–18, and carbon–13. Measurements of body composition, protein deposition, and energy expenditure were used in defining a dietary treatment for undernourished children which fosters substantial accelerations in weight gain without compromising the quantity of lean tissue. The result of using the dietary intervention was to reduce hospitalization time by 50%.

Particularly in children of developing countries, under nutrition and infection act synergistically to reduce nutrients available for growth, deplete energy reserves, and significantly increase morbidity and mortality. By better understanding the metabolic effects of infection in undernourished populations, we strengthen our ability to provide the appropriate foods for reducing morbidity and mortality. Stable isotope methods afford us this opportunity. Isotopic methods are being utilized in the new programmes to measure synthetic rates of specific nutrient transport proteins, and synthetic rates of proteins manufactured by the body in response to immunogenic stimuli. Both of these kinds of studies are currently being carried out by teams of scientists from developing and industrialized countries.

One team of investigators, for example, is working to find out how infection may alter children's dietary requirements for protein and amino acids. The work involves quantifying the relative impact of specific infections on protein metabolism and protein anabolism using amino acids labelled with carbon–13 and nitrogen–15. Isotopic enrichments are measured either by gas chromatography–mass spectometry (GCMS), by combustion GCMS, or by isotope ratio mass spectrometry. The team is also assessing the impact of high altitude living on protein metabolism in undernourished children. They have developed and are validating a basic protocol for assessing rates of protein and amino acid metabolism in the field using non–invasive procedures that can be carried out under field conditions. The team intends to use the data in developing a food supplement that will most efficiently meet requirements for protein and specific amino acids, thereby resulting in the efficient utilization of nutrients for growth.

Nutrition and the Elderly

Another population group heavily affected by nutritionally related problems is the elderly. A special concern in many countries is the disease known as osteoporosis. This serious bone disease of the elderly (particularly post−menopausal women) severely limits their quality of life and is placing an increasing burden on the health−care systems in many countries. It is characterized by low bone mass, and microarchitectural deterioration of bone tissue, leading to enhanced fragility and a subsequent increase in the frequency of occurrence of hip and vertebral fractures.

Much still remains to be learned about the aetiology of the disease, about differences in incidence and severity between population groups living in different countries, as well as how to prevent the disease and optimize diagnosis and therapy when it occurs. Although it is generally agreed that osteoporosis is a multifactorial disease, there is little doubt that nutrition is one of the most important of the factors that needs to be taken into account. Included in the many components of the diet that may be important are a variety of minor elements (e.g. calcium, magnesium and sodium) and trace elements (e.g. cadmium, copper, manganese and zinc). Nuclear analytical techniques such as NAA are particularly suitable for the determination of these elements in foods, diets and human tissues, including bone.

The IAEA has just started a new coordinated research programme on this topic. It will focus on determining the age of peak bone mass in each study group, and quantifying differences in bone density as functions of the age and sex of persons in the study groups. It will also quantify differences between the study groups in different countries. Supplementary studies will be conducted using NAA relative to the trace−element nutrition of persons in the respective study groups.

For further information please contact: Dr Carla R. Fjeld, Senior Scientist, Section of Nutritional and Health−Related Environmental Studies, IAEA, PO Box 100, A−1400 Vienna, Austria. Phone: 43 1 2360/1680 Fax: 43 1 234564. Email: fjeld@ripol.iaea.or.at

(Source: Parr, R. & Fjeld, C. (1994). Human Health and Nutrition: How Isotopes are Helping to Overcome “Hidden Hunger”. *IAEA Bulletin,* **4/1994,** 18−27.)

ICCIDD

ThyroMobil Project

The ThyroMobil project has been developed and conducted by a core group of 12 European thyroidologists from the 12 countries involved in the project, Germany, Austria, Poland, Romania, the Czech Republic, the Slovak Republic, Hungary, Italy, France, Belgium, Luxembourg, and The Netherlands. Its main objectives have been to update information on the iodine supply in Europe, to increase awareness of IDD in the affected countries, and to stimulate the prevention and treatment of IDD in the continent. The project, with Professor F. Delange, Executive Director of ICCIDD and Regional coordinator for Europe, as the principal investigator, has been carried out under the auspices of ICCIDD and sponsored by the E. Merck Company, Darmstadt, Germany (Project Manager: Dr. Ott). The European offices of UNICEF and WHO supported the public interest objectives of the project.

A mobile unit (“ThyroMobil” van) equipped with an ultrasonograph supplied by Siemens visited at least two sites in each of the countries under investigation. Some had been studied in the past and were selected to recognize possible changes in the iodine supply, while others had not been previously investigated.

Following the recommendations of ICCIDD, WHO, and UNICEF, the assessment of iodine supply included the determination of thyroid volume by ultrasonography and of the urinary concentration of iodine in groups of at least 100 school−children of both sexes aged 6−17 years in each site. Iodine deficiency was considered to be present if more than 5% of subjects had a thyroid volume above the 97th percentile for age and/or if the median urinary iodine concentration was below 10 µg/dl. To ensure technical uniformity, all ultrasonographies were performed by the same experienced physician (Dr Jan Podoba, University of Bratislava, Slovak Republic) and all urine samples were analyzed in the same laboratory (Department of Clinical Chemistry, University Hospital Saint−Pierre, Brussels, Belgium, Professor F. Vertongen and Mrs. D. Gnat). In addition to data on thyroid size and urinary iodine, we obtained information on the use of iodized salt, sea fish, and milk. Any thyroid abnormality detected by ultrasonography was communicated to local practitioners for prompt action. Field investigations begin in 1994 and were completed by March 1995. A total of 7,601 schoolchildren aged 6−17 years from 57 different sites in the twelve countries were examined, and statistical analyses were performed in Bratislava by Mr Srbeky and Dr Podoba, in close coordination with the principal investigator.

Urinary iodine concentrations were determined in 5,728 samples.

The results indicate marked regional patterns for both variables: the median urinary iodine values were normal in almost all sites investigated in the Netherlands, the Slovak Republic, Germany, Austria and France, borderline in Luxembourg and the Czech Republic, low (with a few exceptions) in Italy, Hungary Belgium, and Romania, and very low in the three sites investigated in Poland, which were situated in the endemic goitre areas of the country.

There was a significant inverse relationship between the median urinary iodine and the frequency of goiter (defined as a thyroid volume above the 97th percentile according to the criteria originally proposed by WHO, UNICEF, and ICCIDD).

However, by these criteria, the frequency of goiter was also high even in communities with entirely normal urinary iodine concentrations. Therefore, the criteria for a normal thyroid volume as a function of age and sex in children, and, from them the definition of goiter, have been re−evaluated from the data collected in children living in iodine replete areas in Europe. These new criteria will be officially communicated to the international organizations.

While the ThyroMobil van was in each country, a press conference was organized, usually in the capital. The conference included reports on the status of iodine nutrition in each country by the national representative of the ThyroMobil project, by the principal investigator and, as much as possible, by representatives of the national Ministries of Health and national UNICEF committees. Extensive coverage by TV, radio, and the press were arranged in all countries.

The following conclusions can be drawn from the ThyroMobil project:

1. A method allowing standardized evaluation of the status of iodine nutrition in different European countries has been developed.

2. The status of iodine nutrition has markedly improved in many European countries compared to the situation reported in 1992.

3. The changes are probably due to the implementation of programs of universal salt iodization and/or to improvement in the food habits.

4. The volume of the thyroid in schoolchildren in iodine replete areas in Europe has been established as a function of age, sex, and body surface area, as well as the criteria of goiter based on ultrasonographic investigation. A further report will provide details for each country.

For further information please contact: Dr Francois Delange, Executive Director, ICCIDD, Avenue de la Fauconnerie 153, 1170 Brussels, Belgium. Fax: 32 2 675 1898.

(Source: Delange, F., Podoba, J., Vertongen, F., Ott, W. (1995). ThyroMobil Project Standardizes Iodine Deficiency Evaluation in Europe. *IDD Newsletter,* **11**(3), 33−34.)

IDECG

Undernutrition and Behavioural Development in Children

In June 1973, a committee of the National Academy of Sciences in the USA published a position paper on “The Relationships of Nutrition to Brain Development and Behaviour”. Since then, a great deal of new information has accumulated from different studies, and important theoretical concepts regarding long−term developmental consequences of early undernutrition have undergone considerable change. IDECG therefore appointed a task force with the mandate to assess current knowledge of the relationship between undernutrition and behavioural development in children and to interpret it in the context of current theory. This task force met at the University of California, Davis, from December 6−10, 1993.

