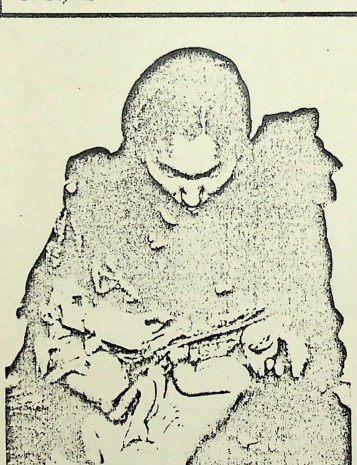
IBMAC

UPDATE SUMMER 1991 50p



A mother's grief

This picture from Islamabad, Pakistan, tells two stories: most obviously, about the often fatal consequences of bottle feeding; more profoundly, about the age-old bias in favour of the male.

The child with the bottle is a girl - she died the next day. Her twin brother was breastfed. The woman was told by her mother-in-law that she didn't have enough milk for both her children, and so should breastfeed the boy. But she could almost certainly have fed both children herself, because the process of suckling induces the production of milk.

However, even if she found that she could not produce sufficient milk - unlikely as that would be - a much better alternative to bottle feeding would have been to find a wet nurse. Ironically, this role has sometimes been taken by the grandmother. In most cultures, before the advent of bottle feeding, wet nursing was a common practice. *"Use my picture if it will help,"* said the mother, *"I don't want other people to make the same mistake."*

May 21st is the 10th anniversary of the adoption of the International Code and on that day UNICEF and Baby Milk Action will be drawing public attention to the need for greater protection of breastfeeding. UNICEF will be using this article and photo in their publicity for this and their campaign for the rights of the girl child.

Nestlé have often used the argument that twins cannot be breastfed to support their case that there is an extensive need for artificial baby milks.

Photo: Courtesy of Children's Hospital, Islamabad. Dr. Mushtaq Khan. Source: UNICEF

Baby Milk Action

This newsletter (2nd edition) is produced by **Baby Milk Action**, the coordinators of the UK Nestlé boycott. It is written and edited by Gay Palmer, Andrew Radford, Patti Rundall, Stuart Reid and Lisa Woodburn. Baby Milk Action is a member of the International Baby Food Action Network (IBFAN), a network of over 100 groups working for the protection of infant health in over 60 countries. Baby Milk Action aims to halt the commercial promotion of bottle feeding and to protect and promote good and appropriate infant nutrition.

We aim to produce a newsletter every 6 months. However, campaigning, lobbying and monitoring commitments may make this impossible. Contributions and letters are welcomed but we cannot guarantee to use them as space is limited. Please write if you have any information which may be useful to us.

Baby Milk Action's development education work is funded mainly by the EEC, Save the Children, Oxfam, Christian Aid, CAFOD, UNICEF and UK churches. For our campaigning work we rely on donations, membership subscriptions and income from the sale of materials. If you find this newsletter interesting and would like to help us, please consider joining or sending a donation. Baby Milk Action is a small organisation, Nestlé is the largest food multinational in the world.

Baby Milk Action, 23 St. Andrew's Street, Cambridge CB2 3AX. Tel: 0223 464420. Tel/Fax: 464417

Area Contacts

Our network of area contacts has expanded to 47 activists following a training day in April. Baby Milk Action intends to hold a health workers training day in September and an area contacts training day in Scotland in the Autumn. Anyone interested in becoming more active is welcome to attend. A list of area contacts is included with this newsletter - and we are always looking for additions to it...

New materials

Wake up to the facts: a 6th display poster has been added to the original series of five mentioned in the last Update. Colour photos of breastfeeding mothers and babies can also be hired at a nominal charge.

Baby Milk Action leaflets: A4 folded leaflets with information on Baby Milk Action and our campaigns.

Breastfeeding a Global Priority, UNICEF (VHS video). 25 minutes. Available for hire: £5 from Baby Milk Action.

Competition results

This is the winning caption from the competition in the last BMAC Update. The winner is Mrs E. Tent of Saffron Walden. Runners up prizes have been sent to Rhoda Ui Chonaire of Ireland and Hermit Singh Randhawa of Newcastle.

Hmm, this one's not dead yet.. Better give it another bottle.

Hospital booklet withdrawn

Bradford Health Authority has been forced to withdraw a booklet entitled *A Guide to Maternity Services* after complaints about full-page ads for Cow& Gate and Farley's baby milks which appear on the inside covers. The message conveyed doubly undermines the Government's stated support for breastfeeding by a smaller advertisement inside which urges readers to support advertisers *"by using their products and services."*

Oldham, North Tyneside, West Norfolk and Cambridge HAs have allowed ads to appear in similar booklets - some of which contain no other information about infant feeding. We understand that a firm in the Midlands arranges for these guides to be paid for by advertising.

Why we need a law not a voluntary Code

A health worker reports that companies continue to dump free baby milk at The Queen Elizabeth II Hospital in Welwyn Garden City .

Companies feel that as the UK Code is voluntary they are free to ignore some of its provisions. They are placing a wide interpretation on 'professional evaluation and research' and are asking for cooperation from paediatricians for 'research.' Since all the babies for whom statistics of any kind are being collected are the subject of research, the manufacturers are dumping free supplies and at the same time asking health workers to take part in joint research.

Baby Milk Action Area Contact for Hertfordshire, Louise Lotz has volunteered to help with the monitoring and reporting of Code violations in the UK. Louise has been shocked at the volume of promotional literature that she has found in hospitals, clinics and supermarkets and says that it is clear that companies are deliberately trying to sabotage breastfeeding.

Monitoring...

Tragedy of Kurdish babies

News reports of Kurdish babies dying during their desperate flight from Iraq imply that mothers are too malnourished to breastfeed. For the refugees, who were mainly middle class and well fed, the long walks into Iran and Turkey must have caused great shock and stress. Nevertheless, breastfeeding rates in Iraq are low (in some areas only 30% at 3 months) so the majority of the babies were already bottle feeding before they left Iraq.

Lactation performance is unlikely to be affected in such a short time and so those mothers who were breastfeeding and whose milk diminished from the stress of the journey could probably, with the right help and encouragement, have reestablished their supply. Baby Milk Action Director, Dr Tony Costello, of the Institute of Child Health, London, visited Iraq for Save the Children and confirmed this. *"In my view a very significant number of children, especially babies, died because they were bottle fed. This is a wealthy, population who had been largely convinced that bottle feeding is better than breastfeeding. In the response to the crisis, it was tragic that insufficient attention was given to the promotion of oral rehydration and the possibility of relactation."* Janey Hampton, also with Save The Children, visited hospitals in Iran where many of the Kurdish mothers were giving birth. She was not surprised that so many mothers were bottle feeding since they were given no encouragement to breastfeed when they gave birth. It was standard practice for babies to be separated from their mothers at birth for 6 hours. Indeed if the babies were anything but "100% normal", ie. forceps delivery, twins, low-birth weight, they went straight to special care units (often for weeks) where mothers were forbidden to enter. All babies in incubators were bottle fed. Of course, everything should be done to ensure that milk reaches babies who genuinely need it (indeed, the Code specifically allows companies to give in these circumstances) but this tragic episode illustrates the dangers of relying on imported products and inappropriate methods of feeding.

While the reports talked repeatedly about baby milk shortages, Nestlé claimed to have lost sales of about 60,000 tonnes of powdered milk to Iraq and Kuwait during the embargo and used this as one of the reasons for their decline in profits for 1990. Nestlé claims that 17 kg of milk powder are needed to feed a baby for 6 months. But if all babies in Iraq and Kuwait were exclusively bottle fed for 6 months, only 13,804 tonnes would be needed.

Eastern Europe: baby milk companies muscle in

Most baby milk distribution in Eastern Europe is controlled by governments, but the situation is changing with the introduction of the 'free market'. Already, excellent Eastern European milk banks are closing due to lack of funding and an assumption that commercial baby milk will replace donated breastmilk. Nestlé, Milupa and others are invading the new markets, with aggressive promotion that undermines breastfeeding. Fortunately IBFAN groups are being formed; although not yet properly funded, they have the enthusiasm essential for any consumer campaign.

Nestlé have bought the East German infant formula *Manasan* and the price has doubled; they are also planning a production unit in eastern Germany. Baby milk is promoted aggressively in Germany and mothers in the east are already receiving quantities of gifts and samples.

In Hungary, Milupa are handing out information booklets containing promotional messages and have organised a paediatric conference. Nestlé plan to set up production sites there.

Phillip Lunts, a Baby Milk Action Director, visited Poland and found tins of Nestlé's *Guigoz* with baby pictures on the label. The text was mainly in English with only the preparation instructions in Polish.

In Czechoslovakia, where national baby milks are on prescription only, Milupa products are marketed near the German border. A Prague shop window had a promotional display of Chicco bottles and teats. IBFAN also discovered that South Africa had suggested donating breastmilk substitutes here as aid. A Czech paediatrician told the aid negotiators, "There's no need, if we have a shortage of our own, there is Milupa."

In October 1990, The first WHO Conference on Nutrition for Europe took place in Budapest and Baby Milk Action's Gay Palmer and Dr. Clarke of the UK Department of Health presented their views in the Infant Feeding workshop. In April 1991, Gay Palmer ran the infant feeding section at the Nutrition Policy Workshop in Prague, organised by the London School of Hygiene and the Prague Institute of Hygiene and Epidemiology.

Ten years of the International Code - any progress?

Company promotion continues to lure mothers and health workers away from breastfeeding, concludes a worldwide survey of baby food marketing published by the International Baby Food Action Network (IBFAN). Andrew Radford of Baby Milk Action analysed monitoring information sent by researchers working in over 80 countries, comparing it with the requirements of the *International Code of Marketing of Breast-milk Substitutes.*

Chart 1: The State of the Code by Company shows lip service to the Code alongside aggressive marketing. The 10 years since the Code's adoption shows improved labelling and reduced direct advertising. However, 10 companies fail to use local language labels and 11 still use baby pictures. Five companies are highlighted as the worst: Nestlé, Wyeth, Milupa, Meiji, and Hipp. Company marketing practices have evolved since 1981 and large budgets are spent on developing new promotion methods which get round the Code's restrictions and undermine breastfeeding. Follow-on milks, unheard of 10 years ago, are now promoted by almost every company. Pre-term, soya and hypo-allergenic formulas and baby milks which purport to cure diarrhoea are promoted and marginalise breastmilk.

Chart 2: *State of the Code by Country*, documents the measures taken to implement the International Code by the governments of 169 countries. Only 9 countries have adopted the Code as law although 12 have a good voluntary code. Twenty eight have parts of the Code as law but 66 have so far failed to take any action. The charts are available from Baby Milk Action: £1.50 each or £2.50 for 2.

Changes in European laws

Faced with mounting consumer pressure and publicity, the EC Commission agreed on 15 March, the final day of consultation, to important changes to the Directive on baby milks. Although the final version contains loopholes and omissions, it does not contradict the WHO Code and will improve breastfeeding protection in Europe.

The final Directive will permit free supplies *only to babies who have to be fed* on infant formula. The previous wording would have allowed free milk to be given to *all babies who are bottle fed*. The UK can now keep retain its ban on free supplies to maternities. Now wording permits countries to ban advertising if they wish. This means that the UK, (who wanted a ban on advertising) have no excuse not to ban the baby milk ads currently flooding hospitals. Baby pictures on labels and free samples will be banned. The Commission refused to change the age range of follow-up milks (they will be allowed from 4 months) despite the fact that most EC member states had supported the 6 month age limit in 1987. The Directive does not cover other bottle fed foods (sweetened drinks, special milks etc), exports or bottles and teats.

The Commission came under pressure from all sides: from governments - the UK and Dutch Governments were strong in their support for the WHO Code; from MEPs - who threatened to overturn the Directive if it did not satisfy their demands; from over 1,000 health, consumer and development agencies; from the public - the Commission allegedly received over 1500 letters; and from WHO and UNICEF - UNICEF's Executive Director, James Grant wrote to Jacques Delors, the President of the Commission describing the unmodified Directive as a *serious setback in our efforts to promote exclusive breastfeeding for the first 4-6 months.*

Patti Rundall of Baby Milk Action and Bas van der Heide, of the Dutch IBFAN group, WEMOS, who organised the lobbying met with the Commission in February. The Chair of the Standing Committee discussed possible changes so that at least countries could honour their commitment to the Code.

Press attention mounted until the last day with three BBC programmes, French radio, Danish TV, Reuters and numerous journalists pressuring the Commission to explain why they were insisting on such a bad Directive. The Commission admitted to Reuters that free supplies were necessary mainly for the survival of the market.

The Commission's advisory committee, the Scientific Committee on Food, is not required disclose its industry interests. IBFAN has asked the Commission to address this issue. Please write to your MP or MEP or to Minister for Health, the Rt Hon Virginia Bottomley, at the Department of Health, 79 Whitehall, London, SW1A 2NS, to ask for the whole of the Code to be adopted as law in the UK

Weaning Directive

Following the baby milk Directive comes a draft Commission Directive on weaning foods. This draft covers only labelling and composition and does not address promotion. It allows weaning foods to be labelled as suitable from 3 months, WHO states: *"The provision of foods other than breastmilk before about four months of age is unnecessary and may also be harmful."* Please send comments to: Alison Maydom, Consumer Protection Division, Ministry of Agriculture, Fisheries and Food, Ergon House, 17 Smith Square, London SW1P 3JR. The first meeting is in June.

EC allows high sugar levels

A loophole in the compositional standards of the new EC Directive will allow infant formulas and follow-up milks to contain 40-50% sugars - and 75% of these sugars can be tooth-damaging sucrose or glucose syrup. Product labels will not have to reveal sugar content and can even claim - if glucose syrup is used - that they are 'sucrose free'. For more information on sugar, contact Jack Winkler, Action and Information on Sugars, 28 St Paul St, London N1 7AB. 071 226 1672.

Milupa condemned on sugar levels

Milupa have been found guilty by a Frankfurt court of marketing a dangerous product with insufficient instructions for use. The case was brought by the parents of two children who suffer from painful tooth decay after being bottle fed with Milupa infant teas. The Federal Health Department had previously issued warnings about this *baby bottle syndrome* but Milupa only included a warning in small print on an accompanying leaflet. Infant teas and drinks are high in sugar and, when they are bottle fed, lead to serious tooth decay. The Department of Health's 1989 COMA report on tooth decay states that *"for infants and young children simple sugars (eg sucrose, glucose or fructose) should not be added to bottle feeds."*

Another 27 similar cases are awaiting judgment in Germany, each claiming over US$27,000 in damages from Milupa. Lawyers say that in Germany alone there are around 100,000 children suffering from *baby bottle syndrome*. In German hospitals newborns are routinely fed these sweetened teas and baby milk promotion is widespread. Small wonder that the breastfeeding rate is as low as 3% at 3 months in some areas. These drinks are now aggressively marketed in the UK - Boots, Robinsons and Cow & Gate promote varieties in bottles designed to carry a teat. A study in Camden shows that 11% of bottle fed children suffer from dental caries.

Boycott news

General Synod to debate the boycott

The General Synod of the Church of England is to debate a motion proposed by the Bishop of Leicester calling for support for the Boycott - possibly in July.

Baby Milk Action meets Nescafé shop stewards

On 3 May, Andrew Radford and Patti Rundall of Baby Milk Action met senior shop stewards from the Nescafé factory in Burton on Trent and representatives of the Transport and General Workers Union (TGWU). The Nescafé workers had been worried that the increasing success of the boycott was a threat to jobs. The meeting provided an opportunity for all to express their concerns.

Nestlé make no secret of the fact that *"because of rationalisation and restructuring measures... it is feared that jobs will be eliminated."* According to the International Union of Food Workers 1,597 jobs are to be lost due to restructuring in France alone. If the boycott is successful, Nestlé will be forced to change their practices before profits are reduced to a level where job losses become necessary.

On behalf of those present, Bob Harrison, TGWU National Secretary, expressed concern for our campaign to protect mothers and children from exploitation. He said he would report back to his members who would decide on further action.

Midwives endorse boycott

In December 1990, the Royal College of Midwives called upon its 36,000 members to boycott Nescafé and other Nestlé products and condemned *"Nestlé's dangerous marketing practice of providing free baby milk formula to maternity wards in developing countries"*. (See Boycott endorsers list.)

Stars pull out

Richard Briers has contacted a Baby Milk Action supporter to say that he will no longer advertise Nescafé. Felicity Kendall is already an endorser. Nothing has been heard from Paul Eddington. Sarah Greene has also stopped advertising Nescafé.

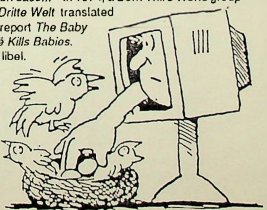
Nestlé overreact as boycott is launched in Switzerland

Nestlé have filed a complaint against the three national Swiss TV stations for biased reporting in screening Yorkshire TV's *Vicious Circles* and Australian TV's *Formula Fix* in February. The programmes, which were screened the day before the Swiss boycott was launched, document the consequences of marketing of baby milk by Nestlé and other companies in Pakistan and the Philippines. The films were shown after Nestlé had made repeated attempts to intimidate the stations into withdrawing them. Swiss broadcasting legislation requires all programmes to be balanced and, in their complaint to the Independent Media Licensing Commission of Switzerland, Nestlé claim that the TV companies have violated this rule.

Annelies Allain of the International Organisation of Consumer Unions made the point, *"Here was the largest and holiest of Swiss companies being challenged on home turf."* For a country with a unique 'protection of personality' law which prohibits criticism of a Swiss company the films amounted to heresy. Two days before the Swiss programmes were due to be screened, Nestlé held a press briefing with selected 'friendly' journalists. They showed clips from both films without permission, in breach of copyright, and refused to allow anyone from Swiss TV's documentary department to attend. The documentaries, which have been shown without complaint in several other countries, were followed by a debate between Nestlé spokesperson François Perroud and Dr. Juan Perez from the Philippines. Nestlé's defence was superficial. They maintained that not only did their formula save babies' lives but that breastfeeding has no relationship to infant mortality rates.

Nestlé's reaction backfired and stimulated the interest of the Swiss press which reacted sceptically to the company's protestations. Dr Jim Tulloch of the World Health Organisation wrote to Swiss Television to challenge Nestlé's claims on the quality of the programme saying, *"To infer... that breastfeeding is not important in reducing the risk of mortality in infancy is absolutely incorrect from the scientific point of view."* The Christian Medical Commission of the World Council of Churches wrote in support of the programmes.

Nestlé shareholders wrote to Nestlé President, Helmut Maucher, expressing concern at the company's response to the programmes: *"We thought this type of reaction, of playing down the facts and of professing a perfectly clean conscience had been relegated to the museum of the seventies, at the famous Bern court case..."* In 1974, a Bern Third World group *Actionsgruppe Dritte Welt* translated War on Want's report *The Baby Killers* as *Nestlé Kills Babies*. Nestlé sued for libel. This case also backfired and resulted in widespread publicity for the issue.



A cartoon from a Swiss newspaper making novel use of Nestlé's birds and nest logo.

22-11

THE DANGER OF UNDER FEEDING

Kwashiorkor and marasmus are two diseases caused by insufficient intake of food. This leads to deficiency of calories (energy) and protein (body building material).

VICTIMS

Kwashiorkor and marasmus occur most commonly in children between 1-5 years of age. Breast milk is sufficient for children only upto the age of 4 months. Supplementation with cereals, pulses, milk and eggs after the age of 4 months is essential. If this is delayed or not done, children do not grow properly and kwashiorkor and marasmus develop.

SIGNS AND SYMPTOMS:

OEDEMA: Children with kwashiorkor first show swelling of the legs. Later, the face and the whole body may also become swollen.

SKIN CHANGES:

The skin becomes rough and sore.

HAIR CHANGES:

The hair may become scanty and also change colour from black to various shades of brown. The child also becomes irritable and disinterested in his surroundings.

Children with marasmus become very thin and feeble due to wasting of muscles. However, there is no oedema.

TREATMENT:

The child should be made to eat more food at frequent intervals. Severe cases with loss of appetite should be treated at the hospital. Milder cases can be treated at home.

The diet must contain protein and energy rich foods. A Combination of cereals, millets, pulses and oilseeds will provide the necessary nutrients. If possible, milk, eggs or flesh foods should also be given.

It is important to treat infections and diarrhoea promptly.

The National Institute of Nutrition, Hyderabad has formulated an energy-protein rich mixture to treat protein calorie malnutrition at the home level. It consists of wheat, roasted Bengal gram dhal, groundnuts and jaggery. These ingredients can be suitably changed depending upon local availability. The composition of the mixture is given below:

Whole wheat (roasted)	:	40 grams
Bengal gram (roasted)	:	16 grams
Groundnut (roasted)	:	10 grams
Jaggery	:	20 grams
TOTAL		86
Calories	:	330
Protein	:	11.3 grams.

Many children with protein calorie malnutrition have been treated with this food mixture. A picture of one of these children is shown below. The child showed improvement after a few weeks and was completely cured within 3 months.

****

INFANT FEEDINGS

Breast milk is a nutritious food and meets the baby's requirements fully till the 4th month of life. Later, breast milk alone is not enough to meet the nutritional needs of the growing child. This calls for additional food supplements. If additional foods are not given, the baby does not grow properly and can show stunted growth.

WEANING

The gradual switching over of the child from breast milk one to other foods is called 'weaning'.

Most rural Indian mother do not give supplementary foods because of the fear that infants will not be able to digest solid or even semi-solid foods. This is unfortunately a wrong belief. The right type of foods cooked in the right way and introduced gradually are easily digested and will greatly benefit the child.

The first foods added to the child's diet after 4 months can be in the liquid form. Buffaloe's or cow's milk, mashed vegetables like potatoes, tender beans, carrots and green leafy vegetables can be safely given. Many mother add too much water to milk thus making it less nutritious. This practice should be discouraged.

Introducing new foods to infants is not always very easy as some infants may not accept them readily, but the mother should continue to coax the child till he accepts it.

At the age of 5-6 months cereals and millets can be introduced in the form of porridges. Small amounts of pulses should be added to the preparation to make it more nutritious. The belief that pulses are gas producing and cause distension on the stomach should not exclude the use of pulses in infant feeding. Infants tolerate a fairly good amount of pulses. Green leafy vegetables should also be added, since they provide many nutrients like vitamins A and C, Iron and Calcium.

These nutrients are essential for good vision, blood formation and healthy bones. A preparation using cereal, pulses and greens is given below:

KICHEDI

Rice	- 3½ table spoons	(50 Grams)
Greengram dhal (roasted)	- 2 table spoons	(25 grams)
Leafy vegetables (Palak or Amaranth)	- 1 bundle	(15 grams)
Salt	- As required	

Cont....2.....

METHOD

Rice and dhal are cleaned, washed and cooked together. Palak is cooked and strained through a clean cloth. The vegetable juice is added to the cooked rice-dhal mixture. Salt is added and mixed.

Soft ripe fruits should be mashed and given to the baby. A ripe bababa is relished by all babies. Orange and sweet lime juices are good sources of vitamin C. These, however, are more expensive than are green leafy vegetables.

It should be remembered that clean vessels and boiled and cooked water should be used while preparing any food supplement. Hands should be cleaned well before preparing the food.

Eggs and flesh foods can be fed to the infant aound the first year of life whenever they are available and can be afforded by the parents. Initially the egg should be given in a soft boiled form.

If the mother is busy with other work and cannot prepare fresh supplements every day, she can prepare ready mixed by roasting cereals and millets (like wheat, ragi and bajra) and pulses (like Bengalgram and greengram) and powdering them separately. These powders can be mixed and stored in clean tins for a few months. Small amounts of these powders can be prepared as porridges and fed to babies.

An example is given below:

RAGINA

Ragi	- 4 tablespoons (60 gms)
Bengalgram dhal(roasted)	- 4 teaspoons (20 gms)
Sugar	- 3½ tablespoons(50 gms)

METHOD

Powder all the ingredients and cook in sufficient water. Addition of milk makes the porridge more nutritious.

The amounts indicated for each recipe are meant to be given per day per child. They should be distributed in the child's diet in equal amounts during the whole day. Instead of ragi or bajra, wheat can be used. Similarly, any type of pulse can be used insted of Bengalgram dhal.

Such supplements started at the proper time will go a long way in keeping the infant healthy and assuring proper growth.

RECIPES THAT NEED TO BE COOKED

WHEAT GRAM PORRIDGE

INGREDIENTS:

Roasted wheat flour	: 40 grams (2½ tablespoons)
Powdered, roasted Bengal gram	: 25 grams (1½ tablespoons)
Powdered, roasted groundnut	: 10 grams (12 tea spoons)
Sugar or jaggery	: 40 grams (2½ tablespoons)
Spinach (or any other leafy vegetable)	: 30 grams (1½ bundle)

METHOD:

Roast groundnut, wheat and Bengalgram and powder them. Mix the wheat, Bengalgram and groundnut powders and prepare a batter by addition of jaggery dissolved in a suitable amount of water and made into a thin syrup.

Boil spinach in water till soft. Mash and strain through a clean cloth.

Add the vegetable juice to the batter and cook for a few minutes with continuous stirring still semi-solid.

COMMERCIAL RECIPES

GROUNDNUT BISCUITS

INGREDIENTS:

Groundnut (roasted)	: 25 grams (1½ tablespoons)
Wheat flour(roasted)	: 25 grams (1½ tablespoons)
Sugar	: 20 grams (4 tea spoons)
Baking powder	: a pinch
Salt	: to taste

METHOD

Powder the main ingredients and mix them. Add baking powder and salt and mix thoroughly. Make a stiff dough by kneading the mixture. Role like chapatis.

Cut out any shape desired with tin-lids or any sharp instruments. Place the biscuits on metal trays and bake them well on heated sand in a dekchi. (The dekchi should be kept covered with a lid and pieces of live charcoal kept on the lid to ensure uniform all-round heating).

Remove the biscuits when they are goldenbrown this usually takes about 20 minutes.

The quantities indicated are for use as a supplement per child per day. Similar biscuits can be prepared using Bengalgram, gingelly seeds, cowgram and horsegram.

* * * * *

NUTRITION

Nutrition is the study of foods and their actions or effects on the body. Good nutirtion means that the body is getting the required food and is able to make use of it. Nutrients are substances with special functions which are found in food and which are necessary for growth and development of the body, repair of the body tissues, and protection of the body against disease. They are of six types, viz., proteins, carbohydrates, fats vitamins, minerals and water.

People generally eat or drink when they are hungry or thirsty and, on auspicious occasions, they may eat or drink special foods, the foods that people eat every day are usually not selected on the basis of their nutritive value, but because of family habit, religion, or social custom. It has been found that many such dietary practices, especially those that are related to feeding infants, young children and pregnant women are not based on body requirements.

SOME TRADITIONAL FOOD HABITS AND CUSTOMS ARE HARFUL TO HEALTH.

Because of eating an unbalanced diet, many young children in India are frequently ill due to infections, are retarded in their physical growth, and their mental development is negatively affected. Unless good nutritional guidance is given, accepted and practised by their parents, such children will become adults who have chronic ill health and are unable to make their full contribution as productive members of the community.

In addition, infants may be born weak and malnourished because their mothers had poor diets during pregnancy. Because many women do not eat the amount and kind of food that their bodies require during pregnancy and afterwards, they become weak, have little energy to care for their babies and are unable to produce breast milk in the amounts needed by growing infants.

NOT EATING CERTAIN FOODS EVERY DAY CAN CAUSE:

i. WEAK INFANTS OF LOW BIRTH WEIGHT.
ii. INSUFFICIENT PRODUCTION OF BREAST MILK.
iii. RETARDED PHYSICAL AND MENTAL GROWTH.
iv. ILLNESS AND DEATH ESPECIALLY AMONG INFANTS AND PRE-SCHOOL CHILDREN.

11.1 PRINCIPLES OF NUTRITION

In order to be able to assist individuals and families to learn about and be able to practise good nutrition, you must know the principles of nutrition.

1. Food is necessary for keeping the cells and tissues of the body alive and for maintaining normal body functions.
2. An adequate daily fluid intake is necessary for maintaining the fluid balanced diet includes.
3. A balanced diet includes:

   i. a sufficient number of calories;
   ii. adequate amounts of proteins, fats and carbohydrates;
   iii. adequate amounts of vitamins;
   iv. adequate amounts of minerals.

.....Contd/52-

PROTEINS Vegetable Sources	Approx. cost	Seasonal availability	Rating
Horse gram	Rs.3 per Kg.	March to October	XXX
Bengal gram	Rs.2/25 per Kg.	Throughout year	XX
Moong dal	Rs.2/25 per Kg.	Throughout year	XX
Wheat	Rs.1.29 per Kg.	Throughout year	X
Animal Sources			
Buffalo Milk	Rs.2/- per Kg.	Throughout year	XX
Eggs	Rs.4/- to 5/- per dozen	Throughout year	X
Fish	Rs.8/- to Rs.12/- per Kg.	January to April September to December	XX

Annexure 11.1 contains a list of protein food sources available in India. Refer to this list of prepare your own list of protein sources available in your area.

Similar kinds of food source lists can also be made for other nutrients such as vitamin A, iron, or calcium which are also often deficient in the diets of infants and young children (see annexures 11.2, 11.3 and 11.4).

11.3.1 PROTEIN OF BODY-BUILDING FOODS

Foods that contain proteins are needs by the body daily for repairing and replacing cells. Adequate amounts of this nutrient are especially important in the diets of pregnant and nursing women, infants and young children because they have extra needs in addition to normal requirements, Pregnant women need extra protein foods to take care of the needs of the growing foetus. A nursing mother needs more body-building foods to replace what she gives to her baby through breast feeding. Infants and young children are growing at a very rapid rate and require proteins for healthy growth and development.

11.3.2 CARBOHYDRATES OR ENERGY-GIVING FOODS

In order to run, play or work, we need foods that give us energy Carbohydrates in certain foods provide the body with energy. The amount required by a person depends on the kind of activity he carries out and the time for which it is done. A man who is breaking stones all day will need more energy-giving foods than a man who sits in his shop. Children, especially pre-school children, are often not fed frequently enough during the day so that they do not receive an adequate amount of carbohydrates. When this happens, children become less active and tire easily.

.....Contd/52-

Foods rich in carbohydrates include the following:

i. Sugar, jaggery and honey.
ii. Cereals such as wheat, rice, millet, suji, maize.
iii. Vegetables such as potato, sweet potato, tapioca, yams.
iv. Fruit suchas bananas, jackfruit, chikku, mango.

11.3.3. FATS C. CONCENTRATED-ENERGY FOODS

Foods that contain fats are needed by the body because they supply concentrated energy, prevent dry, scaly skin, help in the absorption of vitamin D, and improve the flavour of food. Because they are a concentrated source of energy, fats supply twice as much energy as the same amount of proteins or carbohydrates. This means that smaller amounts of fats are needed in the daily diet to meet the body requirements.

Foods rich in fats include the following:

Vegetable sources:

i. Cooking oils such as cocoanut, mustard, sesame (til) or groundnut oil

Animal sources:

i. Butter and ghee
ii. Milk, curds and cheese
iii. Fish and fatty meat

11.3.4 VITAMINS C. PROTECTIVE FOODS

Vitamins are substances which are found in small quantities in several kinds of food. They are needed by the body for normal growth and maintenance of cells. The body requires vitamins in small amounts. Since the body cannot produce these substances, food sources are very important.

There are several kinds of vitamins. Some are needed for good vision and healthy eyes (Vitamin A), others for blood formation (Vitamin B), others are needed in the diet for strong teeth and bones (Vitamin D), and others for increasing resistance to infections and early healing of wounds (Vitamin C).

1. Vitamin A: In order to prevent nutritional blindness in young children due to vitamin A deficiency in the diet, people must be informed about the kinds of foods that contain this important substance and must be encouraged to include it in their daily diet. In order to prevent night blindness and dryness of the eyes all children from one to five years are being given vitamin A solutiin twice a year. Foos rich in vitamin A include the following:

Vegetable sources:

i. Green leafy vegetables and yellow fruit like mango and papaya and vegetables like yellow punpkins and carrots.

Animal Sources:

i. Eggs and liver
ii. Milk and curds

TEACHING FAMILIES HOW TO PREVENT NIGHT BLINDNESS IN YOUNG CHILDREN IS A VERY IMPORTANT HEALTH EDUCATION ACTIVITY FOR ALL HEALTH WORKERS.

2. Vitamin B: Vitamin B is a complex vitamin consisting of several components which have various special functions.

4. Different types of food provide different kinds and quantities of nutrients.
5. The age, activity, state of health and rate of growth decide the amount and kinds of nutrients that are required by the body for healthy growth and for the maintenance of good health.

11.2 FUNCTIONS AND VALUES OF NUTRIENTS IN FOOD

All foods contain nutrients in varying amounts. Some foods are made up of only one type of nutrient whereas others may include more than one nutrient, e.g., cooking oil consists entirely of fat, while rice consists mostly of carbohydrates but also contains some protein. Because of this characteristic, foods can be classified according to the amount of the various nutrients that they contain. It is very useful to know which foods contain a large amount of a given nutrient so that these can be selected to meet the requirements of the body.

REMEMBER THAT A GOOD DIET IS A MIXED DIET CONSISTING OF DIFFERENT KINDS OF FOODS WHICH CONTAIN THE NUTRIENTS NECESSARY FOR GOOD HEALTH.

Each of the six nutrients that are found in food has its own special functions to perform in the body. These functions are as follows:

i. Proteins are necessary for growth. They help in repairing worn-out body cells and in the formation of blood and antibodies which are needed for building up resistence to infection.
ii. Fats and carbohydrates provide the body with energy or fuel to carry out its various daily activities.
iii. Vitamins and minerals are necessary for the development of the blood cells, help to maintain good vision and strong teeth and bones, and help to promote normal growth.
iv. Water comprises more than half the weight of the body and is essential for the proper functioning of body cells and for maintaining the fluid balance of the body.

11.3 FOOD SOURCES OF NUTRIENTS

When a food contains a very high amount of a given nutrient, it is called a food source, e.g., pulses and dals and very good food sources for protein, while potatoes and bananas are good food sources for carbohydrates, but are a poor source of protein.

Protein is the nutrient that is the most important for infant and child nutrition, but it is the one that is most often missing in their diet. It is, therefore, necessary to have information about protein sources so that this can be conveyed at every opportunity to parents and others who care for children. Because the different geographical areas in the country produce varied kinds of vegetables which contain these nutrients and the dishes that are prepared differ according to locality, it is not possible to list all of them here. More accurate and realistic information which is based on local conditions can be compiled by you with the assistance of the Health Worker (Female) by developing a list of protein food sources for the villages within the subcentre. A sample form is given below

.....Contd/53-

These include the following:

i. They assist in the breakdown and absorption of food.
ii. They are necessary for keeping the skin and mucous members healthy.
iii. They are necessary for the proper development and functioning of the nervous system.
iv. They are necessary for the formation of the blood cells.

Foods rich in vitamin B complex include the following:

Vegetable sources:

i. Parboiled rice and unpolished rice
ii. Cereals and millet
iii. Groundnuts
iv. Pulses
v. Legumes

Animal sources:

i. Milk and milk products
ii. Eggs
iii. Meat, liver and fish.

3. Vitamin C: This vitamin is necessary to keep the body tissues intact and to help in repair of the tissues. It also helps to protect the body against infection.

Vitamin C is very easily destroyed and hence foods containing this vitamin should not be exposed to air and heat.

Foods rich in vitamin C include the following:

i. Citrus fruits such as oranges and lemons.
ii. Guava, tomato and amla.

4. Vitamin D: Vitamin D is necessary for the absorption and utilization of calcium and phosphorus and hence lack of this vitamin causes unhealthy teeth and skeletal deformities such as are seen in rickets.

Sources of vitamin D are as follows:

i. Exposure to sunlight is the cheapest way to obtain this vitamin.
ii. Fish liver oils have a very high content of vitamin D.
iii. Butter, ghee, groundnut oil and eggs also contain vitamin D.

REMEMBER THAT EXPOSURE TO SUNLIGHT ALONE IS NOT ENOUGH IF THE DIET IS DEFICIENT IN FAT.

11.3.5 MINERALS OR PROTECTIVE FOODS

Minerals are needed by the body for the formation of blood. The development of strong teeth and bones, and for regulating certain body processes such as blood clotting. There are a number of minerals that are required in minute quantities by the body. However, calcium and iron are two of the important minerals which are needed by everyone, especially by pregnant and nursing women and children who are growing.

Foods rich in calcium include the following:

Vegetable sources:

i. Ragi
ii. Green leafy vegetables.

Animal Sources:

i. Milk, cheese.

Foods rich in iron include the following:

Vegetable sources:

i. Bajra and ragi
ii. Green leafy vegetables.

Animal sources:
i. Red meat, lever and eggs.

Iodine is another mineral which is essential for normal growth and development including the rate at which food is used by the body. The deficiency of this mineral in the daily diet is the cause of goitre.

Foods rich in iodine include the following:

i. Fish of all types
ii. Vegetables which are grown in areas close to the sea.

Salt which is fortified with iodine is used in areas where goitre is prevalent.

11.3.6 WATER OR FLUIDS

An adequate daily fluid intake is important for healthy functioning of the body. Abnormal losses from vomiting, diarrhoea and high fevers can cause dehydration (drying up of body fluids), which is a serious condition, especially among infants and young children. Fluids in the form of milk juices, other beverages and fruits and vegetables which are pulpy can be used to supply the daily needs of the body.

TO PREVENT DEATH FROM DEHYDRATION CAUSED BY EXCESSIVE FLUID LOSS, PROMPT FLUID REPLACEMENT IS NECESSARY ESPECIALLY IN INFANTS AND YOUNG CHILDREN.

11.4 A BALANCED DIET

Nutrition experts have been able to find out what combination of foods is needed in the daily diet for healthy growth and development. However, this information has not yet reached many who live in the villages so that they continue to eat only those foods that have been eaten by their families for generations and as a result often suffer from various kinds of malnutrition. Often they are unaware that pregnant women, mothers who are nursing their babies, and rapidly growing young children need more of certain foods to prevent their becoming ill-nourished.

A BALANCED DIET IS ONE WHICH IS MADE UP OF FOODS THAT CONTAIN ALL THE NECESSARY NUTRIENTS IN THE REQUIRED AMOUNTS AND PROPORTIONS TO MAINTAIN HEALTH (SEE FIG. 11.1).

A balanced diet is necessary for good health. It is especially important that pregnant and nursing women, infants and young children have a balanced diet because these groups are most likely to develop malnutrition.

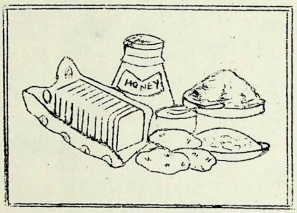
.....Contd/56-

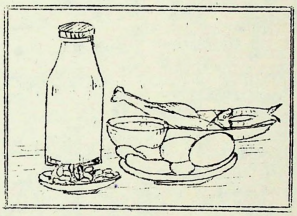
People need to know how a balanced diet will improve their health, what foods should be included, how much it will cost, where to obtain the required foods and even how to prepare food properly so that nutrients are not discarded or lost due to improper cooking.

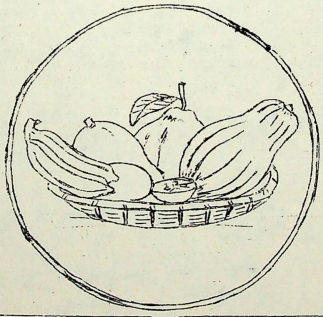
Since you will be the only health worker making regular house-to-house visits in the twilight area, you should know about balanced diets for pregnant and nursing women, and children, and proper feeding methods for infants.

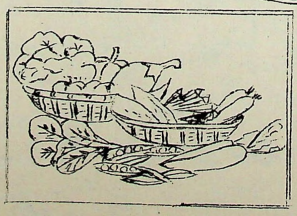
11.4.1 DAILY BALANCED DIET FOR A PREGNANT OR NURSING WOMAN

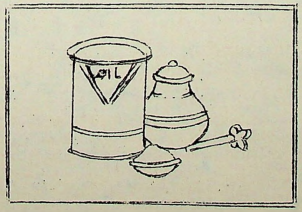
i. Milk, curds or lassi - 2 tumblers











Select one or more foods from each of these five groups:

Group 1: Carbohydrate foods such as Bread, Rice, Wheat, Potato, Sugar,

Group B: Protein foods such as Meat, Fish, Eggs, Milk, Groundnut, Dal, Beans
Group C: Fruits such as Orange, Banana, Nimbu(Lime), Papaya, Mango
Group D: Vegetables such as Peas, Capsicum, Carrots, Bhindi (Ladies' fingers), Brinjal, Tomato, Karela (bitter gourd), Cawliflower, Palak (spinach), and Methi (fenugreek)
Group E: Fatty foods such as Ghee, Oil, Butter

Fig: 11.1: A balanced diet

ii. Pulses, e.g., beans or dal	-	twice
iii. Cereals e.g., rice or wheat	-	3 times
iv. Green leafy vegetables	-	at least once
v. Eggs	-	One every day or every other day
vi. Fruit (seasonal)	-	1 portion daily

Nursing mothers need more fluids including an extra glass of milk each day and extra servings of yellow and green leafy vegetables and cereals.

If the pregnant or nursing woman is vegetarian and does not eat eggs, or cannot afford to get milk, she should be encouraged:

i. to eat a handful of groundnuts each day;
ii. to increase the pulses to 3 times a day.

Anaemia is commonly found in pregnancy and causes the woman to feel weak and become easily tired. This can usually be prevented by including a serving of a green leafy vegetable in the daily diet, and by taking the iron and folic acid tablets which are distributed at the subcentre or on the home visits by the health worker.

In some communities women eat less during pregnancy because they believe that they will then have a smaller baby and an easier delivery. People need to know that this is a harmful practice which can lead to malnutrition in the mother and low birth weight of the infant who is also malnourished.

REMEMBER THAT A SMALL BABY AT BIRTH HAS LESS CHANCE OF SURVIVAL AND IS MORE LIKELY TO GET SICK BECAUSE OF LOW RESISTANCE TO INFECTION.

11.4.2 BALANCED DIET FOR INFANTS (ZERO TO 12 MONTHS)

The major points to remember about the diet for and feeding of infants are as follows:

1. Breast milk is the best food for infants up to the age of six months because:
   i. it is clean and safe;
   ii. it contains all the necessary nutrients;
   iii. no cost is involved.
2. After four months, all infants need to be given solid food since breast milk does not supply all the nutrients that a rapidly growing baby requires.
3. During weaning the 'first' foods should be semisolid in consistency e.g., mashed rice, millet, banana or potatoes. Gradually solid foods from vegetable and animal sources containing protein must be added so that the infant receives a balanced diet.