The traditional model, suggesting that during critical periods protein−energy malnutrition (PEM) affects brain growth and thereby has a direct and independent effect on child development, appears no longer to be tenable. Gross morphologic changes, observed in brain structures after severe PEM may be reversible, whereas more subtle perturbations at the subcellular level, as suggested by alterations in sensitivity to pharmacological challenges, remain after rehabilitation. PEM coexists with other nutritional deficiencies that

also have significant developmental consequences. Besides the covariations and interactions of nutritional deficiencies, the contextual conditions in which malnutrition occurs must be accounted for, since they can increase or buffer the developmental risk of malnourished children. Outcome variables need to be more theory−based and specific in the cognitive domain and ought to include affective and motivational processes as well.

The papers prepared by task force members appeared as a supplement to the August 1995 issue of The Journal of Nutrition; single copies are available from the IDECG secretariat free of charge.

The proceedings of a workshop on the effects of improved nutrition in early childhood: the Institute of Nutrition of Central America and Panama (INCAP) follow−up study appeared as a supplement to the April 1995 issue of The Journal of Nutrition. Single copies can be obtained free of charge from the IDECG secretariat.

Updating of Selected Parts of the 1985 FAO/WHO/UNU Expert Consultation Report on Energy and Protein Requirements

IDECG has taken the initiative in an effort to update selected parts of the 1985 FAO/WHO/UNU report on energy and protein requirements. To provide a basis for discussion and decision, experts were asked to write position papers on: (1) energy requirements: general principles, (2) energy requirements of infants; (3) energy requirements of children; (4) energy requirements of pregnant and lactating women; (5) protein requirements of infants and children; (6) requirements for indispensable amino acids in adults; and (7) energy and protein requirements of older individuals. These papers were discussed at an IDECG workshop from October 31 to November 4,1994, at the London School of Hygiene and Tropical Medicine.

The proceedings of the workshop have been submitted for publication and are scheduled to appear as a supplement to the January 1996 issue of the *European Journal of Clinical Medicine.*

Reanalysis of Basal Metabolic Rate (BMR) Data of Humans

Estimates of energy requirements are generally based on estimates of energy expenditure. Under most circumstances, the BMR is the most important component of energy expenditure, and allowances made to cover additional expenses according to circumstances are most conveniently expressed as multiples of BMR. It is therefore of great importance to have valid BMR data and equations allowing to predict BMR from other, simpler parameters.

A large number of new BMR data have been obtained since Schofield & James published their analysis and predictive equations in the European Journal of Clinical Nutrition in 1985. A considerable amount of BMRs have also been collected in population groups that were underrepresented in the data pool up to that time. The IDECG Advisory Group therefore concluded that a re−analysis of BMR data, meeting very stringent criteria, would be desirable, and the Nestle Foundation agreed to fund this project. The scientists supervising the project are C.J.K. Henry at Oxford Brookes University and J.V.G.A. Durnin from the University of Glasgow. Over 13,000 BMR data meeting stringent criteria have been identified and included in the data base. An annotated bibliography of the publications, from which these BMR data were taken, has also been compiled. The reanalysis of the BMR data is not complete and should be published during 1996.

Energy Cost of Physical Activity

It is now generally accepted that estimates of energy requirements should be based on estimates of energy expenditure, which is commonly expressed as the basal metabolic rate, multiplied by a factor which reflects primarily energy expenditure for physical activity. As mentioned above, BMR data are being re−analyzed, and the next limiting factor will be inadequate data on the energy cost of a wide variety of physical activities. Such data, obtained by indirect calorimetry, exist, but there is no recent, systematic and comprehensive compilation of this information. A research assistant at the London School of Hygiene and Tropical Medicine under the direction of P.S. Shetty and J.V.G.A. Durnin is carrying out an extensive re−analysis of all the information currently available in this area.

For further information please contact: Dr Beat Schürch, International Dietary Energy Consultative Group (IDECG) Secretariat, c/o Nestle Foundation, PO Box 581, 1001 Lausanne, Switzerland. Phone: (41 21) 320 33 51 Fax: (41 21) 320 33 92.

(Source: IDECG Annual Report, 1994)

NORDIC COUNTRIES

The Nordic Network on International Nutrition

The Nordic Network on International Nutrition was initiated in 1992 by institutions at Nordic universities with interest and experience in research and framing in nutrition and related areas in low income countries. Some of the nutrition institutions in the Nordic countries have well–established contacts with scientists and institutions in low income countries and graduate students from these countries regularly receive training at Nordic institutions. However, as the number of researchers and students working in nutrition in low income countries in the Nordic institutions is small, the Nordic Network was established to take advantage of enhanced collaboration between the institutions.

Aim of the Network

The aim of the Nordic Network is to establish a forum for strengthening and improving advanced training and research in international human nutrition with a focus on the nutritional problems of low income countries.

Role of the Network

The role of the network is to:

– stimulate and facilitate the exchange of experience between scientists and research students involved in nutrition research of relevance for low income countries;

– facilitate a more effective utilization of existing graduate/postgraduate courses at the participating institutions through coordination and joint marketing of programmes and courses;

– jointly identify and develop additional training opportunities for relevant research training together with collaborating institutions in low income countries;

– strengthen the interest in and opportunities for research collaboration among the participating institutions and their collaborators in low income countries.

Network Activities

During the initial phase, the network has carried out the following activities:

– an annual Symposium on Advanced Training and Research in International Nutrition. The first symposium was held in Denmark, the second in Sweden and the third in Finland from 30th August – 1st September, 1995. The symposium acts as a forum for exchange of information on training needs and strategies, research training and current research by students at the network institutions;

– compilation of a Course Catalogue, which is an inventory of relevant graduate/postgraduate courses related to International Nutrition offered by institutions in the Nordic countries (available on request);

– review of ongoing research collaboration and contacts with training/research institutions in low income countries and discussions on strategies for strengthening such collaboration;

– regular meeting of the steering committee of the network.

Support of the Network Activities

The network has received financial support from NorFa (Nordic Academy for Advanced Study), DANIDA (Danish International Development Assistance), SIDA (Swedish International Development Authority) and the Norwegian Nutrition Council. The activities have also been supported by the institutions of the steering committee.

Steering Committee of the Network

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(Source: Communication with Professor Shakuntala Haraksingh Thilstead, 24th August 1995)

UNICEF

Malnutrition

UNICEF has continued to be at the forefront of advocacy and support for the implementation of programmes to combat child malnutrition. A condition for designing effective programmes to fight malnutrition is understanding the causes of the problem and recognising how complex they are. UNICEF country programmes have continued to fight the "food bias" – the idea that malnutrition is only caused by a lack of food – and also the tendency to regard malnutrition as a clinical or medical problem. Rather, UNICEF programmes have been based on the idea that family access to food, access to health services and sanitation, and meeting the special care and feeding needs of young children – food, health and care – are all essential to fight malnutrition.

Because nutrition problems result from processes in all sectors of society, it is impossible to understand them without the active participation of people who are most at risk of the problem. In many countries, UNICEF supports the involvement of communities and households in participatory processes of problem assessment and analysis leading to action (Triple A processes). The UNICEF regional office for South Asia recently evaluated 21 community−based projects in the region, including at least 8 in which good processes of empowering the poor as key actors contributed to marked declines in child malnutrition. In Bangladesh, UNICEF worked with the Government and the World Bank to design a programme to improve nutrition based on the Triple A process and the involvement of communities. The Bangladesh Nutrition Programme will be partly implemented by the Government with the assistance of a local NGO, BRAC. UNICEF will continue to support the programme and look for opportunities to replicate it elsewhere in the country.

Micronutrients

IODINE: Some of the most rapid and important progress in UNICEF programmes are in the area of salt iodisation. The strategy of universal salt iodisation (USI) has been widely accepted in all regions, and the goal of USI by end−1995 has been met in virtually all of Latin America and in many countries in other regions. During the year, a number of countries with a high prevalence of iodine deficiency in which salt iodisation was previously thought to be virtually impossible, such as Pakistan and Indonesia, started to iodise at least half of all salt reaching consumers. To achieve this, UNICEF offices supported a range of innovative and flexible approaches, for example, the establishment of an "Iodised Salt support Facility" in Pakistan, to provide training, supplies and quality control to the 800 or so small salt crushers in the country.

Enormous progress was seen not only in getting iodine into salt but in the promulgation of laws to give teeth to monitoring and quality control efforts. UNIcEF, WHO and the International Council for the Control of IOdine Deficiency Disorders (ICCIDD) sponsored a forum in 1995 to consider the iodisation and monitoring challenges faced by countries in which salt is brought to market by many small producers rather than larger

enterprises.