4. Remove the infant's portion of food before spices are added for the rest of the family otherwise the baby will develop [illegible] diarrhoea.
5. Give the baby a spoonful of food at first and gradually increase the amount given over a period of weeks.
6. The addition of foods other than milk to the infant's diet should be done gradually over a period of time rather than all at once.
7. Clean hands and utensils and fresh food are necessary for preventing infections. Food must be kept covered so that flies do not sit on it. Water should be obtained from a safe source of supply or boiled if possible. Never feed an infant with left-over foods because they are very likely to be spoiled and will cause illness.
8. If the mother does not produce enough breast milk, do not suggest the use of a bottle and nipple; use of a cup and spoon is safer since they are easier to keep clean.
9. Breast feeding should be continued throughout the first year so that the infant continues to receive valuable protein from this source.

66

REMEMBER THAT THE MAJOR CAUSES OF MALNUTRITION IN INFANTS AND YOUNG CHILDREN ARE:

i. DELAY IN ADDING SOLID FOODS TO THEIR DIET.
ii. NOT FEEDING THEM FREQUENTLY ENOUGH.
iii. THE LACK OF BODY-BUILDING PROTEIN FOODS.
iv. INSUFFICIENT FOODS CONTAINING VITAMIN A.

11.4.3 BALANCED DIET FOR THE PRE-SCHOOL CHILD (ONE TO FIVE YEARS)

Children between the ages of one and five years are often neglected and underfed by their mothers. This happens because mothers do not know that these children need proportionately more food for their size than is needed by adults. Because they are growing at a fast rate and the growth is continuous, they need extra amounts of body-building protein food and energy-giving foods.

In many poor families, young children are breast-fed until they are two or three years old and are not given any other foods eaten by the rest of the family. This practice results in a high incidence of kwashi-orkor and marasmus, the former of which is caused by a deficiency of protein and calories in the diet, while the latter is due to deficiency of calories.

AFTER FOUR MONTHS OF AGE, A DIET CONSISTING OF ONLY BREAST MILK IS INADEQUATE.

A daily diet for children one to five years should include the following:

1. Milk	- 1 tumbler
2. Cooked cereal - pulse mixture (khichiri, dalia, idli or groundnuts)	- 8 to 12 level spoons
3. Green leafy vegetables (Palak, chawli) and yellow vegetable or fruit (carrot pumpkin, papaya, mango)	- 4 to 8 level spoons
4. Cooked cereal or millet (rice, wheat, ragi)	- 4 to 16 level spoons or 1 to 2 chappatis

[illegible] 42/60-

5. Egg	-	One
or dal	-	4 to 8 level spoons
or fish/meat	-	4 to 8 level spoons
6. Fresh fruit (banana, guava or Tomato)	-	one portion

The foods for the child under two years should be small in amount and should be given at shorter intervals than for the rest of the family.

The following foods should be avoided in the diet of young children:

i. Highly spiced dishes and curries.
ii. Foods made with large amounts of sugar.
iii. Very greasy foods.
iv. Poorly cleaned, insufficiently cooked, or improperly mashed foods.

Dietary instructions are easier to follow for most individuals when they understand the amounts to be eaten in terms of commonly used measures (see fig. 11.2). When utensils are not available in the home, you will have to give instructions regarding the quantity to be consumed in terms of a 'a handful of dal', or 'one banana', etc.

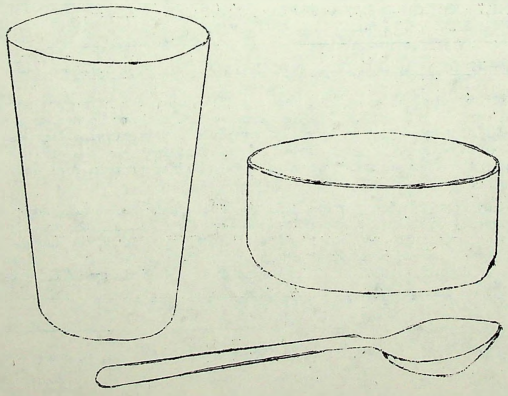


Fig. 11.2: Common household measures

The amount of food which a child can eat at one meal depends on his health, body size and physical activity.

In the preparation and serving of food for children, it is necessary to follow certain procedures in order to:

i. ensure that the food is safe and clean;
ii. preserve the nutrients in food;
iii. make the food more easily digestible.

These procedures are as follows:

1. Before preparing food or feeding the child, wash the hands and utensils with clean water.
2. Use unpolished hand-pounded or parboiled rice instead of polished rice.
3. Whenever possible use only fresh fruits and vegetables.
4. Do not expose picked vegetables to sunlight.
5. Clean and wash vegetables before cutting or slicing them.
6. Avoid soaking cut vegetables in water before cooking.
7. To reduce the incidence of diarrhoea caused by indigestible foods, make them soft and digestible by:
   a. soaking dried foods before cooking;
   b. removing husks from grains;
   c. cooking until soft;
   d. mashing foods.
8. Do not throw away the water used for cooking vegetables but use it for preparing soups or other dishes.
9. Avoid prolonged cooking, reheating already cooked foods, or keeping them warm over a period of time.

MANY FAMILY DIETS CAN BE IMPROVED BY THE ADDITION OF:
i. MORE PULSES OR DALS
ii. GREEN LEAFY VEGETABLES
iii. YELLOW FRUIT OR VEGETABLES
THESE CHANGES CAN BENEFIT ALL IN THE HOUSEHOLD.

Additional methods for increasing the nutritional values of foods are as follows:

1. Sprouting pulses, i.e. Bengal gram, black gram or green gram, increases the vitamin C and riboneflavin (vitamin B) content. Such processing also increases the digestibility of pulses so that they are especially good foods for young children. Sprouted pulses should be prepared and served either raw or lightly cooked in order to preserve the nutrients.
2. Fermenting cereal and dal increases the vitamin B content of both foods. This is commonly done in South India, e.g., in preparing idli and dosa.
3. Mixing a pulse with a cereal as in Khichadi increases the quality of the protein eaten. Less of each is required for meeting the daily requirements.

In annexure 11.5 a few nutritious recipes are included. These are selected according to the foods available in the northern, southern, eastern and western regions of India.

11.5 KITCHEN GARDENS

Encouraging families to plant kitchen gardens and to eat the produce should also be considered a part of your work in the delivery of nutrition services to the people who live in the area.

They need to be helped to understand how growing fruits and vegetables for the family will help them to eat better and improve their health health. Other benefits of kitchens gardens are as follows:

i. Less money is needed to buy food.
ii. Fresh produce usually tastes better.
iii. Fresh fruits and vegetables contain more nutrients than those that have been picked earlier, handled and transported.
iv. Sullage water can be utilized, and is, at the same time, disposed of in a hygienic way.

You can help families who want to plant a kitchen garden by giving them advice so that they can decide where to locate it, the size of the plot needed, and the amount and kinds of vegetables or fruit to be grown. If they require more information than you are able to provide, you can refer them to the local agricultural worker who is attached to the Block Development Office.

Kitchen gardens should be located:

i. near to the house for easy care;
ii. near to the source of water;
iii. so that there is exposure to the sun;
iv. in rich soil;
v. on land with a gentle slope and with good drainage.

In deciding the size of the plot, the family should consider:

i. the time available to cultivate it;
ii. the number of members in the family.

In deciding the amounts and kinds of vegetables and fruit to grow, the following factors should be considered:

i. What are their food preferences?
ii. Do they need some to eat fresh and others to store?
iii. Which vegetables are needed to improve the family diet?
iv. Is fresh water or sullage water used for watering the garden?

(see also section 6.2.1)

EACH FAMILY SHOULD BE ENCOURAGED TO PLANT AND EAT THE VEGETABLES AND FRUIT THAT THEY GROW IN THE KITCHEN GARDEN SO THAT THEIR DIET IS IMPROVED.

11.6 MAKING EFFECTIVE VISITS FOR IMPROVING FAMILY NUTRITION

In order to make your nutrition education activities effective, you will have to collect or find out specific information related to the dietary habits and practices of the community in order to decide how best to assist them to improve their food habits. The information that you should collect includes the following:

1. The names of locally available foods, especially those that are rich sources of proteins, minerals, and vitamins.
2. The types of food which are being eaten or not being eaten by the family.
3. Whether or not the pregnant and nursing women in the family are being provided with extra amounts of food or special foods.
4. The kinds of foods which are being fed to children above four months of age.
5. The duration of breast feeding.
6. Whether supplementary snacks are being given to young children between meals until they are able to eat a full family meal.

7. People's knowledge about the nutritional value of foods and methods for preserving the nutrients of food.
8. Whether the family can afford to implement the suggested changes in dietary practices.

11.7 HEALTH EDUCATION

Some of the topics which you should talk about in relation to improving the diet are as follows:

1. Pregnant and Nursing Women

   i. The need to include more proteins, vitamins and minerals as well as additional calories in the daily diet.

2. Pre-school Children.

   i. The continuation of breast feeding for the first year as breast milk can supply protein to supplement the diet.
   ii. The importance of mixing pulses and dals with the staple cereal to increase the quality of protein.
   iii. The methods of preparing food so as to make it softer and more digestible.
   iv. The importance of avoiding spices in the child's diet.
   v. The need for including body-building foods, protective foods and energy-giving foods in the child's daily diet.
   vi. The importance of cleanliness in the preparation and serving of food.
   vii. The need to ensure that the child gets a sufficient daily diet.

NUTRITION TEACHING FOR CHANGING BEHAVIOUR BECOMES MORE EFFECTIVE WHEN FAMILY PRIORITIES AND FEASIBILITY ARE CONSIDERED AND THE INFORMATION OR MESSAGE IS CLEARLY RELATED TO THE IDENTIFIED PROBLEM.

11.8 MALNUTRITION

Malnutrition is a condition which occurs when the body does not get the proper kind of food in the amounts that are needed for maintaining health.

MALNUTRITION IS A COMMON HEALTH PROBLEM AMONG YOUNG CHILDREN IN INDIA. EIGHT OUT OF EVERY TEN PRE-SCHOOL CHILDREN SUFFER FROM SOME DEGREE OF MALNUTRITION.

11.8.1 WHAT YOU SHOULD KNOW ABOUT MALNUTRITION

1. Poverty and parental ignorance regarding proper feeding and diet for infants and young children in addition to incorrect family food habits and customs are major factors responsible for malnutrition.
2. A failure to gain weight, or loss of weight in young children are signs of early malnutrition.
3. Serial or repeated weighing is the best method for identifying malnourished children.
4. Early identification and correction of malnutrition are important because severe malnutrition permanently affects the physical and mental development of children and may lead to death.

5. Children who develop infections with fever or who have worms or repeated bouts of diarrhoea can develop malnutrition if care is not taken to meet the extra food requirements of the body.
6. The larger the size of the family, the more likely is it that one or more children will be malnourished.
7. When a child is ill, food and fluids should not be withheld but should be given in order to prevent malnutrition.
8. The largest number of malnourished children are between six months and three years of age. Look for malnutrition in this age group in the community.
9. The most common conditions caused by poor diet and incorrect eating habits are:

   i. Kwashiorkor, from lack of protein, e.g., dals, grams, milk and eggs, as well as lack of calories.
   ii. Nutritional marasmus, from insufficient calories because of not eating enough food.
   iii. Anaemia, from lack of foods containing iron and vitamins, e.g., green leafy vegetables, eggs and foods from animal sources,
   iv. Night blindness from lack of foods containing vitamin A, e.g., yellow fruits and vegetables.
   v. Rickets from lack of foods containing vitamin D, and fats such as butter, groundnut oil, and eggs.

11.8.2 IDENTIFICATION OF MALNUTRITION IN PRE-SCHOOL CHILDREN

Young children have low nutritional reserves and, therefore, require a relatively higher amount of calories and proteins in order that they may grow and develop normally, Insufficient foods of the right kind in the diet of a young child will result in malnutrition.

There are several methods commonly used for identifying children who are malnourished in a community. This can be done by:

1. Weighing and measuring children regularly.
2. Measuring the circumference of the upper arm.
3. Systematically looking for children who are more likely than others to develop malnutrition.
4. Systematically looking for children who show signs and symptoms of nutritional deficiency.

Your major responsibility is to identify children who are malnourished as early as possible so that curative measures can be started promptly.

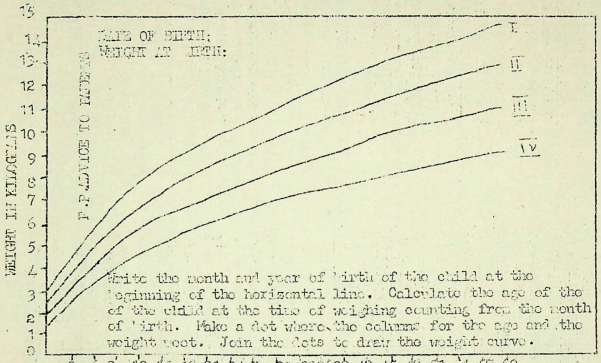
1. Regular Weighing and Measuring: The best way to identify young children who are malnourished is to weigh and measure them regularly (monthly for infants and at three to six month intervals for those who are older). Those children who do not show consistent growth and weight gains over time are either sick or malnourished (see Weight Curve Chart, Fig. 11.3).

Children are usually weighed and measured in the clinics held at the subcentres or by the health workers who make regular domiciliary visits. Follow the directions on the Weight Curve Chart in deciding what action to take when the weight of the children is below line I (see fig. 11.3).

.....Contd/64-

PARENTS SHOULD BE ENCOURAGED TO TAKE THEIR CHILDREN REGULARLY TO THE CLINIC AT THE SUBCENTRE FOR A HEALTH EXAMINATION, WEIGHING AND MEASURING.

WEIGHT CURVE FROM BIRTH TO 5 YEARS OF AGE



Weights of average well-fed healthy children should be above the uppermost line I.
Children whose weight falls between lines I and III are under-nourished and require supplementary feeding at home.
Children whose weight falls below line III are severely malnourished. Consult the doctor and follow his advice.
Children whose weight falls below line IV will have to be hospitalized for treatment.

Fig. 11.3: Weight curve chart

2. Measuring Mid-arm Circumference: The identification of children who are malnourished can also be done by measuring the distance around the mid-arm. This should be done by having the arm hang loose at the side of the body and placing the arm circumference scale at the mid-point as shown in fig. 11.4a & b. Any child between the ages of one and five years is considered to be malnourished if this measurement is less than 12.8 cm.*

.....Contd/65-

IMMUNIZATION SCHEDULE

SMALLPOX

Primary: at birth or as soon after as possible — Date

Examination of Scar — Date

REVACCINATION at one year — Date

and every three years, thereafter — Date

TUBERCULOSIS (B.C.G)

Primary: at birth or as soon after as possible — Date

Examination of Scar — Date

DIPHTHERIA-WHOOPING COUGH-TETANUS)

(Triple Vaccination)

Primary: from 4th month — Date

Two injections at interval of 8-12 weeks — Date

BOOSTER: 1-1/2 - 2 years — Date

5 years

POLIOMYELITIS (Oral trivalent Vaccine)

Primary: from 4th month — Date

three doses by mouth at 4-6 weeks interval — Date

TYPHOID-PARATYPHOID

Primary: at 1-1/2 years or latter — Date

Two doses at 7-10 days interval — Date

BOOSTER: Two doses at 7-10 days interval every year — Date

DIPHTHERIA - TETANUS

Primary: when triple vaccine not given during infancy — Date

Two injections at 8-12 weeks apart interval — Date

BOOSTER: One injection at 5 years — Date

*The doctor/nurse will record the date of giving the injection and tell you when to bring the child for the next one.

GUIDE TO NUTRITION

BIRTH TO ONE YEAR: Breast Feed

Breast milk is not enough for the baby after six months. He needs additional nourishment. Continue breast feeding as long as possible and introduce the following solids gradually.

FOURTH MONTH

Introduce fresh cow, buffalo, goat or tinned powder milk if breast milk is insufficient. Rice, Suji, Ragi (Dhalia) etc., well cooked to a soft consistency and sweetened. Vegetables like potato, carrot, cooked and mashed. Mashed ripe banana-sweetened, orange/sweet lime/tomato juice.

SIXTH MONTH

In addition to solid foods already given introduce the following:
Bread, biscuits, dhals like Bengal gram, lentil, red gram - well - cooked, Fish-boiled, Meat - well- cooked and tender, Eggs-half boiled, Curd, butter-milk-Channa (Casein), vegetables like cauliflower, cabbage, cucumber, etc. All fruits.

ONE YEAR

Child can share the family food, except hot and spiced foods.

Do not wait for the baby to cut his teeth to give solid foods. He will digest well cooked vegetables, rice, suji, etc., even if he has no teeth to chew them.

Wash your hands before preparing food, cooking or feeding.

All food for the baby should be freshly prepared, no left-over be given.

All utensils like cups, spoons, bottles etc. should be washed in boiled water and kept covered.

M.C.H. CARD II

Child' Card
(To be kept with the mother)

PHC/S.C/I.C.D. Centre

Registration No. — Vill

Name: — H/I

Date first seen:

Date of birth : — Ord birt

No. of brothers: — Sist

Religion: — Sect

Diet: Vegetarian/Non-

Mother's name:

Occupation:

Father's name :
Occupation :
Address :

Medical notes:
Blood Group :
Allergies:
Other information:
Family Planning status of p

Have your child weighed regu
Weight will be marked on thi
Bring your child to the cent
month till his second birthd
every three months till his f
birthday and any time he do
appear well. Protect your ch
from diseases by giving him i
zations shown on this card.
services are given without ch

Ministry of Health and Famil
planning, Nirman Bhavan, New

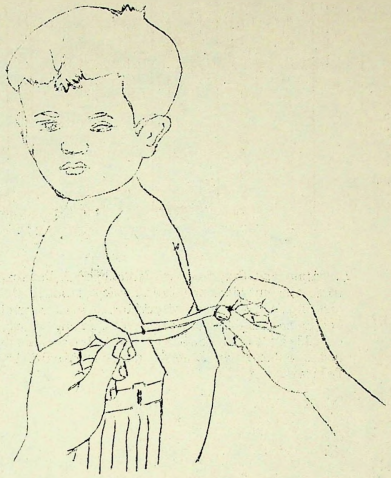
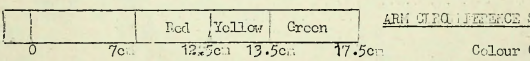


Fig. 11.4a: Measuring mid-arm circumference



ARM CIRCUMFERENCE SCALE

Colour	Code
Red	under 12.5cm Malnourished
Yellow	12.5-13-5cm Possible malnutrition
Green	over 13.5cm Normal

(adapted from Adnan Shakir & David Morley-1 The Lancet.P 758-759, April 20, 1974

Mal-nourished

Possible Mal-nutrition

Normal

Fig: 11.4b: Arm circumference tape

3. Characteristics of Children who are likely to Develop Malnutrition:

The systematic search for malnourished children in the community can be very fruitful when your effort s are concentrated among those who have certain social characteristics which are as follows:

i. The child is one of twins.
ii. The child has no living parents or has a stepmother.
iii. The child is cared for during the day by an older sister or brother while the mother works.
iv. The child has a younger sister or brother and the difference in age is less than one year.
v. There are four or more children in the family.
vi. The child belongs to a migrant family.
vii. The child is obviously thinner and smaller than others of his age.

and which can cause significant [illegible]
occur in infants and young children, whereas others are seen in persons of all ages. A few can be fatal or can be the underlying cause of death, while others may lead to serious disability. These diseases are as follows:

a. Kwashiorkor (Protein Deficiency) is a serious disease which develops in young children, usually between one and three years, who are fed diets which lack sufficient amounts of protein and calories to meet body requirements (see fig.11.5). It can also develop in previously malnourished children following diseases such as measles, whooping cough and malaria. If adequate treatment is not provided, children with kwashiorkor can die (see section 11.8.3).

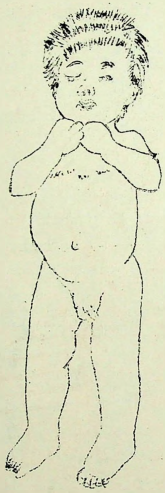


Fig: 11.5: Kwashiorkor

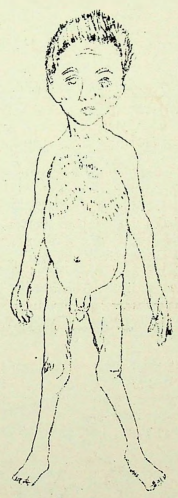


Fig.11.6: Marasmus

b. Marasmus (see fig.11.6) is the technical term for the severely wasted, undernourished child or adult. It is a serious disease which can occur at any age when a person does not eat or get enough food which is required by his body. In young children the condition often develops during the second year when breast feeding stops and provision is not made for giving them sufficient amounts of milk and other foods to meet the daily requirements, e.g., small supplementary feedings until the child is able to consume sufficient foods during the regular family meals (see section 11.8.3).

KWASHIORKOR AND MARASMUS ARE DISEASES WITH SERIOUS CONSEQUENCES BECAUSE [illegible] CAUSE ILLNESS AND DEATH, LEAVED HOSPITAL [illegible]

c. Anaemia (see section 11.8.4)
d. Vitamin deficiencies

i. Vitamin A: Dryness of the eyes occurs due to the lack of vitamin A in the diet of young children (see section 11.8.5).
ii. Vitamin B: Signs of symptons of vitamin B deficiency include: A sore mouth and tongue, cracks and sores at the angles of the mouth, pain, numbness and reduced sensation in the limbs.
iii. Vitamin C: Persons who do not consume sufficient amounts of fresh fruits and vegetables containing vitamin C develop spongy, bleeding gums, loosening of the teeth, and haemorrhages under the skin.
iv. Vitamin D: Rickets is a disease caused by a deficiency of vitamin D in the diet, or lack of exposure of the skin to sunlight. It can result in permanent deformities in the bones (see fig.11.7). Signs and symptons include soreness and tenderness of the body, delayed eruption of teeth, bulging of the bones of of the head in young children, bow legs, beading of the ribs and deformities of the pelvic bones and spine.

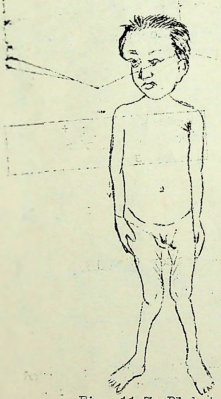


Fig. 11.7: Rickets

Fig. 11.8: Goitre

e. Mineral deficiencies:

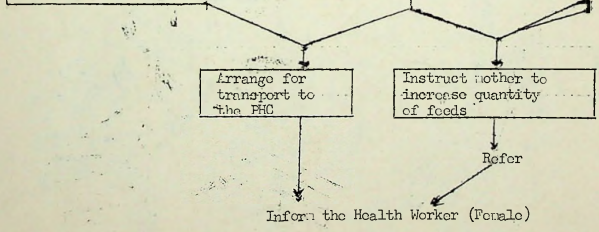
i. Calcium: A deficiency of calcium in the diet can result in rickets, interference with the clotting of blood, deformities of bones such as knock-knees and poor teeth.
ii. Iodine: Goitre is a disease characterized by swelling in the front of the neck (see fig.11.8). It occurs most frequently in areas where the food and water are deficine in iodine. The increasing use of iodized salt by persons living in such areas has decreased the number of people affected by goitre.

ANY PERSON WHO HAS SIGNS OR SYMPTONS OF MALNUTRITION SHOULD BE FURTHER SCREENED SINCE HE WILL OFTEN HAVE MORE THAN ONE NUTRITIONAL DEFICIENCY.

11.8.3 KWASHIORKOR AND MARASMUS

If an infant or pre-school child (under five years) is found to have any of the following signs and symptoms, proceed as follows:

	Kwashiorkor	Marasmus
General appearance	Miserable and apathetic	Alert to people and surroundings
Oedema of feet and legs*	Yes	No
Appearance of face	Fat or "moon" face	Thin or "old man's" face
Hair colour and texture	Lighter than in others or reddish and brittle	Normal colour and Springy
Weight	Below normal	Very much below normal
Muscles	Thin and flabby	Very thin, bones showing
Skin	Stretched and taut, also has flaking of skin	Shrivelled and wrinkled
Appetite	Refuses food	Accepts food offered



*To check for oedema, see section 21.4

Both of the above children have severe malnutrition and must be referred to the Primary Health Centre for further treatment. Unless prompt referral is made, such children may die.

11.8.4 ANAEMIA

Anaemia is a condition which is commonly found in pregnant and nursing women and in children.

(For causes, signs and symptoms of anaemia see section 21.5).

ONE OF YOUR IMPORTANT TASKS AS A HEALTH WORKER IS TO IDENTIFY ANAEMIC WOMEN AND CHILDREN IN THE COMMUNITY AS EARLY AS POSSIBLE SO THAT THEY CAN BE TREATED PROMPTLY AND BE TAUGHT HOW TO PREVENT THE RECURRENCE OF THIS CONDITION.

1. Facts that you should know about anaemia and health

   i. Children who are anaemic suffer from minor illnesses more often than those who are healthy, and the illness is often more severe than in normal children.

   ii. The incidence of anaemia and its effect on health is highest among pregnant and nursing women and pre-school children.

   iii. Pregnant women who are anaemic often have serious complications, e.g., haemorrhage during childbirth, and produce babies who are also anaemic at birth.

   iv. Anaemic invididuals generally take a longer time to recover from infections.

Fig. 11.9: Examining the eye for anaemia

2. Method for identifying those are are anaemic: There are several ways that can be used to find those who are anaemic as you make your house-to-house visits. Look for mothers and children whose skin is pale and those who tire easily and have little energy since these are the signs that are commonly associated with anaemia. Such persons should further be examined as follows:

   i. Pull down the lower eyelid to look at the colour of the conjunctiva (see fig.11.9).

REMEMBER TO WASH YOUR HANDS BEFORE DOING THIS AND BE CAREFUL NOT TO [illegible] CONJUNCTIVA [illegible] SE INFECTION.

- If the conjunctiva is pale pink or colourless, the person is anaemic. A bright pink conjunctiva usually means that there is no anaemia.

ii. Pull down the lown the lower lip to look at the colour of the mucosa lining the mouth. If it is very pale pink or colourless the person is anaemic. A bright pink mucosa usually means that there is no anaemia.

iii. Find out the percentage of haemoglobin using a Tallquist colour scale.

Procedure for determining anaemia using the Tallquist method.

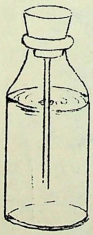
Remember that before doing any procedure, especially one that is connected with losing blood, you must get the cooperation of the individual by explaining;

i. why it is needed;
ii. how it will be done;
iii. whether there will be any pain or discomfort associated with it.

Proceed as follows:

1. Collect and assemble the equipment, viz.

i. Sterile Hagedorn needle embedded in a cork and kept in a container of spirit so that the tip remains covered by the disinfectant (see fig.11.10a & b).
ii. Spirit or Savlon.
iii. Cotton wool.
iv. Tallquist papers and colour scale.



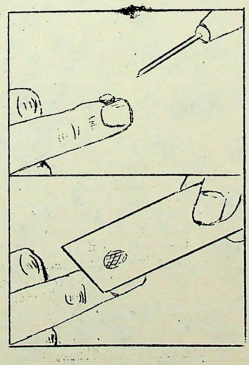


Fig.11.10: Hagedorn needle

2. Carry out the technique: Any procedure that breaks the skin may lead to infection so it is important to take certain precautions on pricking the skin.

i. Wash your hands and allow them to dry by shaking in the air.
ii. Hold the individual's finger, usually the left ring finger, or left big toe tightly for about 10 seconds to collect a good supply of blood.
iii. Wipe the area to be pricked, i.e. the side of the finger tip or big toe with cotton wool moistened with spirit or Savlon and allow to dry.
iv. Remove the needle from its container, shake off any excess spirit, and prick the finger or toe with a quick jabbing motion.
v. Squeeze the finger until a large drop of blood appears and blot it into a piece of the Tallquist paper (see fig.11.10b).
vi. Take a piece of cotton wool moistened with spirit on the finger and ask the person to press it with his thumb until bleeding stops.
vii. Compare the colour of the blood on the paper with the colour on the Tallquist scale to determine the haemoglobin level.
viii. Record the haemoglobin level on the individual's health card.
ix. Explain the test result to the individual.

3. Administration of iron and folic acid as prophylaxis against nutritional anaemia in mothers and children

Eligibility for iron and folic acid: The following criteria are to be used to determine who are eligible to be given iron and folic acid and who should be referred to the Primary Health Centre:

i. All pregnant and nursing women who have 10 gms (70 per cent) haemoglobin or less according to the Tallquist scale should be referred to the Primary Health Centre for treatment. If the haemoglobin level is between 10 to 12 gms (70 to 80 per cent) given iron and folic acid tablets.
ii. All family planning acceptors who have 10 gms haemoglobin or less, according to the Tallquist scale should be referred to the Primary Health Centre for treatment. If the haemoglobin level is 10 to 12 grams, give iron and folic acid tablets..
iii. All infants and pre-school children (under five years) who have 8 grams haemoglobin or less according to the Tallquist scale, should be referred to the Primary Health Centre for treatment. If the haemoglobin level is 8 to 12 grams give iron anf folic acid.

Dosage of iron and folic acid:

Category	Form of drug	Dosage of folic acid	Dosage of ferrous sulphate
Pregnant and nursing women and family planning acceptors	Tablets	0.5 mg daily	180 mg daily
Children under 5 years	Tablets or liquid	0.1 mg daily	60 mg daily

Give the treatment for three months. Dispense a two to four week supply of the drugs.

Health teaching related to treatment: Individuals who are anaemic and are being given iron and folic acid tablets need to have the following information:

i. Iron and folic acid are special drugs that are needed by the body for raising the haemoglobin content in the blood.
ii. To be effective, both drugs must be taken daily in the prescribed dosage together with foods rich in iron.
iii. Foods rich in iron such as leafy vegetables that are available locally should be included in the daily diet.
iv. Because the drugs can irritate the stomach they should always be taken with some food or at mealtime.
v. The tablets will make the faeces black, but this is an expected action or iron and should not cause alarm or worry.
vi. If the person has symptoms such as diarrhoea or indigestion, she should inform you about this since the dosage or frequency of the drugs may have to be changed.
vii. After three months of treatment tht blood test will be repeated to find out the haemoglobin level.
viii. To avoid accidental ingestion of the drugs by small children, the medicines should be kept out of their reach.
ix. A fresh supply of drugs can be obtained either at the subcentre or from the health worker.

Making follow-up contacts: Follow-up activities can be carried out when the individual comes to the subcentre, or during home visits. Points to remember include the following:

i. If the individual does not come to the subcentre within two to four weeks after the drugs are dispensed, make a home visit to assess tolerance to the drugs, side-effects if any, regularity in taking the tablets, and whether foods rich in iron have been added to the diet.
ii. Listen to complaints related to taking drugs and reassure the individual.
iii. Dispense a two to four week supply of the drugs if needed by the individual, but urge her to obtain them from the subcentre on a regular basis.
iv. Plan to repeat the Tallquist test after the individual has been taking the drugs for three months.

Records and reports: You are required to maintain the following records and reports pertaining to the iron and folic acid tablets that you have dispensed to eligible persons in the community (see Annexure 11.6 Forms A, B and C in the Supplement to the Manual).

a. Individual recipient's health record: The individual card of the pregnant or nursing woman, child, or family planning accepter should include:

i. the date of the blood test and the haemoglobin level;
ii. the date of commencing the prophylactic treatment, dosage of the drug, and the number of tablets dispensed;
iii. the date of the repeat blood test and the haemoglobin level;
iv. the date when the drug was stopped and the reasons for stopping it.

b. Register of beneficiaries: Enter the card number, date of enrolment, name, age and category of each beneficiary and date of stopping the treatment (see Form A).
c. Stock register: The number of tablets received, issued and in balance on each date are recorded in the stock register (see Form B).
d. Monthly report to the Primary Health Centre: This is a consolidation of the information in Nos. 2 and 3 above (see Form C).

11.8.5 VITAMIN A DEFICIENCY

Vitamin A deficiency in the diet is a very serious health problem in India. A large number of pre-school children have eye symptoms as a result [illegible] are deficient in vitamin A.

specific dates for coverage of eligible children.

iii. Select the most easily accessible location in the village to facilitate attendance and make arrangements for its use.

iv. Decide on the content and methods to be used for pre-programme publicity and health education of village leaders and parents.

v. Estimate the amount of drug needed and procure the supply and calibrated spoons or droppers from the Primary Health Centre. Store the drug in a cool, dry place.

vi. Select simple tasks to be done by volunteers and train the community members to assist with the programme.

Coordinating activities with the Health Worker (Female): Your task is to administer vitamin A to as many children aged one to five years as possible in each village. In order to achieve a high coverage of such children and to avoid duplication of administration, you will need to work closely with the Health Worker (Female) since you will both be making visits to the same families at different intervals for delivery of specific health services.

Procedure for administering vitamin A solution;

1. Use a 2 ml. spoon (supplied with the vitamin A solution) or a medicine dropper which is calibrated to measure the 2 lakh unit dose (2 ml) which is prescribed (see fig.11.11).
2. Instruct the mother to hold the baby in her lap with the head raised so that the solution can be placed in the side of the mouth or on the tongue.
3. Administer the drug slowly to avoid the risk of choking.
4. If the child spits out the initial dose, repeat the procedure.

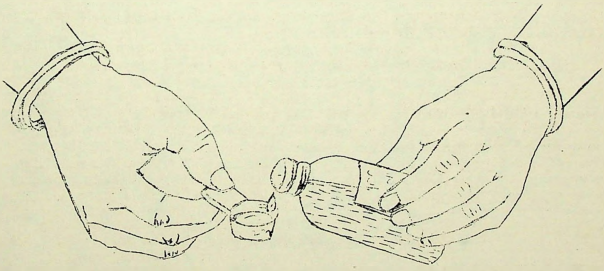


Fig:11.11: Plastic spoon for dispensing vitamin A solution

Health teaching related to vitamin A: Teach the people, especially parents, elders in the family and leaders, about the value of adding foods rich in vitamin A to the daily diet.

Records and reports: (see Annexure 11. 7, Forms A, B and C in the Supplement to the Manual).

1. Individual recipient's health record: Record the details of vitamin A administration in the individual child's health record that is kept at the subcentre.
2. Register of beneficiaries: Note the date of enrolment, name, address and age of each beneficiary and date of administration of vitamin A solution (see Form A).
3. Stock Register: Enter the receipt, issue and balance of vitamin A solution in each bottle (see Form B).
4. Monthly report to the Primary Health Centre: This is a consolidation of the information in Nos.2 and 3 above (see Form C).

PROTEIN FOOD SOURCES

PROTEIN FOODS	RATING
Vegetable sources	
Bengal gram dal	XX
Black gram dal	XX
Cow pea	XX
Green gram dal	XX
Horse gram.....	XX
Lentils	XX
Peas (dry)	XX
Red gram dal	XX
Soya bean	XXXX
Groundnut	XXX
Bajra	X
Cholam (Jowar)	X
Ragi	X
Rice	X
Wheat	X
Animal sources	
Cheese	XX
Panir (Cottage cheese)	XX
Milk	XX
Eggs	X
Curds	XX
Fish (fresh)	XX
Fish (dried powder)	XXX*
Meat (goat or mutton)	XX

Legend:

X = 5 to 15 grams protein per 100 grams edible portion.
XX = 15 to 25 grams protein per 100 grams edible portion.
XXX = 25 to 35 grams protein per 100 grams edible portion.
XXXX = 35 to 45 grams protein per 100 grams edible portion.

*powdered fish contains more than 45 grams of protein per 100 grams edible portion.

NOTE: Food values in annexures 11.1, 11.2, 11.3 and 11.4 are based on tables included in 'Nutritive Value of Indian Foods' by C. Gopalan, B.V. Rama Sastri and S.C. Balasubramanian, NIN Publication, 1976.

VITAMIN A FOOD SOURCES

FOODS CONTAINING VITAMIN A	RATING
Vegetable sources	
Amaranth leaves (arculai)	XX
Amaranth Stems	*
Bathua leaves	X
Bot greens (tops)	XX
Betel leaves	XXX
Carrot (leaves)	X
Colocasia (arvi)	XX
Fenugreek leaves (methi)	XXXX
Mango (ripe)	X
Mint leaves	X
Mustard (leaves)	X
Papaya (ripe)	X
Pumpkin	X
Radish (tops)	XX
Spinach	XXX
Turnip (tops)	XXXX
Yam	*
Animal sources	
Butter	X
Cheese	*
Fish liver oils	XXX**
Ghee	X
Milk (fresh)	*
Sheep liver	XXX**
Vanaspati	X
Whole powdered milk	X

Legend:

X = 1,000 to 5,000 units vitamin A per 100 grams edible portion.
XX = 5,000 to 10,000 units vitamin A per 100 grams edible portion.
XXX = 10,000 to 15,000 units vitamin A per 100 grams edible portion.
XXXX = 15,000 to 20,000 units vitamin A per 100 grams edible portion.

* Less than 1,000 units of vitamin A per 100 gms. edible portion.

** More than 20,000 units of vitamin A per 100 gms. edible portion.

.....Contd/78-

IRON FOOD SOURCES

FOODS CONTAINING IRON	RATING
Vegetable sources	
Bajra	X
Barley	*
Chola	X
Ragi	XX
Rice (flakes)	XXXX
(hand pounded)	*
(milled)	*
Wheat (whole)	XX
Bengal gram	XX
Black gram	X
Cow pea	X
Green gram (Moong)	X
Lentils	*
Red gram dal	X
Soya bean	XX
Amranth (tender)	XXXX**
Beet greens	XXX
Carrot leaves	X
Cauliflower greens	XXXX**
Colocasia (black leaves)	X
(green leaves)	XXX
Coriander leaves	X
Drumstick leaves	XX
Knol-khol greens	XXX
Mustard leaves	XXXX**
Neem leaves (tender)	XXX
Radish leaves	XXXX**
Turnip greens	XXXX
Vella keerai	
Animal sources	
Mutton or goat meat	*
Eggs (hen)	*
Fish meal (dry powder)	XXXX
Liver (sheep)	X
Khoa (buffalo milk whole)	X

Legend:

X = 5 to 10 mg. iron per 100 grams edible portion.
XX = 10 to 15 mg. iron per 100 grams edible portion.
XXX = 15 to 20 mg. iron per 100 grams edible portion.
XXXX = 20 to 25 mg. iron per 100 grams edible portion.

* Less than 5 mg. from per 100 grams edible portion.

** More than 25 mg. from per 100 grams edible portion.

CALCIUM FOOD SOURCES

FOODS CONTAINING CALCIUM	RATING
Vegetable sources	
Ragi	XXX*
Bengal gram dal	X
Belek gram dal	XXX
Cow pea	X
Green gram (Moong) dal	X
Lentils	X
Red gram	X
Soya bean	XXX
Animal sources	
Cheese	XXX**
Curds	X
Fish (dried)	XXX**
Khoer	XXX**
Khoa (Buffalo)	XXX**
(Cow)	XXX**
Milk (Buffalo)	XXX
(Cow)	X

Legend:

X = 50 to 100 mg. calcium per 100 grams edible portion.
XX = 100 to 150 mg. calcium per 100 grams edible portion.
XXX = 150 to 200 mg. calcium per 100 grams edible portion.
XXX = 200 to 250 mg. calcium per 100 grams edible portion.

**More than 250 mg. calcium per 100 grams edible portion.

NUTRITIOUS RECIPES FOR VULNERABLE GROUPS (VEGETARIAN)

MONTH

1. Wheat Besan Ladoo

Ingredients	Quantity
Wheat flour	6 teaspoons
Bengal gram flour (besan)	6 teaspoons
Groundnut	10 kernels
Jaggery (gur)	4 teaspoons

Method

1. Roast wheat flour and bengal gram flour.
2. Roast groundnut, remove the skin and crush coarsely.
3. Make jaggery syrup and add the flour mixture and groundnut to it.
4. Mix well and make into balls.

.....Contd/80-

Nutritive value: 339 calories
12.5 gm protein
Suitable for: Infants, pre-school children and school children.

NOTE: Wheat flour can be substituted by any other cereal flour. Bengal gram flour can be substituted by any other pulse flour.

2. Bajara Khichiri

Ingredients	Quantity
Bajara (millet)	6 teaspoons
Green gram dal	6 teaspoons
Rice	2 teaspoons
Leafy vegetables	4 teaspoons
Salt to taste	
Water	

Method

1. Pick bajara and grind it coarsely, sprinkling a little water on it.
2. Remove the husk of the bajara by washing it.
3. Soak it overnight in a little water.
4. Soak dal and rice for an hour after washing it.
5. Put dal and rice, bajara, and leafy vegetables chopped coarsely in a degchi.
6. Add salt and water.
7. Cook for 20 minutes or so.

Nutritive value: 250 calories
11.4 gm protein

Suitable for: Pre-school children, school children, pregnant and nursing women.

3. Paushtik Roti

Ingredients	Quantity
Wheat flour	7 teaspoons
Bengal gram flour	5 teaspoons
Green leafy vegetable, e.g., palak	2 teaspoons
1 teaspoon = 5 gms.	
Vanaspati (margarine)	2 teaspoons
salt to taste	
Water as required	

Method

1. Sift together besan and wheat flour.
2. Wash green leafy vegetables, chop finely and mix with the flour.
3. Add salt and water and knead to a stiff dough.
4. Roll out chapati and place on heated tawa.
5. Turn when slightly done.
6. Pour a teaspoon of fat into the tawa and fry the chapati on both sides.

Nutritive value: 307 calories
9.8 gm protein

suitable for: school children and pregnant and nursing women.

.....

4. Sprouted Horse Gram/Green Gram Savoury

Ingredients	Quantity
Horse gram/Green gram	6 teaspoons
Onion	2 teaspoons
Potatoes	10 teaspoons
Mango powder (amchur)	1 teaspoon
Salt and spices to taste	
Fat	1 teaspoon

Method

1. Soak gram in warm water overnight.
2. Drain water and put gram in wet cloth and hang in a warm place. Keep sprinkling water. Sprouts will appear 2 days.
3. Wash sprouted gram.
4. Chop onion and potato finely.
5. Fry onion and potato in fat and cook until potato is done.
6. Add sprouted gram and cook for 5 minutes.
7. Add salt, spices and mango powder.

Nutritive value: 217 calories
7.3 gm protein

Suitable for: school children and pregnant and nursing women.

SOUTH

5. Wheat Uppma

Ingredients	Quantity
Broken wheat	6 teaspoons
Onion	2 teaspoons
Oil	2 teaspoons
Black gram dal (udath)	2 teaspoons
Drumstick leaves	1 bunch
Dried chillies	a few
Mustard seeds	a few
Curry leaves	a few
Salt to taste	
Water as required	

Method

1. Fry mustard seeds, chillies, curry leaves and dal in oil until brown.
2. Add broken wheat and fry until brown.
3. Add chopped onions and chopped drumstick leaves.
4. Add water and salt and cook over low fire until done.