A technical monograph on practical ways of monitoring salt iodisation programmes was developed jointly with WHO, ICCIDD and PAMM and widely distributed. Many UNICEF country programmes are monitoring household availability of iodised salt, utilising a simple test kit, as part of the Multi−Indicator Cluster Surveys being undertaken to assess progress in meeting the goals of the World Summit.

VITAMIN A: WHO−UNICEF estimates now indicate that over 250 million children still suffer from vitamin A deficiency (VAD) with many millions more at risk. The known effects of VAD on the immune system and thus on child mortality make this a high−priority challenge for UNICEF. In 1995, UNICEF supported surveys of vitamin A status that resulted in widespread deficiency being recognised for the first time in Egypt, South Africa, Kenya and Botswana.

With support from the Micronutrient Initiative in Canada, UNICEF launched projects in 14 countries that will enable innovation in systems of distribution of vitamin A supplements and improvements in monitoring the mortality and morbidity impact of supplementation. A number of countries are building on the successful experience of Guatemala in fortification of sugar with vitamin A. Bolivia and Brazil both launched sugar fortification with vitamin A on a pilot basis in 1995. In Namibia and South Africa, the feasibility of fortifying maize meal with vitamin A is being considered.

UNICEF supports dietary diversification and the consumption of appropriate fruits and vegetables as one of the most potentially sustainable ways for communities to overcome micronutrient malnutrition. Research completed in 1995 with UNICEF assistance pointed to the need to pay further attention to the types of vegetables grown and the type of cooking in order to maximise the impact of home gardening on the vitamin A status of children. In Bangladesh, UNICEF is collaborating with Helen Keller International to assess the impact of a large home gardening project on the vitamin A status of mothers and young children. This information should help to ensure that future programmes of this type are designed in the most cost effective way.

IRON: The statement on strategies for reducing iron deficiency anaemia, developed and adopted by WHO and UNICEF in 1995, calls for general supplementation with iron in any population or pregnant women or young children where the prevalence of anaemia exceeds 30%. The results of research trials investigating the impact on anaemia of weekly iron supplements have started to become available. Weekly iron or orion and vitamin A supplements now appear to be a feasible intervention to combat iron deficiency anaemia on a population basis in some vulnerable groups.

UNICEF supported a meeting, jointly with the Thrasher Research Fund and Cornell University, to explore ways of increasing the micronutrient content of foods commonly consumed in countries where micronutrient malnutrition is common. Plant breeders, soil scientists and human nutritionists met to consider the problem and agreed that the micronutrient content of foods had been neglected in the breeding of high yielding (green revolution) varieties of cereals such as rice. With the realisation of the tremendous importance of the micronutrient content of staple foods crops to human development, plant breeders agreed that future breeding work should take micronutrient goals into account. The participants also called for research in other priority areas to exploit the potential food−based systems, including the development of programs and policies that influence the choices of consumers and producers to increase the supply and consumption of micronutrient−rich foods.

UNICEF supported a number of country participants to the “Ottawa Forum” in December, which sought to strengthen collaboration between the private and public sectors for the fortification of staple foods in developing countries.

Infant Feeding and Care

BFHI: The benefits of breastfeeding are well known, thanks in part to UNICEF’s work with WHO and many NGO partners in this area. The keystone of UNICEF programming in support of breastfeeding has been the Baby−Friendly Hospital Initiative (BFHI) through which health workers are trained and supported to understand breastfeeding and help mothers to practice it. In 1995, BFHI reached the milestone of 4000 Baby−Friendly hospitals. After a slow start, countries of Central and Eastern Europe have joined the Initiative and are making considerable progress.

Technical assistance was provided to governments in implementing the International Code of Marketing of Breastmilk Subsitutes (BMS), with particular emphasis on ending the practice of the donation of free or subsidised supplies of BMS within health care systems. The number of countries that adopted a law or some

provisions of the Code increased by 10 in 1995, and four more countries adopted actions to end the practice of free and low–cost supplies.

Breastfeeding promotion beyond BFHI, with a focus on promotion of exclusive breastfeeding for about 6 months and continued breastfeeding with appropriate complementary feeding for 2 years and beyond, has become an important aspect of the guidelines for country offices on “care for nutrition” that UNICEF is developing.

UNICEF spearheaded the development of a proposed policy framework for HIV and breastfeeding. This new framework, to be considered in an interagency consultation in December 1995, takes as its premise the right of women at risk of HIV to make infant feeding choices based on full information as well as the rights of children to be protected from disease. The proposal takes advantage of advances in the understanding of HIV transmission and in global consensus on human rights issues that have occurred since the formulation of the 1992 WHO statement on this subject.

Complementary Feeding: UNICEF and WHO commissioned a review on key issues related to complementary feeding as a key component of “care for nutrition”. The draft document, which was reviewed at a meeting with international experts in November, made conclusions on ways that UNICEF–supported programmes can improve infant and young child feeding by ensuring that breastmilk is complemented with appropriate foods from the age of about six months. The review makes recommendations on frequency of feeding, composition of complementary foods, micronutrient needs and food hygiene and safety. It is expected to be finalised for widespread distribution early next year. It will form the basis for a series of regional workshops that will seek to put the recommendations into practice.

Household Food Security (HFS)

Country programmes in several regions seek to improve access of households to food. In many countries, UNICEF’s contribution is to focus on women as the guardians of HFS. Small credit programmes for women supported by UNICEF as HFS measures grew in several countries in East and West Africa and the Middle East. UNICEF–Indonesia is working to ensure that government food diversification and production activities account for the many demands on women’s time, and UNICEF supports activities to reduce rural women’s workload in Niger and Ethiopia. Home gardens to improve household access to micronutrient–rich crops were supported in a dozen countries from Bolivia to Cambodia. Unfortunately, ten country programmes had to focus their food–related activities on short–term relief in emergency situations. Guidelines on conceptualisation and evaluation of HFS activities were developed by the Nutrition Section and are being revised for distribution in 1996.

Training in Nutrition

UNICEF provided follow–up support to a global initiative launched in late 1994 in Bellagio to combat malnutrition by increasing and strengthening the links between training, research and programmes to foster, among others, more practical training for nutrition–related practitioners and community nutrition workers. For example, UNICEF supported an exercise led by Mahidol University in Thailand to analyze training and operational research needs in eight East Asian countries to facilitate successful community–based nutrition programmes. In Indonesia alone, there are 3 million community–level volunteers who could benefit from practical training. UNICEF will continue to support networking of relevant training and research institutions in the region and sharing of experiences in programme–based training and research from other regions.

For further information on any of the above please contact: Dr Micheline Beaudry, Chief, Nutrition Section, UNICEF, UNICEF House, H–10F, 3 UN Plaza, New York, NY 10017, USA. Phone: 212 326 7772 Fax: 212 326 7336 Email: mbeaudry@unicef.org.

(Source: UNICEF, 1995)

UNU

International Network of Food Data Systems (INFOODS)

The International Network of Food Data Systems (INFOODS) activities relate to food composition data, which underpin many diverse activities including public health nutrition; agricultural, environmental and health research; food industry and trade decisions; governments’ strategies and policies concerning nutrition and agriculture; and global endeavours related to sustainability and food security.

Meetings

Several regional and international meetings have taken place in the past year.

ASEANFOODS held a meeting in May 1995 during the Asia Pacific Food Analysis Conference in Manila. A proposal was developed for a workshop to be held in early 1996, for the production of the first ASEANFOODS Food Composition Tables and data files. A pre−workshop schedule of activities has begun.

OCEANIAFOODS held their fourth meeting in Fiji in April 1995. Significant advances in food composition data dissemination have been achieved, including the three party collaboration with INFOODS, resulting in the publication in November 1994 of the Pacific Islands Food Composition Tables, and data tiles used in the applications software package DIET1/Pacific. Data generation projects are in place involving the University of the South Pacific and sample collection from many different islands. The next meeting is planned for mid−1997.

The AFROFOODS organisational meeting was held in Accra, Ghana, in September 1994. It was agreed that there would be four sub−regional groupings: ECSAFOODS − Eastern, Central and Southern Africa (18 countries): WAFOODS − Western Africa (5 countries); OCAFOODS − Francophone Western and Central Africa (23 countries); NAFOODS − Northern Africa (5 countries). OCAFOODS held a meeting in Senegal in May, 1995; and a fellowship has been awarded for postgraduate study to a researcher from ECSAFOODS (Zimbabwe), where the regional data centre will be established.

LATINFOODS organized a three−week long workshop in Santiago in October. The content of the workshop included training in the areas of laboratory−based data generation, computer−based data compilation, and multimedia approaches to data dissemination.