Nutritive value: 237 calories
5.9 gm protein

Suitalbe for: Infants, pre-school and school children, and pregnant and nursing women.

6. Tapioca Porridge

Ingredients	Quantity
Tapioca (maravalli)	6 teaspoons
Milk	half cup
Jaggery	2 teaspoons
Grated coconut	2 teaspoons
Water as required	

Method

1. Peel and cut tapioca into small pieces, and cook in water until soft.
2. Add milk and cool until semi-solid.
3. Add jaggery and coconut and cook for a few minutes.

Nutritive value: 248 calories
4.1 gm protein

Suitable for : infants and pre-school children.

7. Ragi Adai Sweet

Ingredients	Quantity
Ragi flour	6 teaspoons
Roasted Bengal gram flour	2-1/2 teaspoons
Jaggery	3-1/2 teaspoons
Grated coconut	1 teaspoons
Oil (groundnut)	1-1/2 teaspoons
Water as required	

Method

1. Dissolve jaggery in water.
2. Mix ragi flour and roasted Bengal gram flour. Add to dissolved jaggery.
3. Add coconut and prepare a thick dough.
4. Prepare adai and fry in a greased tawa.

Nutritive value: 299 calories
6.1 gm protein

Suitable for: school children and pregnant and nursing women.

8. Cholam Pittu

Ingredients	Quantity
Cholam flour (millet)	6 teaspoons
Roasted Bengal gram flour	5 teaspoons
Grated coconut	1 teaspoon
Jaggery	4 teaspoons
Salt	a pinch
Water as required	

Method

1. Sieve raw cholam flour.
2. Mix cholam flour, bengal gram flour and salt.
3. Add grated coconut.
4. Add two teaspoons of water and mix well.
5. Add jaggery powder and steam for 15 minutes.

Nutritive value: 305 calories
9.1 gm protein

Suitable for: infants, pre-school and school children.

EAST

9. Paushtik Khichiri

Ingredients	Quantity
Rice	5 teaspoons
Dal (lentil)	10 teaspoons
Potatoes	6 teaspoons
Green papaya	6 teaspoons

Onion (small)	One
Ginger	Small piece
Salt and spices to taste	
Water as required	

Method

1. Clean rice and dal and wash separately.
2. Boil water in a degchi.
3. Add rice, chopped onion and ginger and spices.
4. Cook until rice is half done.
5. Add dal and vegetables.
6. Cook until soft.
7. Add oil and salt to taste.

Nutritive value: 309 calories
6.7 gm protein

Suitable for: infants, pre-school and school children and pregnant and nursing women.

10. Bengal Gram Barfi

Ingredients	Quantity
Roasted Bengal gram flour	10 tablespoons
Jaggery	10 teaspoons
Cardamon	a pinch
Water - sufficient to make a syrup	

Method

1. Make a syrup with jaggery and water.
2. Add Bengal gram flour and mix thoroughly.
3. Add a pinch of cardamon.
4. Transfer mixture into a greased plate and spread.
5. Cut when cool.

Nutritive value: 375 calories
11.0 gm protein

Suitable for: pre-school and school children, pregnant and nursing women.

WEST

11. Sprouted Gram Salad (Usal)

Ingredients	Quantity
Sprouted green gram	10 teaspoons
Green chillies, cumin, mustard seeds and salt to taste	
Lime	One small bunch
Coriander leaves	half teaspoon
Oil (groundnut)	

Method

1. Wash the sprouted gram and retain the husks.
2. Add salt, chopped chillies and coriander to the gram.
3. Heat oil, and fry cumin and mustard seeds until spluttering stops.
4. Mix all the ingredients, garnish with lime and serve cold.

Nutritive value: 180 calories
11 gm protein

Suitable for: school children, pregnant and nursing women.

12. Khandvi

Ingredients	Quantity
Bengal gram flour	half cup
Curds	half cup
Water	one cup
Salt	half teaspoon
Turmeric	1 teaspoon
Oil (groundnut)	1 teaspoon
Mustard seeds	1/4 teaspoon
Green chilly (chopped)	one
Coriander leaves	small bunch

Method

1. Mix curds, water and gram flour. seeing that there are no lumps.
2. Add salt, turmeric, chilly and half tea spoon oil.
3. Cook, stirring all the while so that there are no lumps.
4. When thick, test by placing a little on the back of a greased thali and seeing if it can be rolled off.
5. Spread on the back of the thali and let it set.
6. Cut into long strips and make strips into rolls.
7. Heat oil and fry mustard seeds until they stop spluttering.
8. Pour over the rolls, Garnish with coriander leaves.

Nutritive value: 242 calories
13.2 gm protein

Suitable for: pre-school and school children, pregnant and nursing women.

13. Groundnut Milk

Ingredients	Quantity
Groundnut kernels	half cup
Water (lukewarm)	2-1/2 cups

Method

1. Pick the kernels and discard shrunken and spoilt kernels.
2. Roast kernels on a tawa for 5 to 10 minutes.
3. Remove pink skin of kernels.
4. Soak kernels in water overnight.
5. Drain off water and grind the kernels to a fine paste. Add a little water if necessary.
6. Add two and half cups of lukewarm water and stir vigorously for 5 minutes.
7. Filter through a clean mull cloth (loose weave) and collect the milky fluid.
8. Boil the milk, stirring continuously to get rid of the nutty flavour.
9. Serve hot or cold with sugar to taste.

(This milk can also be used for preparing curds as followas: To a cup of cold groundnut milk add one teaspoon of cow's or buffalo's milk curd, and set overnight).

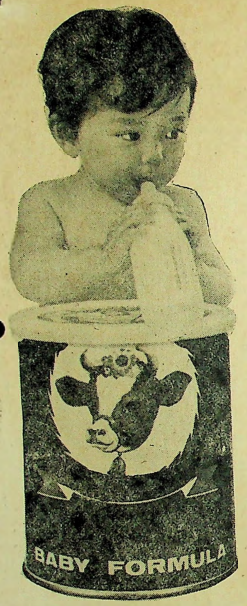
Nutritive value: 550 calories
25 gm protein

Suitalbe for: infants, pre-school and school children, pregnant and nursing women.

* * * * * * * * * * * *

The art of selling 'baby killers'

By Shahnaz Anklesaria



BABY FOOD AD: immoral and unethical

HE looks trapped. For just one fleeting instant, a genuinely horrified look flashes into eyes. He is a manager of an advertising agency, one of the several all over the country to have released advertisements proclaiming the worth of artificial baby milk, feeding bottles and nipples. All this at a time when people the world over are becoming increasingly militant against their use.

Both baby food and the feeding bottle are now called baby killers. It has been estimated that over 10 million Third World infants annually suffer malnutrition, disease or death because they are bottle fed instead of being breast fed.

If a mother bottle feeds her child when she can just as easily breast feed it, she is signing its death warrant, say doctors. If the bottle and the nipple are not thoroughly sterilised before each use, children have been known to die of diarrhoea. If the milk in the bottle is not thoroughly boiled, it can be lethal for the child. If while using baby food the mother mixes it with unboiled or partially boiled water, cholera or typhoid can kill the baby. Overdiluted baby food has led to malnourishment. Mother's milk, besides having none of these defects, in fact provides the infant with antibodies necessary to combat infections like gastroenteritis.

A WHO/UNICEF organised conference in October 1979 issued a statement saying, "It is the responsibility of society to promote breast feeding and to protect pregnant mothers from any influence that could disrupt it." To thwart media manipulation, it was agreed that there should be no sales promotion or advertising to the public of products which can be breast milk substitutes. The confidence of mothers is thoroughly shaken by such sale promotion tactics.

In India, advertisements of some brands of baby food concede that breast feeding is the best. "Remember mother's milk is far the best for baby. It is extremely difficult to substitute for breast milk." says one. But such soft-pedalling by baby food manufacturers is offset by the aggressive advertisements of bottle and and nipple manufacturers. Nowhere do their advertisements warn buyers of how fatal it is to use their products without sterilisation.

"It could all be the doctor's imagination. Diarrhoea and sickness could have occured for other reasons," is one advertising manager's reply.

But does he not owe it to the consumer and to advertising ethics to at least mention somewhere that the bottle should be sterilised each time before use? "Every mother knows this should be done, but she does not do it. Why? She may be too lazy or too busy or feels it is clean. . ." he replies. It is not his job to caution her of the danger to her child.

I persist. Cigarette manufacturers add the blurb about cigarette "smoking being injurious to the health" in their advertisements. Can he not work out something similar? "Unless a directive comes from the Government we won't do it."

Why not? Then the real reason for the resistance slips out. "If the glass (of the bottle) and the nipple is not of a good quality, it will spoil with constant sterilisation."

Does he have an opinion on the subject of breast feeding as opposed to the bottle? "We do not deny that mother's milk is the best." And again later, "We know that breast feeding is the best. Bottle feeding cannot be compared to that." Then why in the actual advertisement is the very opposite said? For instance an advertisement claims "You feel everything he has should be the best ... we agree." Another Hindi advertisement for a feeding bottle reads, "Give your child milk through (the brand name of the feeding bottle) and be without fear. Your beloved child will grow you." Such examples of statements You will have living evidence before you." Such examples of statements contrary to medical evidence are too numerous to cite.

Irate members of the Consumer Guidance Society of India (CGSI) complain that such advertisements in fact draw perfectly healthy mothers away from breast feeding their infants and to the bottle. "It is very difficult to fight the constant indoctrination of these advertisements," says Mrs Krishna Basrur of the CGSI.

Some advertisements, says Mrs Basrur, are a direct appeal to the mother's selfishness. For instance, one advertisement promoting a feeding bottle claims that breast feeding your child is just not "convenient". You

CONTINUED ON NEXT PAGE

Unethical promotion of baby foods

THE International Baby Food Action Network (IBFAN) has documented 200 violations by 19 companies in 33 countries of the WHO/UNICEF 1979 recommendations. This evidence, the report says, showed only the tip of the iceberg of the promotion of infant feeding products by the infant food industry.

What the document clearly shows is the unwillingness of the infant food industry to modify its practices voluntarily. As long as its means of promoting infant feeding products are considered "legal", the immoral and unethical nature of that promotion is ignored.

Below are some of the WHO/UNICEF recommendations (printed in bold letters) and evidence of how the companies have flouted them.

*** "There should be no sales promotion, including promotional advertising, to the public of products to be used as breast milk substitutes or bottle fed supplements and feeding bottles."**

In practice, companies like Abbot, Cow and Gate, Dumex, Glaxo, Lijempf, Mead Johnson, Morinaga, Nestle (whose vice-president claimed in May 1979, "We do not advertise our brands of infant formula to consumers in developing countries"), Wyeth, have all advertised their products through posters, radio, newspaper and free sampling.

*** "Facilities of the health care system should never be used for the promotion of artificial feeding."**

In public health centres, in maternity homes and hospitals of the developing countries several baby food companies have been advertising their products. Milk nurses talk to mothers and distribute samples and literature at clinics and hospitals in Turkey, Barbados and South America. Mothercraft nurses give lectures to mothers in Kenyan clinics providing posters and booklets promoting Glaxo products. Nestle provides free bottles to government clinics in Martinique advertising a product "Guigoz". These bottles are distributed directly to poor mothers.

*** "Promotional distribution of samples of breast milk substitutes through health service channels should not be allowed."**

Cow and Gate, Abbot, Borden Dumex, Glaxo, Mead Johnson, Morinaga, Lijempf, Nestle, Wyeth were among the larger companies found distributing promotional supplies. In Puerto Rico, Abbot provides Similac discharge kits with a tin of ready-to-feed concentrate, vitamins and a nursette to breast-feeding mothers at community hospitals. A nurse in one hospital in Barbados said "We don't have to buy anything from Cow and Gate — they give us all kinds of free samples. We have a cupboard full."

*** "No personnel paid by companies producing or selling breast milk substitutes should be allowed to work in the health care system."**

In Peru a doctor reported that the director of the Neonatology Department in the hospital Maternidad is employed by Nestle and also works in the Nestle pediatric clinic. Nestle has exclusive rights in providing milk to that hospital. It is the largest in Lima. Mothercraft nurses are still employed by Nestle to work in rural community health clinics. After a hospital official in Lesotho refused to allow Nestle mothercraft nurses to lecture to mothers, three Nestle executives visited the official and offered him an all-expenses paid trip throughout South Africa, funding for the Southern Africa pediatrics conference in Lesotho and a possible job offer when the official's current contract expired.

Glaxo employs nurses in Trinidad as sales representatives and they gets a bonus if they meet the monthly sales target and a commission if the monthly target is exceeded.

*** "Foods for infants and young children ... should be labelled to indicate proper and safe home preparation."**

Abbot, Dumex, Dutch Baby, Glaxo, Mead Johnson had no pictorial instructions, some had no preparation instructions, others had had labels in English in countries where Creole and French are the local languages and Nestle did not advise using sterilised utensils.

*** "Products that are not suitable alone as weaning foods, such as sweetened condensed milk ... should ... not be packed, labelled, advertised or otherwise promoted ... as a complement or substitute for breast milk."**

Four international companies were reported promoting sweetened condensed milk products for infants. None of them carried an explicit message about the superiority of breast milk. In fact in its advice on breastfeeding, a Nestle booklet circulated in Sierra Leone said about breastfeeding, "Do not feed him at night, you and baby must rest," and "Do not give the breast too often".

—— S. A.

BABY FOODS — from page 13

do not have babies because it is a matter of convenience," storms Mrs Basrur. If mothers were educated about the dangers that arise from neglecting to breast feed, they would put in a for more effort to do so, she says.

"It is the manufacturer's responsibility to check if what we are claiming is justified or not," is the ad man's flat rejoinder to any accusations. In other words, he is helpless. It is either the mother's fault, the doctor's ignorance or the manufacturer's responsibility. His job is just to sell — any product.

I march across to a manufacturer of feeding bottles and nipples. Does he know of the bottle-feeding controversy? Yes. He is politely disinterested. Is he aware that bottle-feeding kills? "All this advice should be given by the doctor."

Could he at least mention on the packaging that the bottle and nipple must be sterilised before each use? "It is mentioned — look". What I see is the word "sterilizable" among three other words proclaiming the bottle's uniqueness. But that is not the same as a direct warning. "Mothers do not care. The consumers who buy our product are the upper class and upper middle class. Their doctors should educate the mothers about the importance of sterilisation," he insists. Even when hospitals tell mothers to shield the nipple, they still do not bother to do so.

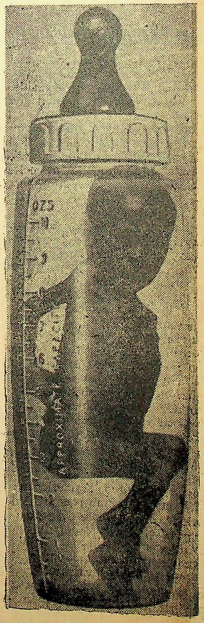
He says he sells 200,000 to 300,000 bottles a month. Then it cannot be only the higher income groups who buy his bottles. "OK also the lower middle class". Forget class, I tell him, lakhs of children are vulnerable because he chooses not to warn their mothers. Finally he concedes, "I never realised it from this angle."

The nipples that he produces have a wider range of consumers. "In villages you can buy them for 25 paise each." His Bombay unit alone sells 12 lakhs each month, and his Bangalore unit, three and a half lakhs. I tell him that the rural children are the easiest victims of death by diarrhoea and cholera because they are fed powdered milk diluted with unclean water or the cow's milk is unboiled. All this the children suck in from the nipples he produces. Besides there is danger of the nipples being uncovered and contaminated. So would he consider ceasing production of these nipples? "Never." I am informed that nipple manufacturing is a big cottage industry with at least 60 to 70 known manufacturers. "At least we can guarantee the quality of what we produce."

Can his products withstand regular sterilisation? Yes, of course. Perhaps it has passed the Indian Standard Institute tests? "I not need an ISI certificate. ISI uses British standards. And I export my bottles to Britain."

Besides, what can he do if the maternity homes themselves specify that every expectant mother must bring a feeding bottle along with other necessities?

Now the Central Indian Ministry of Social Welfare has organised a working group to set up a code of conduct for the manufacture and promotion of baby food along the lines of the code formulated by WHO/UNICEF in October 1979. One hopes that the code, which is being formulated, will be strong and effectively, implemented.



drinking to whose health?

There are many products which claim to promote health. Generally, these products are costly and only the upper class can afford them. But they are precisely the people who do not need them. Their normal food is more nutritious if properly eaten. The damage however is on the less affluent and the poor who try to imitate such consumerism but cannot afford. This is similar to the poor rural youth trying to smoke king-size costly cigarettes in a delusion that he is living "life king-size" as the ads claim. The economic and social damage of these ads on a poor society are terrible.

The Horlicks and Bournvita stories are classic examples of advertisements dictating habits. In Britain, both Horlicks and Bournvita are sold mainly as mild soporifics. In England, Bournvita is the "good night drink" which "helps sleep

come naturally". In India, it is the ideal "health drink for strength, vigour and taste" which means it can be presumably taken in waking hours. Strange for an "Olympic drink" indeed!

Horlicks has similar claims. It is true that both Horlicks and Bournvita are relatively good foods. But on the other hand, as the Social Audit Report points out ',their calorific value and protein content can be compared with that of any good cereal or pulse and there is certainly nothing unique about them as nutrients, as some of the claims may suggest." The well fed 10 per cent of India can do without these drinks. And the poor with malnutritioned children can get the same amount of calories and protein from other food sources much cheaper. Recently, the Government of India forced the Beecham subsidiary, Hindustan Milkfoods, to remove the untrue claim "twice as good as milk" from the Horlicks label. The manufacturers of Horlicks are also known to falsely claim: "the only one that doctors all over the world recommend". This is simply unethical.

Horlicks is dinned into doctors over and over by repeated visits by sales representatives, sponsored seminars of the health professionals and various other kinds of direct and indirect gifts. Such are the attempts to "persuade" the health profession in the country. Because of such persuasions Horlicks corners about 53 per cent of the Rs. 43 crores a year health drinks market. Both Cadbury and Hindustan Milkfood Manufacturers makers of Bournvita and Horlicks (and Boost) respectively, are reported to be spending about Rs 1 crore of the nearly Rs 1.75 crores spent by all food drink manufacturers in high pressure advertising.

Cost breakups of some of these health drinks can be shocking. Liberal cost estimates for Pfizer's Protinex would give one rupee for the contents and two rupees for the package material while it is sold in the market for over Rs 15

The damage caused by baby foods (infant formula) is only too well known. However, what is not well known is a more blatant intrusion by

commercial companies into a poor child's diet. In the villages of the Goan taluk Sattari, there are women with adequate breasts but still cannot breast-feed. This is because they have poor diets due to low incomes. Yet their children are as healthy and even stronger than those city children brought up on expensive cereal mixtures and formula foods. The Sattari women feed their new born children on *ragi* or *nache* as it is known there—*nache* is the cheapest of the millets. Now Nestle (which has a poor reputation among people working in rural health care) have decided to enter this *ragi* baby food business and that is certainly likely to boost up the costs, by upsetting *ragi* prices and wrecking the poor child's diet.

Who is becoming healthy at whose expense?

an embarrassing vitamin

"Vitamin E is one of those embarrassing vitamins," write Sir Stanley Davidson and Reginald Passmore in their standard text book *Human Nutrition and Dietetics* (4th edition, 1970) "that have been identified, isolated and synthesized by physiologists and biochemists and then handed to the medical profession with a suggestion that a use should be found for them—without any satisfactory evidence to show that human beings are ever deficient of it or even that it is a necessary nutrient for man."

This makes Vitamin E an ever easier target for commercial exploitation than other vitamins. Vitamin E occurs in large stores in human fatty tissue and even though special diets have excluded Vitamin E for months on end there is enough in the human storage deports to sustain adequate levels. Vitamin E has no toxicity, no matter what quantities are consumed. Thus, with some imagination and repression of information, Vitamin E can be sold for almost anything. And indeed, at one time or the other it has been sold in ever increasing quantities for one or more of the following conditions or uses, with no supporting scientific evidence: ageing, acne vulgaris, aftershaving tenderness, allergies, amyotrophic lateral sclerosis, angine pectoris, atherosclerosis, cancer, chronic cystic fibrosis, chronic cystic mastitis; coronary heart disease, cosmetic skin conditions, diabetes mellitus; frigidity, habitual abortion, hemolytic anaemia, hypercholesterolaemia, infertility, lupus erythematosis, macrocytic anaemia, muscular dystrophy, myasthenia gravis, peptic ulcer, rheumatic fever, scleroderma underarm deodorant, venous thrombosis.

Many thousands are on these dosages either with or without the advice of doctors. The industry happily supplies. Such wasteful medication and overdose of Vitamin E leads to false security and postpones or ignores real proper medical care. Luckily, the drug is not harmful to the human body. The same cannot be said of other vitamins and "multivitamin" tablets.

Fat, soluble Vitamins A and D, if taken in large doses too long produce serious or even fatal intoxication or chronic illness. It is not yet known whether large amounts of the single element of B complex produces any imbalance. But nevertheless they are sold at high costs and in more than the required amounts. For instance, Surbex-T contains 15, 10, 5, 5 and 2 times the neeeded daily amount of vitamins B_1, B_2, B, B_6 and B_{12} respectively (based on ICMR recommendations). Becosules exceed the recommended daily requirements by 50, 12, 5 and 5 respectively.

People have been made to believe that they need vitamins. Both physicians and patients have fallen for the glossy ads and sales promotion. The busy executives, at whom these vitamin ads are normally directed, do not require any vitamins for their psychosomatic illnesses like headache, bodyache etc.

They believe B-complex may solve their problems, little realising most of the costly B-complex is flushed out of their body as its physiologically required amount is small, and excessive amounts cannot be stored in the body.

Some time ago, drug authorities in India (like their US counterparts) had decided to permit sale

of only two categories of vitamin formulations: therapeutic (for example, 50 mg of vitamin B_1 to treat beriberi) and prophylatic (containing just enough vitamins to overcome deficiencies, for instance, about 1 mg of vitamin B_1 as per ICMR). In tee US, such a regulation has helped reduce a great deal of abuse. However, in India, the authorities seem to have quietly shelved the idea, presumably due to pressure from the drug lobby. An *Economic Times* study revealed that such a legislation would affect atleast 571 formulations at a cost of atleast Rs 1.5 crores to its manufacturers. One understands the enthusiasm of the drug industry to thwart any such legislation.

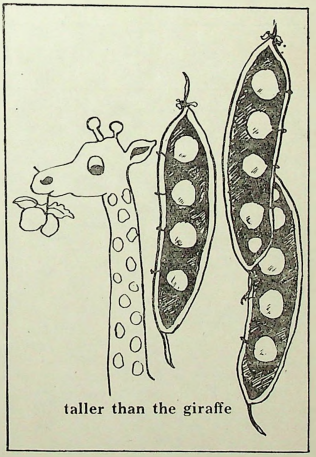
tonics

Waterbury's Yellow label Tonic is one of the brand leaders in the tonics market. They claim the usual benefits for tonics like it stimulates appetites and build bodies. Each teaspoonful of Waterbury's contains just 3 mg of iron and only one-tenth of which may be absorbed in the body. The ICMR recomends atleast 10 mg of iron daily for men, and 20-30 mg for women. Obviously Waterbury's will be insufficient for most.

Actually, on analysis it is found that the tonic has 10 per cent alcohol content (like most other tonics) and it is this which stimulates the appetite. So much for tonics as appetite-stimulants!

Similarly, Incremin C, the tonic with the Giraffe drawing, claims to increase growth because it contains a vital amino acid called lysine, which the human body cannot synthesise itself. But even a handful of peas can provide six times the 300 mg of lysine that is present in each teaspoon of Incremin. The manufacturer's claim that Incremin turns "extra eating into extra growth" is at best a half-truth and medically unsubstantiated. The other constituents of Incremin are just an economic waste—10 times more vitamin B_{11}, 25 times more vitamin B_{12} and twice that of vitamin B_6 than needed daily.

The tonic Femibon belongs to that school of tonic manufacturers who play up the iron deficiency theme. The tonic is meant exclusively for menstruating women and the ad-copy goes like "...you need twice as much iron as a man...your daily diet does not normally provide you this extra iron you need."



As usual, the target women groups of Femibon tonic consumers do get enough iron and the poorer women who do need cannot afford it, and in any case there are less costly formulations and ways to get iron. Also, subclinical doses of

haematinics (drugs such as iron and vitamins) used in such mixtures have been known to cause serious consequences of suppression of early signs of anaemia.

Another group of irrational tonics is the phosphates—Neurophosphates. Hemiphos, BG Phos are some members of this group. Nervous tissue consists mainly of combinations of phosphates and fatty substances called phospholipids, Stretching this fact a bit too much, Waterbury's ads till the other day used to claim that it contained "phosphates to tone up your system." This is a typical example of drug marketing cleverness.

The patient pays for the attractive bottle, the alcohol percentage, the synthetic flavour (e.g. Dex-Orange and some vitamins added in some irrational doses. More than that he pays for the advertisements.

Doctor I've taken the tonic. But I starved for days to buy it

common cold war

There is as yet no proved cure for the common cold. Indeed no one has isolated a common cold virus, if any. There is a not so well-substantiated belief (sparked by Linus Pauling) that vitamin C cures cold. Manufactures have cashed on this controversy. Coldarin tablets, for instance, claim, with 50 mg of Vitamin C per tablet, you can build your body resistance and fight colds. All that 50 mg of Vitamin C is effectively down the drain—most of it will be washed out with urine the very next day.

Coldarin and other brands like Vicks 500 claim decongestant properties to clear "running nose and sinus". Most of these drugs contain, a class of drugs called sympathomimetic amines (like ephedrine) which given by nonoral routes can cause blood vessel constriction. Orally, these drugs are not well-absorbed, and in the form of drops cause local decongestion. However, as a reputed pharmacological guide puts it, "No convincing evidence of benefit from oral use of such drugs to relieve nasal congestion in colds has yet been presented.". Also many of these nasal decongestants are known to be harmful for people being treated for high blood presure.

Similarly, antihistamines like Vikory 1, are useless in the common cold war. But sometimes with patients who have allergic rhinitis, it may prove effective. This deludes the patient into believing he was cured of what to him was a cold. A dangerous side-effect of such drugs is that they dry secretions in the respiratory passageways, causing them to go into spasms.

The many cold tablets and capsules sold in the market usually contain expensive brands of aspirin with harmful drugs like phenacetin, useless drugs like Vitamin C and antihistamines, or ineffective ones like phenylephrine or ephedrine.

Similarly, the many cough drops (like Vicks, Halls, Strepsils) contain subclinical doses of dextromethorphan (a cough depressant), ephedrine (which helps widen the bronchial passageways) and menthol (which causes a pleasant tingling sensation when applied locally, somewhat like eucalyptus oil, but does not cure coughs). Good old grandma's concoctions are equally effective. Sometimes they contain other active ingredients like antibiotics, antiseptics and local anaesthetics. The combination can be very impressive to an uninitiated consumer. Indeed so impressive, that Strepsils alone has a sales turnover of more than one crore rupees per year!

* * *

NUT 5.8

22-19

TO: All Field Directors
All Field Secretaries

DATE: 23rd June, 1981

FROM: John Clark, Campaigns Unit

Baby Milk Code

You may already have heard that this year's World Health Assembly agreed on an International Code of Marketing of Breastmilk Substitutes by 118 votes to one against (the US) and three abstentions.

The key points of the code are:-

1) There should be no advertising or other forms of promotion to the general public of products within the scope of the code (breastmilk substitutes, feeding bottles and teats).

2) Manufacturers and distributors should not provide, directly or indirectly, to pregnant women, mothers or members of their families, samples of products within the scope of the code.

3) Only objective and consistent information on infant and young child feeding should be provided to the public. This should not encourage the abandonment of breastfeeding or carry brand advertising of products within the scope of the code.

4) No facility of a health care system should be used for the purpose of promoting products covered by the code.

5) The use of "professional service representatives", "mothercraft nurses" or similar personnel provided or paid for by manufacturers or distributors is forbidden.

6) Feeding with infant formula (home prepared or manufactured) should be demonstrated only by health workers or other community workers if necessary; and only to mothers or family members who need to use it. The information given should include a clear explanation of the hazards of improper use.

7) Only factual and ethical information should be provided to health workers. Manufacturers and distributors should not give gifts of any kind and donations to health care institutions should not seek in any way to promote products covered by the code.

8) Labelling should stress the superiority of breastfeeding, should not idealise bottle feeding by using images of well babies or other images to imply medical endorsement of the product but should instead give full instructions for safe home preparation.

9) Company employees should not receive a commission on sales as this encourages inappropriate marketing methods.

continued .....

RN
30/7

You could help ensure compliance with this code in three ways:-

a) Notify the Campaigns Unit of any violations of the above points with full details (including names, place names, date, etc) and evidence (or photographs). We will then share the information with the WHO (who have been mandated to monitor compliance with the code) with industry (which have promised to take corrective action) and with other baby food campaigning groups.

b) Either share this invitation with project holders and any other contacts in the field of health or who are likely to be interested in this issue or let us know names and addresses of those who we should approach directly.

c) Let us know any trustworthy and accurate researcher or journalist who would be prepared for a modest fee to undertake a short monitoring of compliance with the code in the locality (this would include scanning literature etc. for advertisements, collecting infant feeding literature available at hospitals and clinics etc., assessing the use of free samples and the activities of marketing personnel, investigating any inducements offered to health care workers, analysing the labels of products etc).

Undoubtedly the code (at present an international recommendation) would be more effective if translated into law by national governments. If you, project holders or other contacts have any influence within the health ministry please encourage the consideration of legislation. The WHO are only too happy to provide legal, nutritional and marketing advice on appropriate legislation. The Campaigns Unit can supply English copies of a WHO paper on "Relevant National Legislation" and provide names within the WHO Secretariat of people who would assist. In any event, please keep us informed of any moves towards legislation that you hear of.

Oxfam's involvement in the UK in the campaign in support of the code has been very effective (you may like to read the enclosed account or at least the summary of lobbying activities at the World Health Assembly). The issue provides a rare chance for staff and volunteers at home to join with field staff in a campaign with truly international ramifications.

Thank you for any contribution you can make to this campaign.

COMMUNITY HEALTH CELL
47/1, (First Floor) St. Marks Road
BANGALORE-560 001

C/066 CIRCULAR Not for Publication

TO: All Regional Organisers
Area Directors
Education and Youth Officers
Div Heads
Departments in Oxfam House

FROM: John Clark

DATE: 10th June, 1981

STOP PRESS 11/6/81. Cow and Gate - the UK company with which Oxfam has developed a very constructive dialogue told me that it and it's Dutch sister company Nutricia are pulling out of the industry federation ICIFC in disgust at the way ICIFI members tried to subvert the World Health Assembly.

HOW THE BREAST WAS WON

Summary
Over 90 people from 40 countries took part in the lobbying at last month's World Health Assembly to encourage support for the proposed International Code of Marketing of Breastmilk Substitutes. The exercise was highly successful and was praised by many delegates including the president of the Assembly in her closing address. Several of the lobbyists worked on or had close connection with Oxfam supported health projects.

Intensive anti-code lobbying also took place amidst political intrigue. This involved several top company executives, a spurious new organisation called Voice of the World's Children (which alleged completely falsely that the prestigious International Paediatric Association was opposed to the code), and a company lawyer who represented himself as the Guatemalan delegate until he was exposed as an imposter.

Documents leaked from Washington to lobbyists showed that the US government was more concerned about the political implications of the code (particularly the precedent of restrictions on multinational corporations) than the health considerations. It was anxious that the code had been revitalised after its efforts to water it down and now presented problems to the US and "particularly to US industry".

A second leaked cable revealed the influence on US government thinking by industry and Nestlé in particular. The cable described a plan by industry hard-liners to "thoroughly discredit" the WHO and "provoke a North-South split" by generating "a confrontation at the upcoming World Health Assembly".

In the World Health Assembly debate delegates criticised the anti-code lobbying as well as persuasive baby milk promotional tactics in developing countries. On the other hand, they stressed the important role Non Government Organisations had to play in monitoring the code and promoting breastfeeding.

A very controversial early closure of the debate angered and confused several delegates leading to the rather unsatisfactory vote of 93 countries for the code, 3 against and 9 abstentions. A re-vote the next day, however, yielded the resounding 118 votes for, 1 against (the US) and 3 abstentions. The UK delegation played a very positive role in the debate and in the build up towards it.

It is now quite clear that attempts will be made to extend the successful WHO - NGO cooperation in the developing of a code governing the marketing of pharmaceuticals.

The baby milk code has resulted in the first major political defeat for Reagan (himself involved in the decision to vote No). Two top USAID officials resigned in protest and the US spokesman on human rights, Ernest Lefever, has been forced to resign after it came to light that his successful lobbying for the US "No" vote stemmed from his financial connection with Nestle.

Lefever's private organisation, the Ethics and Public Policy Center, received some $25,000 for sending an article smearing the baby food campaign to hundreds of thousands of people on a Nestle-provided mailing list. A leaked Nestle memorandum describes the use of this article as a successful example of "third party rebuttals" but warned that "Nestlé should not be seen to be the dominant subscriber to the Ethics and Public Policy Center".

Finally I outline the possible future involvement of Oxfam in this issue.

I apologise for the length of this circular but can assure you that it makes interesting reading.

The Lobbying for the Code

At the start of the main lobbying operation (a week or so before the code was debated) there were about 20 to 25 people from Non Government Organisations (NGOs) in about a dozen countries. This rose to some 90 people from 40 countries in the YMCA hotel in Geneva which was also used as a meeting place. The lobbying was conducted under the common name of the International Baby Foods Action Network (IBFAN). Amongst the lobbyists were people working with Oxfam supported health projects in Kenya, Zimbabwe, Bangladesh and Yemen and several others who had close connection with Oxfam.

Besides running a general office (mostly for taking phone messages) we had the use of an office in the UN Geneva Head Quarters (the Palais des Nations) where the assembly was taking place, and of the NGO Lounge there, where we held daily briefing meetings for lobbyists.

We produced 3 briefing kits for delegates, press and lobbyists. Functions we divided amongst ourselves were:- Steering Committee (to decide on strategy and work for the next day), Press work, Regional Coordinators (to coordinate lobbying of the six WHO geographic regions of the world), WHO liaison and overall lobbying coordination. Also on a daily basis we took it in turns to:- staff the two offices, chair the meetings, observe and report on the meetings of the Assembly, orient newcomers to the lobbying process, photocopy and prepare documents.

The lobbying itself (talking to the delegates) was mostly conducted in the coffee bar and cafeteria. It ranged from brief chats to inquire casually what the delegate's attitude was towards the code, to very involved series of meetings and sharing of information.

The delegations we had closest contact with were Norway, Algeria, Sweden, Samoa and Jamaica. We also had very good contact with delegations of Denmark, India, Kuwait, Turkey, Canada and Yemen. The UK delegation was also surprisingly positive and friendly considering the attitude it had taken at last year's World Health Assembly (very close to the US position).

Most delegations were very ready to talk with us though some obviously felt "over-lobbied" at times - something we had to be very sensitive to. Many delegates (including the President of the Assembly in her closing speech) thanked the NGOs for the positive role they had played and still had to play. Undoubtedly very many delegates found our material useful.

Anti Code lobbying

We were not by any means the only lobbying force at the Assembly. Several very senior baby milk company executives were also taking every opportunity to talk with delegates.

The manufacturers federation - the International Council of Infant Food Industries (ICIFI) - ran a "Hospitality Suite" at Geneva's poshest hotel - open at all times to delegates and press. ICIFI also circulated to delegates a letter (criticising the code) and the ICIFI Charter which bore on its cover a quotation from the UK's chief medical officer. This brought a sharp reply from Dr Harris the Head of the UK delegation in the form of an open letter to the assembly rebuking the possible false impression given of association between ICIFI and the UK, and pledging instead full UK support for the code.

Industry supporters circulated a letter purporting to come from the "All India Medical Students Association" with the letterhead falsely claiming affiliation to the International Federation of Medical Students' Associations". The letter implied that Indira Gandhi (who gave India's opening address at the assembly) did not fully support the code. In response the chief Indian delegate Dr I. D. Bajaj circulated a letter refuting the claims made by the Assocation saying "for a variety of reasons, including the date of the letter and the apparantly motivated manner in which excerpts have been quoted therein have created grave doubts about the bona fides of the communication".

Perhaps the most intriguing lobbying was conducted under the name of the specially formed "Voice of the World's Children (VWC).

One of its fierce attacks on the code was a letter it circulated to delegates claiming that the International Paediatric Association (IPA) was opposed to the code. (This letter was handed out by the same person who was distributing ICIFI material though ICIFI denied any knowledge of the organisation). It happened that Turkey's Chief Delegate, Dr Dogramaci, is also head of the IPA. He repudiated the VWC claim during the Assembly's debate on the code saying that it was "absolutely unfounded".

Even more incredible is the story of the Guatermalan Stooge. Two Mexican IBFAN lobbyists overheard a Guatermalan - Antonio Carerra - describing by phone a strategy to confuse the code debate by introducing a long series of ammendments. Investigations showed that he was not an official delegate, though he had been sitting in Guatemala's chief delegate's seat. He left the Assembly just before his credentials were challenged. A reliable source told us that "the Guatemala delegation has confirmed that the "imposter" is a lawyer employed by Nestlé".

Leaks from Washington

The issue of the code was seen by the US government as being an all important political battle. Unlike Britain where the government line was decided by the Department of Health, in Washington the views of the State Department and the White House overruled those of their health department. President Reagan himself was involved in the final decision to vote against the code.

Several leaked documents from Washington tell a fascinating story of the influence powerful companies can have on governments. These were extremely useful documents in the lobbying process. The first leaked cable was from the US government to governments of other countries via their US embassies. It said that the code presented problems for the US government and "particularly US industry". There was the fear that "adoption of this code could stimulate WHO interest in further codes" - mentioning pharmaceuticals as a possibility and there was a complaint that the strong wording particularly of the resolution accompanying the code "envisions a code in the form of a binding regulation and reasserts a number of controversial factors that the US government and others have been able to remove from the text of the code in the course of the negotiations". The cable asked for the views of other governments - besides putting forward the US objections. It contained no mention of the health of infants.

The second leaked cable was from the US Ambassador in Geneva (Helman) to the US State Department. It described a plan by members of ICIFI to "thoroughly discredit" the WHO. The cable reported on a conversation between Nestlé official Geoffrey Fookes and Ambassador Helman:

"Industry's goal is to provoke a North-South split. He (Fookes) said there were the "hawks" in the international group (ICIFI) who truly desired to see a confrontation at the upcoming World Health Assembly".

"Fookes reported that . . . the "hawks" in ICIFI want to persuade their governments to oppose the code, thus precipitating a decision by the World Health Assembly to issue a mandatory code which will be challenged in the International Court of Justice on procedural irregularities in the development of a 'regulation'". Fookes stated that the governments of Canada, Australia and WGermany had indicated that they would make this challenge. Later the Canadian chief delegate, Dr Maureen Law, made it clear that her government did not have and never had such a plan.

The cable also revealed that industry was more concerned about voluntary groups' insistence that they keep to the code than the pressure on them from governments.

The decision by the US government to oppose the code showed that it was more influenced by industry pressure such as described in this cable, than they were by the health arguments in favour of the code.

The WHA debate on the code

The code and the accompanying resolution were introduced to the Assembly on the afternoon of 20th May by Dr Mork, the Norwegian Director General of Health. He stressed that this was a subject of Health not Trade and called for a concensus. 51 countries then indicated that they wanted to speak, an impressive confirmation of the importance of this issue. First the Swedish delegate took the floor speaking for the five Nordic countries and voicing strong support. He stressed the important role played and to be played by NGOs. Next the Dutch delegate voiced support on behalf of the 10 EEC countries (the UK had played an important role in encouraging the 10 to speak with one voice). Switzerland, Brazil and Canada all gave their support as did the Turkish delegate in an impassioned speech in which he said "if a mother is showered with clever publicity and sometimes free samples of breastmilk substitutes she cannot be expected to make the best choice for her baby". The Indian delegate referred to the anti code lobbying as "the only contamination in the otherwise clinical atmosphere of Geneva" and explained that his government had already "drafted a legislative framework which I think will fit our national situation". Tunisia referred to company marketing practices as "questionable to say the least" and Central African Republic said that he wouldn't want to see the present draft code weakened "by manouvers in the corridor".

Unfortunately, at this point the Belgian delegate butted in with a motion of closure of the debate. Such a motion can be put at anytime and has to be voted on straight away. Normally, however, delegates are sensitive enough to allow a good number of contributions on a controversial issue before moving a closure. In this case with so many countries anxious to speak it was an untimely move especially as very few Third World delegations had spoken and several important blocks of countries had not had a chance to air their views. The motion of closure was carried but several delegates were extremely angry. When the vote on the code came immediately afterwards, Bangladesh and Chad joined the US in voting against the code - purely as a form of protest. Several other delegations were angry or confused and abstained from the vote and many more delegates - expecting that the debate would go on for several more hours yet - had slipped out of the assembly. The result, then, was a rather disappointing 93 votes for, 3 against and 9 abstentions.

Luckily, at the plenary of the Assembly on the next day the Samoan delegate called for a re-vote which yielded the resounding 118 countries for, 1 against (the US) and 3 abstentions (Japan, Argentina and S. Korea).

In brief

a) Two visitors from the European Parliament (an Italian M.E.P. and the researcher for the Development Group) observed the code debate and met with some of the European lobbyists to discuss what contribution the European Parliament could make to ensure the code's success.

b) After the debate officials of WHO outlined a plan they had developed for monitoring compliance with the code in countries which were willing to participate.

c) IBFAN held its first international congress after the Assembly finished with over 90 participants from 40 countries. The major thrust was ensuring a closer link between the First World and Third World groups and so making the monitoring operation much more effective.

d) It is very likely, following the successful formulation of the baby food code, that a pharmaceutical code will be attempted. This will be discussed at WHO's Executive Board in January and again at next year's World Health Assembly. An attempt to pre-empt this was made by the International Federation of Pharmaceuticals Manufacturers Association when during the assembly they announced the formation of their own marketing code. Oxfam has obtained copies of this. It clearly has such gaping loopholes that it is unlikely that this will contribute towards more appropriate marketing. It was widely felt in Geneva that NGOs had an important role in encouraging the drafting and implementation of a more effective code.

US Resignations

Before the code debate news came from Washington that two senior government aid officials had pledged their resignation if their government did not reverse its decision to vote against the code. They were Dr Stephen Joseph (USAID's top health official) and Eugene Babb (USAID's top agriculturalist). In describing the decision to oppose the code as "unconscionable" they triggered off what was described as the first major internal split in the Reagan administration.

The split widened last Friday when for opposite reasons Ernest Lefever was forced to resign his very senior government post - a move described by Harry Jackson of the Guardian as the first important political defeat for Reagan. The Senate Foreign Relations Committee had voted against Lefever's appointment as the White House spokesman on Human Rights.