The first organisational meetings of MASIAFOODS, SAARCFOODS and GULFOODS took place in October and November 1995.

Two international meetings took place under the auspices of INFOODS: an expert committee meeting on data quality indicators; and a meeting on food nomenclature and terminology. These meetings were hosted by the US Dept of Agriculture at their offices, on 14−16 June, 1995.

Participants from the USA, New Zealand, Thailand, Chile and Zimbabwe covered much ground. Some of the issues examined the applications of data quality indicators in retrospective data evaluation, and production and evaluation of new data; their advantages/uses; the different types of component values in a food composition data base to which they could be applied; the baseline data quality parameters for analytic data and derived data; and how data quality should be represented in a food composition data system. Surveys are being undertaken where data quality information is currently supplied to users, to determine how widely the information is used and how it is applied; and where they are not used, to determine how the food composition data users would make use of data quality indicators if supplied. The Food Terminology and Nomenclature meeting was convened for the purpose of developing a series of recommendations to be further addressed by an appropriate IUNS committee. It was recommended that the appropriate committee should: review of systems currently in use to determine the feasibility of linking them; determine if it is possible for a single food description language or a set of minimum criteria to be adopted among various countries; assume responsibility for the compilation of an electronic international food description dictionary/thesaurus/concordance, complete with food images; describe and contrast the various systems for users, perhaps on the internet, to see where the systems are complementary and where they are in conflict; and prepare an update, as a continuation of the development of the INFOODS system, previously published in the Journal of Food Composition and Analysis.

Reports on the results of these meetings are being prepared for publication and/or presentation.

Laboratories

The ASEANFOODS Interlaboratory trial has been completed, and the results have been presented and published Rice flour, soybean flour, cereal soy and fish meal are now available as the ASEANFOODS Food Reference Materials, for proficiency testing in laboratories. The materials are available at a subsidised cost from Dr Prapasri Puwastein, Institute of Nutrition, Mahidol University of Salaya, Nakhon Chaisri, Nakhon Pathom 73170, Thailand.

Electronic Communications

INFOODS has developed three electronic information/communications resources which operate via the Internet: the FOOD−COMP list, the FOOD−TAG list, and a WorldWideWeb server.

The FOOD−COMP group is operated for the purpose of discussing issues and disseminating information to the entire food composition professional community. The requirement for joining this list is an electronic mail address with Internet access. The procedure for joining this list is to send an email to the following address:

food−comp−request@infoods.unu.edu

No other information or text is required, and you are promptly added to the list. Alternatively, you can contact the New Zealand office by more conventional means, and supply your email address. Discussions on this list cover a spectrum of topics from sampling, sample preparation and methodological details, to naming conventions, and data presentation formats and expressions. Other information is often transmitted on this list, including announcements of conferences and meetings, availability of resource materials, and other notices of relevance to those engaged in food composition activities.

The FOOD−TAG Registration List involves a very small group which works together to update the food component identifiers. New tagnames are proposed according to an established formula. They are posted to the list, discussion is called for, and, if no discussion or dispute occurs within 30 days, the tag is officially registered and added to the master list. Participation is by invitation, or by special request to the Secretariat. Internet connections are not essential because dissemination of the contributions is via fax to those not equipped with Email.

The WWW Server contains a collection of news, data, and documents relating to INFOODS and the regional data centres. It can be accessed using Gopher or almost any Web browser, as follows:

http://www.crop.cri.nz/crop/infoods/infoods.html

Fellowships: During the last year, many fellowships were awarded. Among them were the following: Claudio Telha of the University of Chile to work on nutritional information systems at the NZ Institute for Crop and Food Research; several to attend the 2nd International Postgraduate Course on the Production and Use of Food Composition Data in Nutrition, held in Wageningen, The Netherlands, from 3−21 October 1994.

For further information please contact: Barbara Burlingame, INFOODS Secretariat, c/o NZ Institute for Crop & Food Research, Private Bag 11030, Palmerston North, New Zealand. Phone: 64 6 356 8300 Fax: 64 6 351 7050 Email: burlingameb@crop.cri.nz.

(Source: Communication with Barbara Burlingame, INFOODS Secretariat, 11 September, 1995)

WHO

The WHO/HQ Nutrition Programme reviews the latest scientific data and hence renews and develops guidelines, scientific criteria and methodologies, for widespread dissemination. These normative functions are important to ensure that WHO'S nutrition−related programmes, policies and plans of action are scientifically sound and effective and also to provide Member States, as well as WHO'S sister agencies, with scientifically sound and effective advice.

The Nutrition Programme, in view of the enormous burden of malnutrition, continues to accord high priority to its normative functions, on behalf of the Member States, in the following five areas:

• *protein−energy malnutrition:* its assessment, prevention, surveillance and management;

• *micronutrient malnutrition:* its prevention and control;

• *infant and young–child feeding and nutrition,* including technical support to Member States in their efforts to implement and monitor the International Code of Marketing of Breastmilk Substitutes;

• *diet–related noncommunicable diseases:* their prevention and management;

• *nutritional emergencies,* including preparedness for and care during.

This normative work is achieved through the following three main action areas:

(i) the holding of expert or technical meetings;

(ii) the production and publication of technical publications and documents; and

(iii) the monitoring of global trends in nutrition through a series of databanks. These are briefly described here.

Development and Maintenance of Global Nutrition Data Banks

In collaboration with various other WHO programmes, the Nutrition Programme has established and is currently operating the following data banks. These are crucial for the international sharing of information and support for countries in monitoring progress towards the goals of the World Declaration and Plan of Action for Nutrition as well as those of the Children's Summit; and in stimulating, planning and guiding the implementation and evaluation of the impact of national policies and local programmes for nutritional improvement. Currently operating data banks are as follows:

• Protein–Energy Malnutrition (Child Growth)
• Iodine Deficiency
• Vitamin A Deficiency
• Anaemia in Women
• Anaemia in Children
• Breastfeeding
• Implementation of the World Declaration and Plan of Action for Nutrition: Country Progress

The database on *Protein–Energy Malnutrition* documents malnutrition in terms of weight–for–age, height–for–age and weight–for–height in under–five infants and children worldwide. Maps on "Prevalence of underweight children in developing countries" are produced using this database. This database currently covers 87% of the total population of infants and young children in developing countries.

The *Iodine Deficiency* database provides prevalence of IDD and estimates of at–risk populations for all affected countries worldwide, while the *Vitamin A Deficiency* database provides prevalence of VAD in pre–school children worldwide. Countries categorized by degree of public health importance of vitamin A deficiency are mapped using the Vitamin A Deficiency database.

The data bank on *Anaemia in Women* (maintained in the Division of Family Health in collaboration with the Nutrition Programme) provides prevalence rates for anaemia in pregnant and non–pregnant women worldwide, whereas the database on *Anaemia in Children* provides prevalence of anaemia in children of various ages (infants, preschool age, school age and adolescents) in 85 countries.

The *Breastfeeding* database has been updated according to the new breastfeeding indicators and definitions. The bank pools information mainly from national and regional nutrition surveys and studies dealing specifically with breastfeeding prevalence and duration. The aim is to achieve worldwide coverage to enable comparison of data, assessment of breastfeeding trends and practices as a basis for future action, and evaluation of the progress of promotional programmes.

One of the most recent developments concerning breastfeeding is the change of the indicators and definitions to assess trends and practices and, the development of the new WHO Global Data Bank on Breastfeeding. The old data base included data from 151 out of 189 member countries of WHO compared with only 54 countries reporting data using new definitions and indicators. This is 80% vs. 28% of member states respectively.

Implementation of the World Declaration and Plan of Action for Nutrition is a global monitoring system on country progress for developing and finalizing their national plans of action for nutrition, including the information on national mechanism established. It also contains information on WHO'S support, both technical and financial, as well as of the support provided by FAO and other agencies (as available) to countries, and the summary of progress of ICN activities in various WHO regions. This monitoring system is currently being expanded to include the information on the components of, and the progress in, national plans of action for each country.

For further information please contact: Dr Graeme Clugston, Head, Nutrition Unit, WHO, 20, Avenue Appia, CH 1211 Geneva 27, Switzerland. Phone: 41 22 791 2761 Fax: 41 22 791 0746

(Source: WHO, 1995)

WORLD BANK

New Nutrition Projects

Three World Bank–assisted freestanding nutrition projects have recently been approved: the Senegal Community Nutrition Project; the Bangladesh Integrated Nutrition Project, and the China Iodine Deficiency Disorders Control Project. The Senegal project is being implemented by a unique public works–type agency with a history of success in mobilizing communities. Portions of the Bangladesh project are going through BRAC, the renowned NGO, and feature a new targeting technique focusing on newly married women. China's operation is the first freestanding Bank–assisted project aimed solely at micronutrient deficiencies (a similar project is being planned in Indonesia). Ten other nutrition projects are also at some stage of preparation or appraisal, and nutrition components are currently being prepared or appraised for 31 projects in other sectors.