The key incident in the Committee's 5½ hour session was described by the Guardian:- "Mr Helms, who was the nominee's strongest advocate and his staunchest supporter on the committee, asked once more about the Nestlé corporation's donations to Mr Lefever's Ethics and Public Policy Center and whether the money had influenced a favourable report on powdered milk sales to the Third World. Since Mr Lefever had persistantly and firmly denied any connection, Senator Helms was presumably seeking another formal denial for the record. To his, and every other member's astonishment, Mr Lefever reversed himself and said the money and the report had been linked and that he had solicited a contribution from Nestle before commissioning the report".

An internal memorandum between top Nestlé officials which was leaked some months ago had revealed Nestlé's close links with Lefever. Nestlé had paid some $25,000 to Lefever's Ethics and Public Policy Center which in return circulated hundreds of thousands of copies of a Fortune magazine article which was a fierce criticism of the international baby food campaign. Nestlé provided Lefever with the address list of people to send the article to. The memo showed that Nestlé were very satisfied with the use of the Fortune article ("The credibility of third party rebuttals of the activists' case was also unanimously endorsed and the Fortune article, together with the interests of the Ethics and Public Policy Center is the best opportunity we have had yet to put the record straight, and must be fully exploited") but it was stressed "Nestlé should not be seen to be the dominant subscriber to the Ethics and Public Policy Center".

The entire memorandum provides a rare and interesting insight into mechanisms by which large companies counter criticism and seek to buy "positive image development". Copies of this memorandum are availbe from me.

Oxfam's role

The major role for NGOs now (besides the general promotion of breastfeeding) is two fold:- monitoring compliance with the code and encouraging governments to translate the code into national laws. Oxfam with its wide network of field staff and project holders could play an important role in this. Already our investigation of the problem in the Yemen has been well praised by the Yemeni delegate and others in the Yemen government. Examples of violations of the code received by Oxfam would be shared with WHO and industry as well as the IBFAN clearing house and interest in formulating legislation would be directed to appropriate advisors.

And finally

Very soon I intend producing the final issue (for the time being) of Baby Milk Action which will mostly be a digest of the above.

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13
వారం	M	T	W	TH	F	S	S	M	T	W	TH	F	S
JANUARY				NEW MOON DAY Pushya Masam →									Bhogi ★

Fig. II. 1973 English Months and Equivalent Telugu Months and Festivals.

groups in all. An average size village can be completely surveyed in 2 working days, for we would expect 180 pre-school children in a village of 1000.

In our mobile under five clinics one trained dai last year weighed and graded 20,000 children at the rate of 20-60 per hour, using the hanging scale, indigenous calendar, and Morley type weight chart. Of course part of the reasons for this efficiency is that one person, not too highly trained, concentrates on weighing as her main work. As she weighs however, she has time to give nutrition and family planning advice. With any other type of weight for age chart, this efficiency would not be possible.

The mother keeps the record—is this wise ?

Can the mother be trusted with the child's record ? We trust her to look after the child, so why not the record too ? After 20 months in very poor city colonies, 88% were recoverable at the door. This was despite shelling

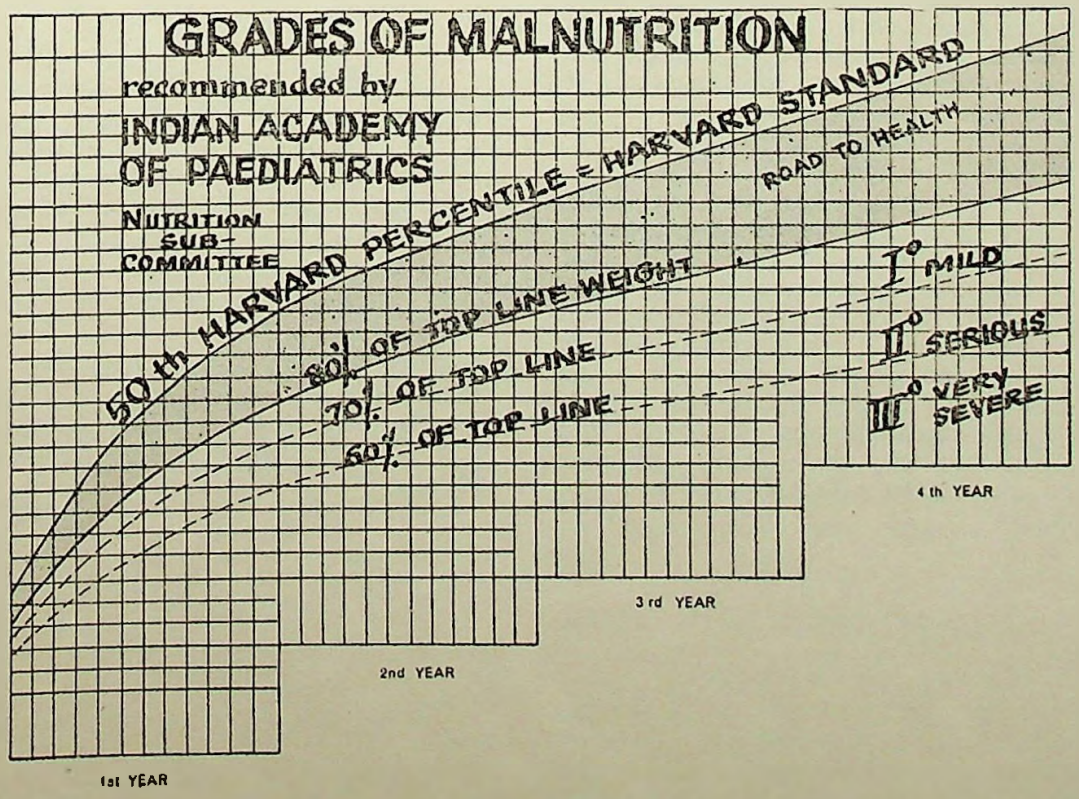


Fig. III

of the city for 2 weeks of war resulting in panic evacuation of the mothers and their children to the countryside, where they had to live in grass huts for 4 weeks. They took their records with them, and some got lost. In non-border areas: 94% have been recovered compared with 4% of outpatient records lost in the same hospital[2].

The advantages of this method are firstly a speed up of service to the patient in the child clinic, and a freeing up of staff for more useful patient care. Secondly, the record is an important tool for educating parents and other health workers and indigenous doctors to take more intelligent interest in child health[3].

The disadvantages mainly relate to fear that patients may lose the record. However, many hospitals succeed in losing a sizeable percentage of records, as any doctor knows who has tried to pull records more than a year old for study. For special research projects these records or a duplicate may be kept at the clinic, but for service purposes, we have found it faster and easier, to trust the mother to keep the child's record. This statement is based on some 10,000 record cards entrusted to patients every year in Ferozepur, Punjab, and on the experience of many other hospitals in India, and in many other countries.

Staff equipment and costs

1. In busy urban clinics the best results are obtained if one person can specialise in weighing of children. The staff costs in Ferozepur mobile and static under fives clinics worked out at 10 paise per child visit (2 workers took care of 30,000 patient visits in 1972). And this price includes the diet advice, feeding demonstrations given to those with malnutrition, and family planning advice given and supplies issued.
2. For local events and indigenous calendars a check should be made as to which indigenous calendar is used by the local village women, Saka, Lunar or Bikrami Samvat. In a village, local events might include wars, floods, drought, electrification and roading of the village.
3. Child Health Records in 12 regional languages for very low cost are available. As the child will attend 3 times in the first year and again in following years the cost per visit is thus only a few paise. An explanatory brochure on use of these parent retained records is available also.
4. For scales, child health record and brochure enquire from—
   Coordinating Agency for Health Plann ing,
   C 45 South Extension Part 2
   New Delhi 110049.

REFERENCES

1. Proceedings of the workshop on "Protein Calorie Malnutrition"; ecology and management, organised on 24-25 July at Bombay by malnutrition Sub-Committee, Indian Academy of Pediatrics edited by P.M. Shah of J.J. Hospitals, Bombay.
2. Cutting WAM (1970) Annual Report of Nutrition Rehabilitation Unit, weight card study. C.S.I. Hospital, Jammalamadugu, Andhra Pradesh.
3. Shah PM: (1972) report given to the "Care of Under-fives" workshop at Hyderabad, October, 1972, sponsored by Indian Academy of Pediatrics and Coordinating Agency for Health Planning.

A Weight Chart and Weighing Scale for Nutrition Surveys and Grading of Malnutrition in Clinics*

B.M. Laugesen

Abstract

For accurate diagnosis of protein calorie malnutrition we need accurate weight, accurate age, and a convenient weight for age graph. Such things are available locally at reasonable cost. The weight chart described allows grading of children into 5 standard grades of nutrition, with speed and accuracy.

Accurate weight can be obtained by portable light weight scales weighing only 2 kilograms. This is an Indian version of the famous English Salter scales, and a scale accurate upto 20 kg is available, and thus all pre-school children can be weighed with the some scale (Fig. I).

The child is suspended in a canvas or strong cloth holder, while small newborns may be suspended by the four corners of a cloth wrapper. We notice that children are less upset by the suspension method of weighing than by the usual platform or cradle type of scale, which gives a feeling of insecurity. In clinics the scale is suspended by wire from any convenient hook or peg or from the leg of an upturned string bed.

In door to door surveys, the scale is held up by hadd till the child is weighed. If two cloth holders are used, and the next child is put into it by his mother, children can be weighed much faster by this scale than by beam balance scales. Also mistakes are less likely with reading of a dial scale. And compared with use of a floortype bathroom scale it is much more accurate, and subtraction errors from this are eliminated.

The scale is marked in tenths of a kilo. Although it is a spring scale, it should be noted that techological improvements in metals for springs have made more accurate scales possible.

Accurate age

Calendars using the indigenous months, full moon dates, local festivals and other local events, with conversion to English months and dates, can be compiled by each hospital, and even for each village, and mounted behind clear X-Ray paper, and given to the registration clerk for the child clinic, or to the person doing a nutrition survey (Fig. II).

In a survey of 1,000 children coming to mobile clinics for the first time, there was no increase in the number of children at 12, 24, 36 or 48 months of age as would be expected if parents could not remember accurately. (The literacy rate in this area was less than 40% in 1971). This is because of the use of indigenous months—local events calendar—where appropriate. In the case of illiterate hospital cleaning staff, the month of birth given several years later when checked against hospital birth records was not more than one month wrong.

Convenient weight for age graph

Traditional weight for age graphs require calculation of the child's age every time the child is seen. But Morley, working in Nigeria, designed a health record that uses calendar months along the bottom of the weight for age

*From the Community Health Department, Frances Newton Hospital, Ferozepur, Punjab, now at Coordinating Agency for Health Planning, Delhi.

Paper read at Symposium on Protein Calorie Malnutrition, Postgraduate Institute of Medical Education & Research, Chandigarh, February, 1972.

graph. Thus age is automatically calculated, without further work, every time the child is seen.

Fig. I Hanging Scale for an accurate weight

This card has been modified for India by adding suitable food pictures, including space for family planning, and adding local languages. To make it useful up to school entry age, the weight graph extends up to six years of age.

These child health records have greatly simplified the delivery of high quality health care, but they are not as they look, in that a definite minimum standard of good care is assumed, which many hospitals are still not equipped to provide.

These health records have been used widely, in many mission hospitals, in village model health care programmes, and are now being printed by several State Governments.

This weight chart can be used by matriculation-pass clerks and trained dais, and probably by those of lesser education, for clerks and auxiliary midwives have learnt to use these records efficiently in a day or two.

Grading of malnutrition is made automatic with this weight for age graph

The Nutrition subcommittee of the Indian Academy of Pediatrics[1] has defined protein-calorie malnutrition in terms of low weight-for-age thus :

81-100% of Harvard Standard (this is shown as the 'road to health' on the weight chart, shaded in red.)	nutrition good
71-80% of Harvard Standard	malnutrition grade 1
61-70% of Harvard Standard	malnutrition grade 2
60% or less of Harvard Standard	malnutrition grade 3

(The Harvard standard or median or 50th percentile is given for each in Nelson's textbook of Pediatrics)

This standard allows international comparisons and sidesteps the difficulty of obtaining large groups of healthy children for local weight-for-age standards, which vary enormously in India with social class.

Two lines to separate the 3 grades of malnutrition are dotted on the weight graph, below the road to health (Fig. III).

The speed and efficiency of this method

Using these weight charts and hanging scale, in 1 day, 2 workers were able to weight graph and grade 85 children's nutrition into five grades and into six years of life, 30 sub-

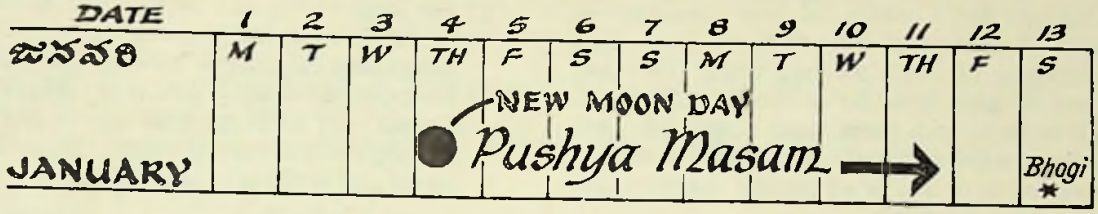


Fig. II. 1973 English Months and Equivalent Telugu Months and Festivals.

groups in all. An average size village can be completely surveyed in 2 working days, for we would expect 180 pre-school children in a village of 1000.

In our mobile under five clinics one trained dai last year weighed and graded 20,000 children at the rate of 20-60 per hour, using the hanging scale, indigenous calendar, and Morley type weight chart. Of course part of the reasons for this efficiency is that one person, not too highly trained, concentrates on weighing as her main work. As she weighs however, she has time to give nutrition and family planning advice. With any other type of weight for age chart, this efficiency would not be possible.

The mother keeps the record—is this wise ?

Can the mother be trusted with the child's record ? We trust her to look after the child, so why not the record too ? After 20 months in very poor city colonies, 88% were recoverable at the door. This was despite shelling

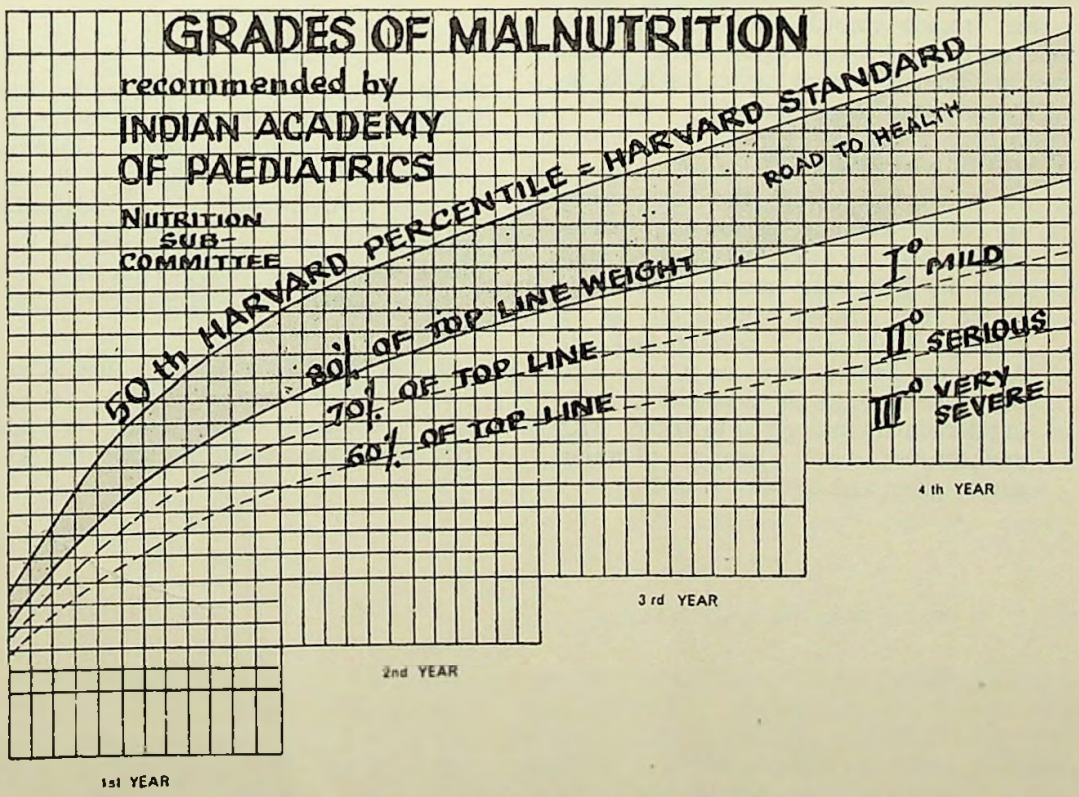


Fig. III

of the city for 2 weeks of war resulting in panic evacuation of the mothers and their children to the countryside, where they had to live in grass huts for 4 weeks. They took their records with them, and some got lost. In non-border areas: 94% have been recovered compared with 4% of outpatient records lost in the same hospital[2].

The advantages of this method are firstly a speed up of service to the patient in the child clinic, and a freeing up of staff for more useful patient care. Secondly, the record is an important tool for educating parents and other health workers and indigenous doctors to take more intelligent interest in child health[3].

The disadvantages mainly relate to fear that patients may lose the record. However, many hospitals succeed in losing a sizeable percentage of records, as any doctor knows who has tried to pull records more than a year old for study. For special research projects these records or a duplicate may be kept at the clinic, but for service purposes, we have found it faster and easier, to trust the mother to keep the child's record. This statement is based on some 10,000 record cards entrusted to patients every year in Ferozepur, Punjab, and on the experience of many other hospitals in India, and in many other countries.

Staff equipment and costs

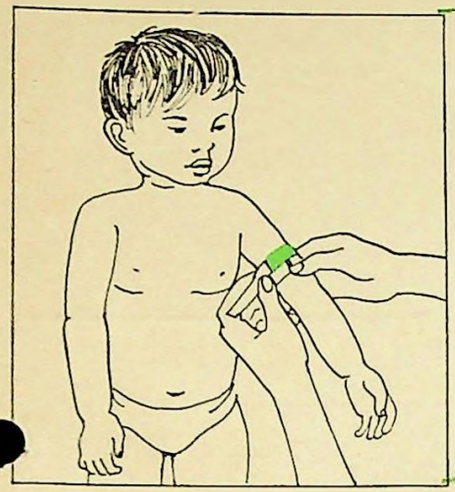
1. In busy urban clinics the best results are obtained if one person can specialise in weighing of children. The staff costs in Ferozepur mobile and static under fives clinics worked out at 10 paise per child visit (2 workers took care of 30,000 patient visits in 1972). And this price includes the diet advice, feeding demonstrations given to those with malnutrition, and family planning advice given and supplies issued.
2. For local events and indigenous calendars a check should be made as to which indigenous calendar is used by the local village women, Saka, Lunar or Bikrami Samvat. In a village, local events might include wars, floods, drought, electrification and roading of the village.
3. Child Health Records in 12 regional languages for very low cost are available. As the child will attend 3 times in the first year and again in following years the cost per visit is thus only a few paise. An explanatory brochure on use of these parent retained records is available also.
4. For scales, child health record and brochure enquire from—
   Coordinating Agency for Health Plann ing,
   C 45 South Extension Part 2
   New Delhi 110049.

REFERENCES

1. Proceedings of the workshop on "Protein Calorie Malnutrition"; ecology and management, organised on 24-25 July at Bombay by malnutrition Sub-Committee, Indian Academy of Pediatrics edited by P.M. Shah of J.J. Hospitals, Bombay.
2. Cutting WAM (1970) Annual Report of Nutrition Rehabilitation Unit, weight card study. C.S.I. Hospital, Jammalamadugu, Andhra Pradesh.
3. Shah PM: (1972) report given to the "Care of Under-fives" workshop at Hyderabad, October, 1972, sponsored by Indian Academy of Pediatrics and Coordinating Agency for Health Planning.

पहले से पांचवे जन्म दिन तक बच्चे की बाय बाजू
इस फीते के साथ हर महीने नापिए।

Use this strip to measure the left arm of young children every month between first and fifth birthdays.

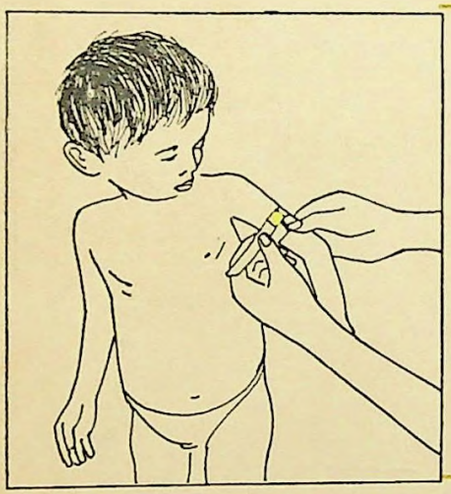


स्वस्थ बच्चा

इस बच्चे की बाँह नापने पर फीते का काला सिरा हरे रंग के सामने आता है। यह बच्चा तन्दुरुस्त है। इस बच्चे को काफी खाना मिल रहा है। बच्चे को इतना ही खाना खिलाना चाहिये। तभी वह तन्दुरुस्त बढ़ेगा। जब बच्चा बीमार हो तब भी उसे खाना खिलाते रहना चाहिये।

Healthy child

If the black end of the strip comes opposite the green, the child is getting enough food. Keep feeding him enough food. If he becomes sick, give him soft food till he is better.