Primary Education

Nutrition is, or soon will be, a component in 19 Bank–assisted primary education projects. The purpose is not just to improve nutrition and health, but also to raise returns on investment in education.

Consultative Group to Assist the Poorest

Following the World Bank's "Overcoming Global Hunger" conference in November/December 1993, a Consultative Group to Assist the Poorest (CGAP) was formed. This new interagency undertaking is now well on the way to generating US $100 million to provide as microcredit to the very poor. The World Bank's Board of Executive Directors approved a contribution of 30 percent of total funding – up to $30 million.

Project Evaluation Results

A recent midterm evaluation of the nutrition component of the Janasaviya Trust/Poverty Alleviation Project in Sri Lanka has shown a substantial reduction in underweight children (almost half of the 84 areas reported a greater than 15 percent reduction in malnutrition in the under–five age group: several areas had reductions of over 40 percent). Three levels of program intensity were tested in the project. It was found that the slower, more methodical approach of empowering women and concentrating on the poorest produced the best nutrition results. The nutrition component is considered the most effective part of that multisector project, being particularly effective at mobilizing communities.

New anthropometric surveys coming out of the Madagascar Nutrition and Food Security Project show reduction of more than a third (from 19 to 13 percent) in rates of malnutrition in communities covered by the project. In a control sample, where children have access to growth monitoring but no other nutrition services, malnutrition hovers around 20 percent.

For further information please contact: Human Development Department, The World Bank, 1818 H Street, N.W., Washington, D.C., USA. Phone: (202) 473 3782 Fax: (202) 522 3234.

(Source: *Alan Berg's New & Noteworthy in Nutrition No. 26,* June 13, 1995, World Bank Office Memorandum)

PUBLICATIONS

Reproductive Health: The MotherCare Experience
The Nutrition and Lives of Adolescents in Developing Countries
Time for a Change? A Field's Eye View of Donor Agency Support for Nutrition
War & Hunger: Rethinking International Responses to Complex Emergencies

plus selected announcements of new publications

Reviews

"Reproductive Health: The MotherCare Experience"

(1995) Supplement to Volume 48 of the International Journal of Gynaecology and Obstetrics. Elsevier, New York.

This special supplement consists of a series of articles describing 5 years of operational experience of the MotherCare Project of the USAID. This project has sought to develop a package of effective maternal and neonatal health and nutrition services to reduce maternal and neonatal mortality and morbidity in developing countries. The first article provides a series of conceptual models or frameworks for programme planning in different settings reflecting variations in infrastructure, service delivery and utilisation. The second article describes the nature and magnitude of the problem in global and regional terms and provides a useful table or "scorecard" detailing the magnitude of maternal morbidity and the consequences for both the pregnant woman and the newborn. The third article examines the elements of a basic safe motherhood programme, including components of information, education and communication, family planning and obstetrical care as well as first level referral facilities and functions. It includes a useful section on reproductive epidemiology which provides a framework for assessing maternal health conditions and also identifies a set of programme performance indicators which will be useful to managers. The fourth article describes a study to validate self reported obstetrical history against records information; this is particularly important in situations where service records do not exist and critical information must be obtained from verbal accounts. It finds that dystocia and haemorrhage are reliably reported whereas the reporting of sepsis and eclampsia was less clear. It also provides a useful appendix of optimal sets of questions for obtaining valid information on obstetrical complications. The fifth and sixth articles describe MotherCare Projects in Bolivia, Guatemala, Indonesia, Nigeria and Uganda which involve a range of interventions for strengthening different components of the primary care pyramid, from community to referral hospital level. The seventh article addresses the important issue of training hospital staff to support the process of referral from the community, through prompt attention and improved quality of care. The study provides evidence that appropriate staff framing can favourably change users' perceptions of referral services and thereby increase the rate of completion. The eighth article examines nutritional issues in a project in West Java and specifically addresses the contribution of maternal nutrition to the outcome of pregnancy, the estimation of pre–pregnancy weight, weight gain patterns during pregnancy and the influence of iron supplementation on neonatal anthropometry. Supplementary iron consumption during pregnancy was a significant predictor of full–term neonatal weight and length, while maternal height and weight contributed to the specification of the neonatal length and weight models respectively. The ninth article describes the benefits of a decentralised syphilis control project in Nairobi and the results emphasise the advantages of a one–stop diagnosis and treatment service for pregnant women and their partners. Of more than 13,000 women screened, 87% of sero–positive women and 50% of their partners were treated successfully by this approach, at a cost of approximately US$50 per case prevented. The final article deals with policy formulation in the area of sate motherhood and the underlying issues of access and quality that need to be considered in this context. The involvement of women as beneficiaries is emphasized as an important ingredient of progressive policies.

Given the current paucity of experience and information on sate motherhood in developing countries, this is a valuable publication summarizing ideas and experiences derived from a range of projects and programmes operating in different settings. As such, it will be particularly useful to programme managers concerned with the design and evaluation of intervention packages at the primary care level.

To obtain a copy of this supplement please contact: Elsevier Science, Customer Service Dept., PO Box 882, Madison Square Station, New York, NY 10159–0945, USA. Phone: (1 212) 633 3750 Fax: (1 212) 633 3764.

John Kevany

“The Nutrition and Lives of Adolescents in Developing Countries: Findings from the Nutrition of Adolescent Girls Research Program.”

(1994) Kathleen M. Kurz and Charlotte Johnson–Welch, International Center for Research on Women (ICRW). 35 pages.

This document is a synthesis of research findings from the ICRW/USAID Nutrition of Adolescent Girls Research Program established in 1990. The Programme included 11 research projects: five in Latin America and the Caribbean (Ecuador, Mexico, two in Guatemala, and Jamaica), four in Asia (Nepal, India and two in the Philippines) and two in Africa (Benin and Cameroon).

The introduction justifies research on adolescents by highlighting the growing proportion of young people of this age group in developing countries; the change in sexual behavior leading to a rise in incidence of pregnancy, sexually transmitted diseases including HIV infection; the inadequacies of health services to deal with adolescents needs; and finally the lack of knowledge on the subject. The underlying rationale includes the hypothesis that adolescence is a time when behaviours are being formed and therefore potentially provides a window of opportunity for influencing the adoption of health conducive behaviours. The research programme sought to provide information on the factors that affect and are affected by nutritional status which could guide the formulation of policies and programmes.

The eleven research studies differ in design, features of which are tabulated as part of this document’s introduction – only the Ecuadorian study sample was nationally representative. Studies also appear to vary on specific objectives. Nutrition results include findings on anaemia, stunting, undernutrition, catch–up growth and dietary intakes. Information on other aspects of adolescents’ lives is also described e.g. health education factors, activities, and self perceptions.

Although study findings are not strictly comparable due to variation in methodologies, each section concisely brings together findings against the backdrop of what is currently known on each of the topics.

Anaemia was the greatest nutritional problem among adolescence in the ICRW/USAID studies, the prevalence of which was quite high in the Nepal, India, Guatemala metabolic and Cameroon studies. However a large variation across studies exists ranging from only 5% anaemia in the Guatemala longitudinal study to 55% in the India study. The nationally representative Ecuadorian study showed a moderate level of anaemia with a significantly higher prevalence of anaemia in boys than girls, however it did not appear to investigate the functional consequences of this finding.

Unexpected findings like the greater prevalence and of stunting in boys in the Cameroon and Benin studies in contrast to findings in the India study and the finding that there were twice as many boys undernourished as girls, emphasizes the need for further investigation. However, undernutrition prevalence was found to be high only in the India, Nepal, and Benin studies and by the end of adolescence was not found to be high in any of the studies.

Findings on catch–up growth appear to be consistent with other research findings that not all growth can be recovered even under optimal conditions. The Guatemala study suggested that only small gains in height may be possible with intervention. Warnings against supplementation in situations where a low underweight

prevalence coexists with a high prevalence of stunting are underlined in the Benin study, which indicates that adolescents gain more weight relative to BMI reference data than height relative to the height reference data. The conclusion with regard to this issue is that “before interventions can be recommended, further investigation is needed into how much height and weight could be gained by increasing food intake”.

Violence was particularly noted from the Jamaican study as impacting on the lives of adolescents. Poverty was not surprisingly related to other aspects of adolescents lives, e.g. in the Ecuador study adolescents from the poorest households had the worst nutritional status and were least likely to attend school. A surprising finding from Nepal and Benin studies was that poor nutritional status was related to high school attendance.

Conclusions and general recommendations, though difficult to draw from apparently mixed findings, were made in broad terms. The authors highlighted vulnerability among boys, identified through nutritional indicators, and among girls through social indicators. Recommendations include providing integrated health services that are accessible and acceptable to adolescents boys and girls; improving iron status within existing programmes; implementing programmes which increase the productivity and income of the poor and promoting access of girls to education opportunities.

This well written and nicely published document contributes comprehensively to the literature on the nutrition and lives of adolescents in developing countries, which is relatively sparse, and whets the appetite for further review of the individual studies referred to.

To obtain a copy of this report and obtain information on other publications please contact: ICRW, Publications Department, 1717 Massachusetts Avenue, N.W., Suite 302, Washington, D.C. 20036, USA. Phone: (202) 797 0007 Fax: (202) 797 0020 Email: icrw@igc.apc.org

Fiona O’Reilly, ACC/SCN

“Time for a Change? A Field’s Eye View of Donor Agency Support for Nutrition”

(1995) by Julia Tagwireyi The 7th Martin J Forman Memorial Lecture, June, 1994. Helen Keller International, New York.

Julia Tagwireyi is internationally recognized as one of the very outstanding individuals involved in national–level nutrition planning and programming. She has coauthored reports reviewing the development of nutrition programs and evolution of nutrition problems in Zimbabwe. When Julia Tagwireyi speaks, it commands the attention of all involved in international nutrition.

The tradition of the Martin Forman Lectures has been maintained. With her ever–optimistic approach to constructive criticism, Julia Tagwireyi has directed attention to some of the realities of international assistance and the difficulties these can cause for national planners. As she points out, there are three root causes of less than maximal impact of donor support; (a) differences between country and donor perceptions of problems and priorities in nutrition and preferred approaches; (b) inadequate harmonization of activities among donor agencies; (c) short term, piece–meal approaches to nutrition program support, usually for a maximum of 5 years when 10–20 years is needed to effect substantial improvement.

Starting with this set of perceived issues, Julia Tagwireyi offers both case examples and suggested new approaches. Mechanisms of ensuring sustainability are key factors, it is suggested that “providing support in a manner that facilitates ownership of the program by the nationals will facilitate sustainability...” Investment in the development of infrastructure to implement, evaluate and modify programs is also seen as pivotal.

One extremely important component of the potential success story the author presents is omitted from the discussion. This reviewer has the feeling that, in the final analysis, much of the success that the author offers may be dependent upon personality and personal abilities. What we need to know is how can one clone that small number of highly successful programme managers, and moreover where they are performing outstanding work, how can their removal from the setting in which they achieve so much be avoided.

Perhaps a Forman lecture in the near future will address the other side of the coin – a donor’s eye view of field use of available dialogue between country personnel and donor that Julia sees as essential to successful programs but all too often lacking in the busy have intervention will fund it for you’ approach of today.

Julia Tagwireyi deserves a strong vote of thanks from all of us for this lecture and the messages it leaves.

To obtain a copy of the report please contact: Helen Keller International, 90, Washington Street, 15th Floor, NY 10006, USA. Phone: 212 943 0890.

George H. Beaton

"War & Hunger: Rethinking International Responses to Complex Emergencies"

(1994) Edited by Joanna Macrae and Anthony Zwi with Mark Duffield and Hugo Slim, Zed Books, Save the Children (UK). 242 pages.

This book is a useful collection of essays on a hot area in the relief/development industry: complex humanitarian emergencies, disasters in which conflict/war play a major role. Since the end of the cold war, these emergencies have been increasing dramatically in both frequency and severity while obstacles to the international community's ability to respond to them have been removed. As one of the co–editors correctly assesses, this work is a "modest contribution to the debates on war, hunger and international policy." The book is particularly relevant to policy makers in international organizations. It provides useful pointers to the dramatic changes that are occurring on the landscape of international development and the implications of these changes for the relief/development industry.

The book is the result of a review of the literature and workshop sponsored primarily by Save the Children (UK) and the London School of Hygiene. It is organized in three parts:

1. A framework for the analysis of war and hunger in Africa
2. Case studies of complex emergencies in three African countries
3. Policy issues and conclusions

The main message of the work is that the new world "order" has dramatic implications for both the etiology and management of international relief and development. The work describes complex emergencies as a function of "active underdevelopment": the breakdown of the state and its replacement by a political culture that utilizes violence for economic profiteering and maintenance of political power. It further describes the complexity of diplomatic, political, and human rights issues that must be examined and addressed if these emergencies are to be successfully prevented or mitigated in the modern world. It identifies major inadequacies of the international development industry in dealing with these; a chapter is devoted to the United Nations, particularly.

The work, however, stops short of offering solutions. The conclusions chapter is somewhat sophomoric, identifying generic solutions that already have been made clear by earlier international luminaries active in the area of disaster relief (Cuny, Anderson). These solutions include the need for beneficiary participation, the value of appropriate monitoring and evaluation systems, the clarification of intervention framework, the need to recognize the linkage between development and disasters (particularly as conflict affects development), and the need for an impartial international monitoring system. The major co–editors do have, however, more recent relevant works available through the London School of Hygiene and Tropical Medicine's Health Policy Unit.

Another limitation of the book is the lack of supporting data. The analyses are somewhat speculative, inclusive of the authors' observations and citations of agency communications. This final critique may be more the result of poor data availability than the style and intent of the authors. Indeed, one of the contributing authors, Alex de Waal noted that "slow rhythms of academia and security concerns" obscured reasonable documentation of the recent Somalia disaster relief efforts. These issues and the action orientation of traditional disaster relief largely have precluded effective data–driven analysis. This limitation should be perhaps emphasized further by the authors. The dearth of analyses published on a reasonable empirical data base is disappointing.

The book does, however, bring intellectual focus on a stark reality recognized by senior policy makers in the development industry; i.e., that complex humanitarian emergencies are among the most important development problems in the new world order; business as usual is no longer relevant. The book represents a timely contribution to inducing major changes in the field of international development.

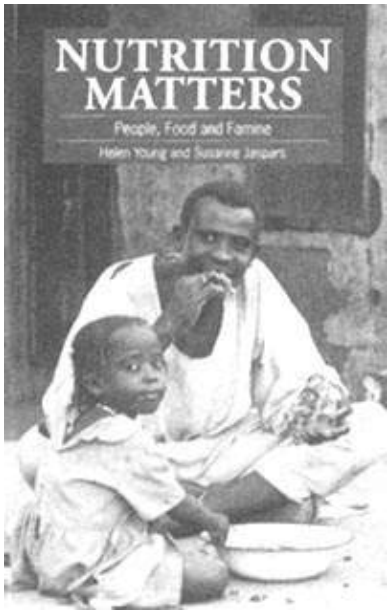
To order a copy of the book please contact: Zed Books Ltd., 6 Cynthia Street, London N1 9JF, UK. Phone: 44 171 837 4014.

Nancy B. Mock
Tulane University Center for
International Resource Management

New Titles

In this section we include selected publishers' announcements of new publications; these are not independent reviews, but are included to draw attention to relevant material.

"Nutrition Matters: People, Food and Famine"



(1995) by Helen Young and Susanne Jaspars. Intermediate Technology Publications Ltd, London. 151 pages.

The classic disaster model of an emergency, which assumes simple cause and effect between food shortages, malnutrition and death, no longer holds. The nature of emergencies, and outsiders' perceptions are changing. In fact most emergency situations are protracted, with obvious political dimensions, and the great majority of crises can be predicted, often recur in the same area and, with appropriate interventions, the progress of famine can be halted.

This book is based on the authors' views and experience as fieldworkers in situations of food insecurity and famine, combined with their in–depth knowledge of the discipline of nutrition. The practical constraints encountered by the authors and the ineffectiveness of standard interventions, has encouraged them to consider new approaches to nutritional assessments and response, which are generally applicable in situations of famine.

The authors develop a new conceptual framework of the role of nutrition in famine which can be used to analyse the underlying causes of malnutrition, the stage of famine, and the risks of disease and death. This is useful as a basis for nutritional assessments, for identifying appropriate interventions, and targeting strategies. Practical suggestions for carrying out assessments and for alternative interventions are given. The institutional and political change needed for the successful implementation of appropriate interventions is also considered.

To obtain a copy of this book please contact: IT Publications, 103–105 Southampton Row, London, WC1B 4HH, UK. Phone: (44 171) 436 9761 Fax: (44 171) 436 2013. Email: itpubs@gn.apc.org

(Source: Information extracted from cover of "Nutrition Matters")

"Child Growth and Nutrition in Developing Countries: Priorities for Action"

(1995) edited by Per Pinstrup–Andersen, David Pelletier, and Harold Alderman. Cornell University Press, Ithaca and London. 447 pages.

What can be done for the estimated 190 million of the world's children under age five who are chronically undernourished? This book presents a broad, multi–disciplinary approach to eliminating child malnutrition in developing countries. Exploring its causes, consequences, and solutions, the volume offers a penetrating analysis of why so many previous policies, programs, and technological interventions have tailed to alleviate protein–energy malnutrition. While the authors feel that technology can play a role, they conclude that effective and sustainable solutions must be sought through careful analysis of the behaviour of individuals, households, and communities – preferably with community involvement in the analysis – to identify the ways in which community–based or external interventions can be designed or redesigned to improve nutrition.

Nineteen experts offer current knowledge and perspectives from nutrition, public health, epidemiology, agricultural and consumer economics, anthropology, child development, rural sociology, and community development. Combining academic perspectives with practical experience, they summarize a vast body of knowledge and experience and provide state–of–the–art guidance for future policy and program design.

The book can be ordered from: Cornell University Press, PO Box 6525, 750 Cascadilla St., Ithaca, New York 14851–6525, USA.

(Source: New Book Announcement, Cornell University Press)

"Human Development Report, 1995"

(1995) UNDP Oxford University Press, 240 pages.

This sixth edition of the widely–respected *Human Development Report* includes and updates the unique Human Development Indicators comparing human development in most countries of the world, and the data tables on all aspects of human development. This edition includes a special section that examines issues of gender. The report analyses global trends in closing and widening gender gaps in different regions and countries. It presents new indicators of gender equality in order to rank countries on a global scale, while it highlights policies which have ensured equal access to opportunities for men and women. It proposes new methodologies to measure and value unpaid contributions made by men and women to human development through household and community activities. It identifies a new action agenda for promoting gender equity in the decades ahead.

To obtain a copy of the report please contact: Oxford University Press, Walton Street, Oxford OX2 6DP, UK. Phone: 0865 56767

(Source: Oxford University Press New Book Announcement)

"World Agriculture: Towards 2010. An FAO Study"

(1995) edited by Nikos Alexandratos. FAO, Rome and John Wiley & Sons, Chichester.

World Agriculture: Towards 2010 details the latest forward assessment by the FAO or likely developments in world food and agriculture, including forestry and fisheries. The book focuses mainly, but not only, on developing countries, and examines two overlapping central themes: on one hand food security, and on the other natural resources, the environment and sustainability.

Containing a detailed analysis and evaluation of the agricultural potential of land resources and their use in developing countries, the book discusses the prospects for putting agriculture on a sustainable path. This is assessed against a background of population growth with a prevalence of food insecurity and undernutrition, progressive reduction in world agricultural growth, the degradation of natural resources, and anticipated overall economic developments.

The findings of this book are from intensive FAO multidisciplinary analyses, providing a global picture of likely developments in world food and agriculture from detailed assessments by country, by product, and by agroecological zone. As such, this book is the most comprehensive analysis available of the agricultural potential of the land and water resources of developing countries.

To obtain a copy of this book please contact: John Wiley & Sons Ltd, Baffins Lane, Chichester, West Sussex, PO19 1UD, UK. Phone: (44 1243) 779777

(Source: Information taken from cover of "World Agriculture: Towards 2010")

“The Food System”

(1995) by Geoff tansey and Tony Worsley. Earthscan Publications, London.

Food is a massive industry, and the many key players involved – farmers, workers, manufacturers, traders, retailers, caterers and consumers – have very different interests. In wealthy nations those interests can range from corporate survival and maintaining profits, to promoting a healthy diet and ensuring food safety. For the poor, the emphasis is all too often on simply getting enough to eat.

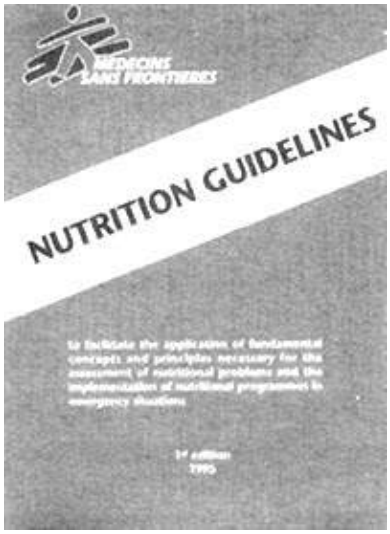
The Food System provides an essential overview of today’s dominant food system – one developed in and controlled by Northern industrialized countries, and becoming increasingly globalized. As information technology and biotechnology are set to revolutionize the food system, it is essential to understand the broad context in which the different actors operate if all the world’s people are to enjoy a safe, secure, sufficient and sustainable food supply.

The Food System is an absorbing book for the general reader and is packed with information, attractively presented and written in a lively, accessible style. It also makes an ideal text for anyone working on any aspect of food – from agriculture and food technology, management, retailing, catering and consumer studies, to politics and development.

To order a copy of the book please contact: Earthscan Publications Ltd., 120 Pentonville Road, London N1 9JN, UK. Phone: 44 171 278 0433 Fax: 44 171 278 1142.

(Source: Earthscan Press Release, 20 July 1995)

“Nutrition Guidelines”



(1995) Médecins Sans Frontières, Paris. 191 pages.

Nutrition interventions are among the most essential components of an emergency relief response. Nutritional assessments and interventions have an important place in needs assessments, information systems, preventive and curative services, and public health measures.

In this practical handbook, fundamental concepts and principles for assessing nutritional problems are discussed, including the rationale for designing a strategy. Detailed information is given on planning, implementation and evaluation of selective feeding programs.

As a result the guidelines help one to reflect carefully before taking decisions and implementing a nutritional program.

The methods described are based on scientific insights which are extensively evaluated through field experience of MSF, resulting in practical guidelines adapted to field circumstances.

Many schemes, tables and other illustrations make sure the handbook is practical and easy to use.

This book is intended to facilitate, by MSF and other agencies, effective implementation of nutrition programs on behalf of populations in danger.

Summary

Nutrition Guidelines is arranged into 3 parts: decision making tools and strategy design; techniques of obtaining reliable and valid data on prevalence of malnutrition; and the implementation of selective feeding programs.

1. Nutritional strategies in emergencies
2. Rapid nutrition surveys among populations in emergency situations
3. Selective feeding programs

In the first part of the book the reader is guided through a rational decision making process. Recommendations are given on indicators needed to be gathered in order to be able to make a proper nutritional assessment. Principles of nutritional interventions are made clear and an appropriate nutritional strategy has to be designed based on the interpretation of a nutritional assessment.

One of the most important indicators is the prevalence of malnutrition in the population, which has to be assessed through a survey. In the second part of the book all stages for the planning and implementation of an anthropometric survey is explained: objectives, measurements and indices to be used, cut–off points, various sampling methods, statistical processing, analysis, etc.

Once data are gathered, analyzed and a strategy is chosen, nutritional interventions should be implemented. The last part of the book is a detailed manual on planning and implementing selective feeding programs, e.g. therapeutic feeding programs for the severely malnourished and supplementary feeding programs for the moderately malnourished. Standardized medical and nutritional protocols and procedures ensure a reasonable quality of care and enable a rapid intervention: procedures on screening, admission, discharge criteria, medical treatment, individual feeding schedules, standard feeding schedules, recipes, registration, food preparation, stock control.

Finally, methods for evaluating the performance of the centre facilitate rational management.

To obtain a copy of “Nutrition Guidelines” please contact: Médecins Sans Frontières, Logistique Médicale, 8, rue Saint–sabin, 75544 Paris Cedex 11, France. Phone: (33) 1 40 21 2929 Fax: (33) 1 48 06 68 68.

(Source: New Publication Announcement, Médecins Sans Frontières, 1995)

“The Miracle of Germinated Cereal Grain Powders”

(1992) by Tara Gopaldas and Suneeta Deshpande. Daya Publishing House, New Delhi.

One rarely thinks of germination as biotechnology, it is, however, one of nature’s most astounding and bountiful biotechnology systems that can be harnessed for the improvement of young child feeding in the Third World. The University Department of Foods and Nutrition, Faculty of Home Science, M.S. University, Baroda, has been working in the area of fully germinated, partially germinated and finally to catalytic amounts of germinated cereal flours (Amylase–Rich Foods or ARF) for the improvement of weaning diets. A tremendous impetus was given to the ongoing research by a very generous research grand and the gift of an Infant Foods (India) laboratory by the International Development Research Centre (IDRC), Canada, in 1988. IDRC also supported two International Workshops on “ARF Technology” – the first at the 14th International Congress of Nutrition, Seoul (Korea) in August 1989, and the next in Baroda (India) in October 1990. It has also financed the production of this book. The book has been organized into four sections. The First Section contains the proceedings and papers presented by invited experts at the Seoul and Baroda Workshops. Section Two contains twelve full papers published in various international and national scientific journals. Section Three contains abstracts of the dissertation work or work in progress by four Doctoral and some eighteen Masters students. Section Four tells the reader “How to make ARF” and “How to make simple weaning gruels”. The authors have attempted to illustrate the book with photographs, illustrations and sketches to the extent possible.

To order a copy of the book, please contact: Daya Publishing House, 1123/74 Deva Ram Park, Tri Nagar, Delhi–110035, India. Phone: 7231826.

(Source: Foreword to “The Miracle of Germinated Cereal Grain Powders” by Dr Mrunalini Devi Puar, Chancellor, The Maharaha Sayajirao University of Baroda, India)

OMNI: Salt Iodization Manual is Published

The Program Against Micronutrient Malnutrition (PAMM), an OMNI partner, has recently published a new manual entitled *Monitoring Universal Salt Iodization Programmes.* The manual was developed through a grant to PAMM from the Micronutrient Initiative (MI). Other sponsoring agencies include UNICEF, the International Council for Control of Iodine Deficiency Disorders (ICCIDD) and the World Health Organization (WHO).

The manual has been prepared in response to a strong need in the field for a systematic procedure to establish a permanent iodized salt monitoring system within a country and to monitor progress of universal salt iodization. It is designed for country program managers who require guidelines and reference materials in order to design and implement iodine deficiency disorder (IDD) monitoring programs. Because of the differences in culture, economics, infrastructure, finances and many other factors, each country’s plan to eliminate IDD must be unique and selective of appropriate activities. The most feasible system will be determined by a combination of local factors, industry and health infrastructure It sill therefore be up to each country to select those elements that are most appropriate for a specific country situation the goal of the manual is to integrate and institutionalize salt monitoring and quality assurance into the daily activity of salt producers with periodic monitoring by the government to ensure adequate iodization of all salt for human and animal consumption.

Some of the materials in the manual are based on training courses at the PAMM in Atlanta, GA. Other ideas and examples included are based on country experiences and on consultations with individuals around the world. Contributors to the manual come from a variety of disciplines, including laboratory science, engineering, medicine, public health, law, nutrition, management and epidemiology. This variety of backgrounds shows the diversity required in national programs to address IDD.

The editors encourage individuals to provide “case studies” on what worked and what did not work in their national programs, and how practical the information provided proves to be. A second version of the manual is planned to include information on how to assess the magnitude and distribution of IDD within the population. This information was purposely left out of this first version in an effort to keep the primary focus on salt iodization and monitoring. As the year 2000 approaches, however, information on the prevalence of IDD will become increasingly important. It is hoped that the second version of the manual will gather more illustrations from developing countries on the approaches and tools being used to monitor iodized salt programs as well as dealing in greater depth with the special needs and constraings facing small–scale salt producers and others in resource–poor situations. Social marketing, another important component, also will be discussed.

For more information, or to obtain a copy of the manual, contact: PAMM/Department of International Health; Rollins School of Public Health of Emory University; 1518 Clifton Road, N.E., 7th Floor; Atlanta, GA 30322 USA. Phone: 404 727 5724 Fax: 404 727 4590 Email: pammusa@sph.emory.edu

(Source: OMNI Update, May 1995)

“Bridging The Gaps: The World Health Report 1995”

(1995) World Health Organization, Geneva. 120 pages.

Drawing upon a database unprecedented in its completeness, *The World Health Report 1995: Bridging the Gaps* documents the attributed causes of ill–health and death for each age group throughout the human life span, around the globe. Analytical as well as descriptive in its approach, the report also explores the root causes of health problems and what can be done to solve them.

While progress is evident for some diseases in some countries, others show trends that are deeply disturbing. As the report reveals, today’s global health situation is characterized by ominously widening gaps between rich and poor, between one population and another, and between age groups. Though many countries have already reached the health targets set by WHO for the year 2000, in come parts of the world, life expectancy is actually decreasing and populations lack access to even the most basic health care.

For virtually all the major diseases that kill children or cut short the lives of adults, the picture that emerges is one of immense suffering easily prevented or treated by technologies that already exist and cost surprisingly little to implement. As the report makes abundantly clear, the gaps that need to be bridged include the

discrepancy between knowing exactly what should be done and finding the will and resources to do it. Facts and figures gathered in the report also underscore the fundamental importance of health to socioeconomic development: when the poor are made more healthy, they can earn more and become less poor.

By ranking the major causes of death and ill–health, and showing how they can be prevented, *The World Health Report 1995: Bridging the Gaps* provides a solid foundation for priority setting and action – and challenges the world conscience to face the difficult ethical issues raised by so much preventable suffering.

To order a copy of *The World Health Report 1995* please contact: World Health Organization, Distribution and Sales, 1211 Geneva 27, Switzerland. Fax: (41 22) 791 4857.

(Source: Information Announcement, World Health Organization, 1995)

AHRTAG: New Child Health Newsletter Launched

Millions of children in developing countries owe their lives to either oral rehydration therapy, immunisation, or standard case management of acute respiratory infections. Over the past decade, these interventions have been responsible for significant improvements in child mortality.

However, many children continue to die from preventable or treatable illnesses. Five illnesses account for almost three–quarters of deaths of children under five – acute respiratory infections, diarrhoeal diseases, malaria, measles and malnutrition. Most of these deaths could be avoided if families sought medical help promptly and health workers were well trained in recognition and management. Community–level prevention measures are also vital.

In order to support health and community workers to tackle child health, AHRTAG is launchind a new child health newsletter: *Child Health Dialogue* will focus on practical prevention and management of the five main childhood illnesses. The new 12–page quarterly newsletter will replace AHRTAG's popular child health newsletters, *Dialogue on Diarrhoea* and *ARI News,* and will build on their strengths – the provision of clear, practical information. New features will include an eye–catching colour design, regular columns on essential drugs and training tips, simplified research updates and quizzes.

Child Health Dialogue will be free to readers in developing countries and will cost £12 per year to individuals in Europe, North America, Australasia, and Japan. Special rates are available for students, organisations, and bulk orders.

For further information please contact: Kate O'Malley or Mary Helena, AHRTAG, 29–35 Farringdon Road, London EC1M 3JB, UK. Phone: (44 171) 242 0606 Fax: (44 171) 242 0041.

(Source: AHRTAG Press Release, October 1995)

Journal of Food Policy *Special Issue on*: Nutrition and Human Rights to be published in February 1996, Volume 21, number 1. Guest Editors: Wenche Barth Eide, Uwe Kracht, and Robert E. Robertson.

> *"Nutrition and Human Rights – why aren't they the most obvious couple? Why aren't the two ideas fused in everyone's mind? Why is it necessary to resort to complex philosophical and legal justifications to establish and define the right to nutrition, when everyone should share an understanding that nutrition is the base upon which all meaningful human activity must stand?"*
>
> ***Extracted from Robert E. Robertson's paper "Nutrition, Human Rights and Resources"***

In this special issue of *Food Policy,* legal, nutrition, and development scholars, practitioners, and human rights activists present the historical and legal foundations of modern human rights law as it pertains to the promotion and protection of economic, social, and cultural rights including those particularly relevant to nutrition rights.

A limited number of copies of this special issue will be available from WANAHR (World Alliance on Nutrition and Human Rights) Secretariat, Mr. E. Ivas, c/o Norwegian Institute of Human Rights, Grensen 18, N–0159, Oslo, Norway. Fax: +47 22 42 25 42 Email: erik.ivas@nihr.uio.no

UNITED NATIONS ADMINISTRATIVE COMMITTEE ON COORDINATION – SUBCOMMITTEE ON NUTRITION (ACC/SCN)

The ACC/SCN is the focal point for harmonizing the policies and activities in nutrition in the United Nations system. 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 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.

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 to eight 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 concerned 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 inter–sectoral and sector–specific topics.

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 flows of external resources to address nutrition problems are assessed. State–of–the–Art papers are produced to summarize 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.

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