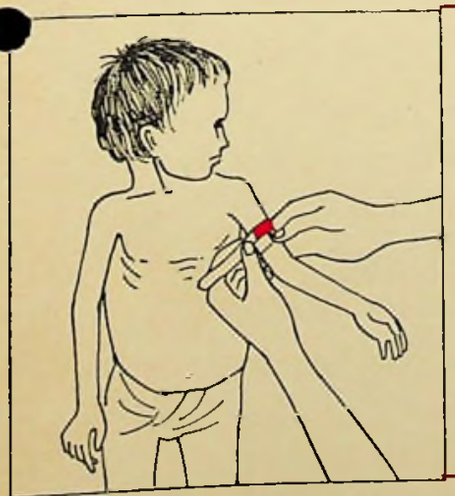


सावधान

इस बच्चे के लिए फीते का काला सिरा पीले रंग के सामने आता है। इस बच्चे का ख्याल करना जरूरी है। इस को हर रोज ज्यादा खाने की जरूरत है। इसे ऊपरी खुराक या नरम खाने की जरूरत है। अगर इस बच्चे को काफी खाना नहीं दिया गया तो वह मर भी सकता है।

Child Needs Care

If the black end of the strip comes opposite the yellow, the child needs more food every day. Begin feeding some soft food.



खतरा

बच्चे की जान खतरे में है। इस बच्चे के लिए फीते का काला सिरा लाल रंग के सामने आता है। इस बच्चे को अधिक खाना खाने की बहुत जरूरत है। अगर काफी खाना न मिला तो वह मर भी सकता है। इसे दिन में पांच या छः बार खाना देना चाहिये। अगर इसे नरम खाना या ऊपरी खुराक अभी नहीं मिलती है तो आज ही शुरू कीजिए और बच्चे को पहले से ज्यादा खुराक दीजिए।

Child in danger

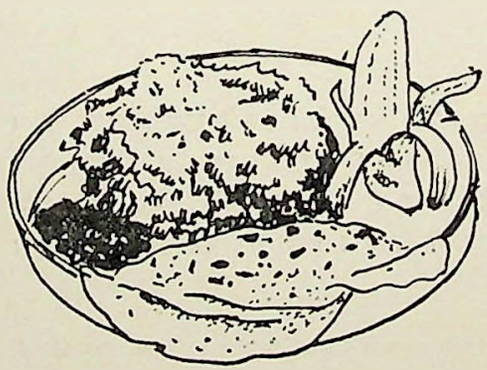
If the black end of the strip comes opposite the red, the child needs more food. If he does not get enough food he may die. Feed him more of what he usually eats. Feed him five or six times a day. If he has not started to eat soft food, START NOW. Feed him more food than before.

काफी खाना खाने से बच्चा तन्दुरुस्त बढ़ता हैं।
ज्यादा खाने से उसकी बाँह मोटी हो जाती है।

With more food the child grows healthier.
With more food his arm grows thicker.

जितना खाना माँ खाती है, उसका आधा एक साल के बच्चे को खाना चाहिये। बच्चे को इतना खाना दिन में पांच या छः भागों में बांट कर खिलाना चाहिये । इस तरह एक समय पर बच्चे के लिए खाना ज्यादा नहीं होगा । बच्चे को भी उसी खाने की जरूरत होती है जो परिवार के दूसरे लोग खाते हैं।

एक साल के बच्चे को एक दिन में इतना खाना खाने की जरूरत है : २ कटोरी चावल, २ रोटियां, १ कटोरी दाल, कुछ घी या तेल, एक गिलस दूध, थोड़ा गुड़, और कोई एक फल या सब्जी जिसे परिवार खरीद सकते हैं ।



By the time a child is one year old, he should eat half as much food as his mother. The child may be much smaller than his mother, but he needs lots of food to grow properly. Mother gives this food in 5 or 6 meals. Then the child does not have too much food to eat at one time.

A one year old child needs this every day : 2 cups rice, 2 small rotis, 1 cup dal, ½ cup green leafy vegetables, some oil, some gur, some milk and any fruit or vegetable which the family can afford.

Acknowledgements :
Three colour strip — Morley & Shakir April 74, Lancet, p 758
N-12 ARM CIRCUMFERENCE STRIP & FOLDER

C - 14, COMMUNITY CENTRE
Safdarjung Development Area,
New Delhi 110016

स्वस्थ बच्चा कौनसा है ?

एक मामूली फीते से आप जान सकते हैं

एक से पाँच साल के बच्चों के लिए

आप इस फीते के साथ बाँह की मोटाई नाप सकते हैं। नाप बाँयें बाजू का लीजिए। नाप केहुनी और कन्धे के बीच में लीजिए। अब देखिए फीते का काला सिरा किस रंग के सामने आता है ।

Use for children between 1st & 5th birthday

You can measure the fatness of a child's arm. Place the plastic strip around the middle part of the child's LEFT upper arm. Put the black end beside the coloured part of the strip. See which colour the black end comes opposite to.

CHILD'S BANGLE FOR THE DIAGNOSIS OF UNDERNUTRITION

Dr. Murray Laugesen

It is rarely that we learn from the obvious, we are so immersed in our technical expertise. Thousands of Punjabi Children waved their arms covered in bangles at us from 1969-73 but not till recently was it realized that a thing as simple as a child's bangle could sift malnourished from the well nourished.

The Principle of the Bangle Test

The bangle measures arm circumference. With good nutrition, arm circumference does not vary much from one to five years of age and varies little between boys and girls. But it varies according to the state of nutrition of the child from 10 cms to 16 cms arm circumference. As the dividing line between the fat and the thin, we chose a bangle of 4.0 cms diameter. Due to its flexibility, this was found in practice to pass up arms of up to 13.2 cms circumference.

Uses of the Bangle Test :

(*i*) *In clinic practice.* The bangle will select out those children whose mothers need special advice on feeding more solid food. It is also useful as a pre-operative check of nutritional status. Every toddler child can and should be screened. It takes no longer than feeling the pulse in an adult. It is so cheap, every worker in the child clinic can use one.

(*ii*) *Selection of villages for feeding programmes* : When the 4.0 cms bangle was tested in April-May 1975 on 300 children age 1 to 4 years we found that—

In a scarcity village in Orissa	27 out of 100 children were bangle positive.
In a Delhi slum	23 out of 100 children were bangle positive.
In a Delhi low-income colony	12 out of 100 children were bangle positive.

The bangle gave the same ranking for nutritional status to the three communities as other methods such as weight for age and arm circumference. The bangle can be used for simple surveys, measuring the children in every fifth house and including all castes and groups. In this way, during the time of scarcity, we can decide quickly which villages are most in need of feeding programmes.

The bangle is also useful in monitoring the nutritional status of sample villages in Districts and States where food scarcity is likely to occur due to recent crop failure. A rising percentage of bangle positives in sample villages scattered over several Districts can be helpful in getting needed food to the affected areas in good time.

(*iii*) *Selecting children for feeding in each village* :

The bangle positive children will include all those with marasmus or third degree protein calorie malnutrition (that is, all with weight for age 60% or less of the Harvard standard, or below the lower dotted line on the growth charts published by Voluntary Health Association of India).

If the bangle goes above the elbow, the child needs extra food. Based on tests on 300 children, we can however be more precise, if we know the age of the child at last birthday.

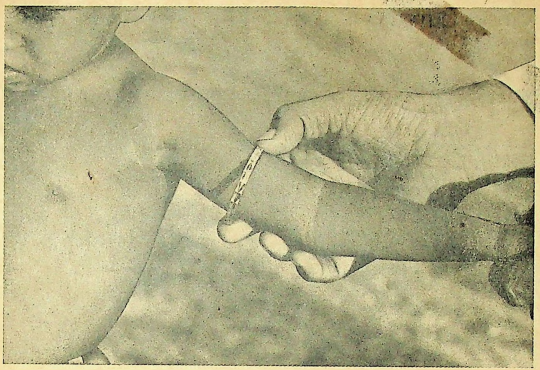
Age 1 : If the bangle goes above the elbow, the weight of age is under 75% of Harvard standard. The bangle will select all cases of second and third degree malnutrition.

Age 2 : If the bangle goes above the elbow, the weight for age is under 70% (below the second to bottom dotted line of the growth charts published by Voluntary Health Association of India). The bangle will select most of such second degree malnutrition case and all of the third degree.

Age 3 : The bangle will select out all children below 65% of Harvard standard weight for age (all the third degree cases and all the worst of the second degree).

The author is Community Health Consultant with the Voluntary Health Association of India, C-45, South Extension, Part II, New Delhi-49. **In this article Dr. Laugesen brings out his findings about measuring malnutrition amongst children in the age group of one to four years by a simple device. A child's bangle 4.0 cms. in internal diameter can diagnose undernutrition and marasmus in individuals and communities. The bangle test is based on the principle that arms circumference in the toddler varies little with age but varies greatly with nutritional status.** (*A sample bangle of the correct size will be mailed out free on request to TNAI office.*)

Ed.



An illustration of Child's Bangle : The bangle is passed up the arm in one straight push. If it goes above the elbow the child is malnourished. No attempt is made to twist it or force it.

Age 4 : The bangle will select out the very few children with marasmus or third degree malnutrition in this age group. The bangle will not select out second degree malnutrition at this age.

The bangle favours children under the age of 3, female children who have been under weight for a long time. These are the groups in which most of the malnutrition deaths will occur. With the bangle test we can identify these children and take preventive action.

(*iv*) *Monitoring of feeding programmes*

A youth on a cycle can monitor one feeding centre daily. He measures the children with the bangle, during the hour of feeding. He can use the feeding register. From this the number who are bangle positive can be kept note of, each week or fortnight. As the body weight can fall by 10% per week in total famine, at least fortnightly checks are needed in famine areas. A rising percentage of bangle positives means that the ration is not sufficient or that it is not reaching the children.

Action plan when the Bangle Test is positive :

In times of food scarcity, extra food needs to be fed to the affected children in the affected villages. The village people can be recruited to use the bangle in selecting out only those village children who need such special care. In 'normal' times, the custom has been to give only breast milk for the first year of life. The mother is repeatedly encouraged to feed solid food, as often as possible, in as much quantity as possible, from the fourth month of age. If this is done, very few children need die of malnutrition.

Reference

Laugesen, Child's bangle for nutrition screening, submitted for Indian Paediatrics of August 1975.

Acknowledgement

Thanks are due to Mr. Jamal Masih for assistance in measuring 200 children in Delhi ; to Miss M. Mills and the staff of Christian Hospital, Diptipur for assistance in measuring 100 children in Orissa, to Gopal Dutia and UNICEF for the use of photographs, and OXFAM for travelling expenses.

Reprinted from The Nursing Journal of India, August, 1975 issue

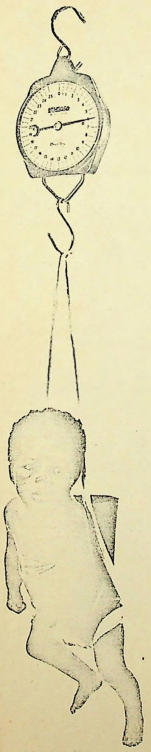
Specification
Strong metal case painted blue, zinc plated steel hooks.
White dial, black figures.

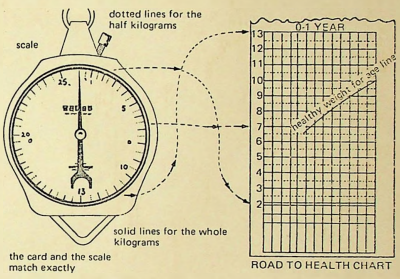
The taring screw allows for approximately 5% adjustment either side of zero.

Graduations	Approx. Weight with Hook	Approx. Overall Length
25 kg. x ½ kg.	2¾lb./1.2 kg.	16"/406mm

Model 235 PBW Portable Baby Weigher

152mm/6" Dial





The divisions on the scale match those on the Road-To-Health chart.

This scale has been developed in conjunction with the INTERMEDIATE TECHNOLOGY Development Group to fulfil a need in developing countries where the control of child health is largely accomplished by medical auxiliaries visiting villages with no other transport than bicycles.

Prototypes of these scales have already been tested in Zambia and the specification has been worked out in conjunction with the medical authorities in both Zambia and Kenya.

THE UNIT is supplied in a pack, consisting of one scale, five pairs of weighing trousers manufactured from terylene, P.V.C. coated and a shoulder bag of similar material.

The shoulder bag is made to accommodate the scale and weighing trousers and afford some degree of protection to the scale during transit.

The pack of 5 weighing trousers enables mothers to prepare their babies and save weighing time.

Prices

1-10 Packs	£8.50 each
11-25	£8.15
26-50	£7.95
51-75	£7.80
76-100	£7.65

Above 100 subject to special quotation

Quantities up to 100 available ex stock from
C.M.S. Weighing Equipment Ltd.,
18, Camden High Street,
London NW1 0JH
Phone: 01-387 2060

CHILD'S BANGLE FOR THE DIAGNOSIS OF UNDERNUTRITION

Dr. Murray Laugesen

Duplicate

It is rarely that we learn from the obvious, we are so immersed in our technical expertise. Thousands of Punjabi Children waved their arms covered in bangles at us from 1969-73 but not till recently was it realized that a thing as simple as a child's bangle could sift malnourished from the well nourished.

The Principle of the Bangle Test

The bangle measures arm circumference. With good nutrition, arm circumference does not vary much from one to five years of age and varies little between boys and girls. But it varies according to the state of nutrition of the child from 10 cms arm circumference. As the dividing line between the fat and the thin, we chose a bangle of 4.0 cms diameter. Due to its flexibility, this was found in practice to pass up arms of up to 13.2 cms circumference.

Uses of the Bangle Test :

(i) In clinic practice. The bangle will select out those children whose mothers need special advice on feeding more solid food. It is also useful as a pre-operative check of nutritional status. Every toddler child can and should be screened. It takes no longer than feeling the pulse in an adult. It is so cheap, every worker in the child clinic can use one.

(ii) Selection of villages for feeding programmes :

When the 4.0 cms bangle was tested in April-May 1975 on 300 children age 1 to 4 years we found that—

In a scarcity village in Orissa	27 out of 100 children were bangle positive.
In a Delhi slum	23 out of 100 children were bangle positive.
In a Delhi low-income colony	12 out of 100 children were bangle positive.

The bangle gave the same ranking for nutritional status to the three communities as other methods such as weight for age and arm circumference. The bangle can be used for simple surveys, measuring the children in every fifth house and including all castes and groups. In this way, during the time of scarcity, we can decide quickly which villages are most in need of feeding programmes.

The bangle is also useful in monitoring the nutritional status of sample villages in Districts and States where food scarcity is likely to occur due to recent crop failure. A rising percentage of bangle possitives in samble villages scattered over several Districts can be helpful in getting needed food to the affected areas in good time.

(iii) Selecting children for feeding in each village :

The bangle positive children will include all those with marasmus or third degree protein calorie malnutrition (that is, all with weight for age 60% or less of the Harvard standard, or below the lower dotted line on the growth charts published by Voluntary Health Association of India).

If the bangle goes above the elbow, the child needs extra food. Based on tests on 300 children, we can however be more precise, if we know the age of the child at last birthday.

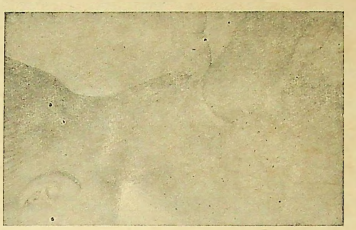
Age 1 : If the bangle goes above the elbow, the weight of age is under 75% of Harvard standard. The bangle will select all cases of second and third degree malnutrition.

Age 2 : If the bangle goes above the elbow, the weight for age is under 70% (below the second to bottom dotted line of the growth charts published by Voluntary Health Association of India). The bangle will select most of such second degree malnutrition case and all of the third degree.

Age 3 : The bangle will select out all children below 65% of Harvard standard weight for age (all the third degree cases and all the worst of the second degree).

The author was Community Health Consultant with the Voluntary Health Association of India, C-14, Community Centre SDA, New Delhi-110016. **In this article Dr. Laugesen brings out his findings about measuring malnutrition amongst children in the age group of one to four years by a simple device. A child's bangle 4.0 cms. in internal diameter can diagnose undernutrition and marasmus in individuals and communities. The bangle test is based on the principle that arms circumference in the toddler varies little with age but varies greatly with nutritional status.**

—Ed



An illustration of Child's Bangle : The bangle is passed up the arm in one straight push. If it goes above the elbow the child is malnourished. No attempt is made to twist it or force it.

Age 4 : The bangle will select out the very few children with marasmus or third degree malnutrition in this age group. The bangle will not select out second degree malnutrition at this age.

The bangle favours children under the age of 3, famale children who have been under weight for a long time. These are the groups in which most of the malnutrition deaths will occur. With the bangle test we can identify these children and take preventive action.

(iv) Monitoring of feeding programmes

A youth on a cycle can monitor one feeding centre daily. He measures the children with the bangle during the hour of feeding. He can use the feeding register. From this the number who are bangle positive can be kept note of, each week or fortnight. As the body weight can fall by 10% per week in total famine, at least fortnightly checks are needed in famine areas. A rising percentage oftbangle positives means that the ration is not sufficient or that it is not reaching the children.

Action plan when the Bangle Test positive :

In times of food scarcity, extra food needs to be fed to the affected children in the affected villages. The village people can be recruited to use the bangle in selecting out only those village children who need such special care. In 'normal' times, the custom has been to give only breast milk for the first year of life. The mother is repeatedly encouraged to feed solid food, as often as possible, in as much quantity as possible, from the fourth month of age. If this is done, very few children need die of malnutrition.

Reference

Laugesen, Child's bangle for nutrition screening, submitted for Indian Paediatrics of August 1975.

Acknowledgement

Thanks are due to Mr. Jamal Masih for assistance in measuring 200 children in Delhi to Miss M. Mills and the staff of Christian Hospital, Diptipur for assistance in measuring 100 children in Orissa, to Gopal Dutia and UNICEF for the use of photographs, and OXFAM for travelling expenses.

Reprinted from The Nursing Journal of India, August, 1975 issue

For more copies write to :
Voluntary Health Association of India,
C-14, Community Centre,
Safdarjung Development Area,
New Delhi-110 016

CHILD'S BANGLE FOR THE DIAGNOSIS OF UNDERNUTRITION

Dr. Murray Laugesen

It is rarely that we learn from the obvious, we are so immersed in our technical expertise. Thousands of Punjabi Children waved their arms covered in bangles at us from 1969-73 but not till recently was it realized that a thing as simple as a child's bangle could sift malnourished from the well nourished.

The Principle of the Bangle Test

The bangle measures arm circumference. With good nutrition, arm circumference does not vary much from one to five years of age and varies little between boys and girls. But it varies according to the state of nutrition of the child from 10 cms to 16 cms arm circumference. As the dividing line between the fat and the thin, we chose a bangle of 4.0 cms diameter. Due to its flexibility, this was found in practice to pass up arms of up to 13.2 cms circumference.

Uses of the Bangle Test :

(*i*) *In clinic practice.* The bangle will select out those children whose mothers need special advice on feeding more solid food. It is also useful as a pre-operative check of nutritional status. Every toddler child can and should be screened. It takes no longer than feeling the pulse in an adult. It is so cheap, every worker in the child clinic can use one.

(*ii*) *Selection of villages for feeding programmes* : When the 4.0 cms bangle was tested in April-May 1975 on 300 children age 1 to 4 years we found that—

In a scarcity village in Orissa	27 out of 100 children were bangle positive.
In a Delhi slum	23 out of 100 children were bangle positive.
In a Delhi low-income colony	12 out of 100 children were bangle positive.

The bangle gave the same ranking for nutritional status to the three communities as other methods such as weight for age and arm circumference. The bangle can be used for simple surveys, measuring the children in every fifth house and including all castes and groups. In this way, during the time of scarcity, we can decide quickly which villages are most in need of feeding programmes.

The bangle is also useful in monitoring the nutritional status of sample villages in Districts and States where food scarcity is likely to occur due to recent crop failure. A rising percentage of bangle positives in sample villages scattered over several Districts can be helpful in getting needed food to the affected areas in good time.

(*iii*) *Selecting children for feeding in each village* :

The bangle positive children will include all those with marasmus or third degree protein calorie malnutrition (that is, all with weight for age 60% or less of the Harvard standard, or below the lower dotted line on the growth charts published by Voluntary Health Association of India).

If the bangle goes above the elbow, the child needs extra food. Based on tests on 300 children, we can however be more precise, if we know the age of the child at last birthday.

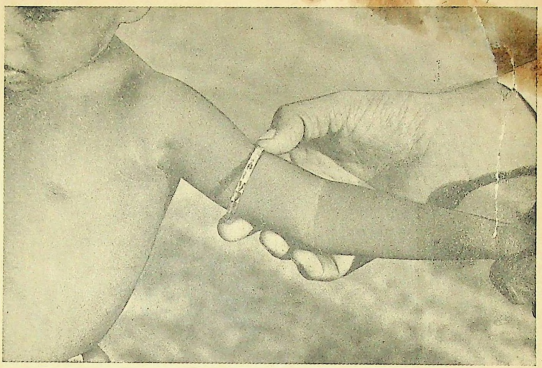
Age 1 : If the bangle goes above the elbow, the weight of age is under 75% of Harvard standard. The bangle will select all cases of second and third degree malnutrition.

Age 2 : If the bangle goes above the elbow, the weight for age is under 70% (below the second to bottom dotted line of the growth charts published by Voluntary Health Association of India). The bangle will select most of such second degree malnutrition case and all of the third degree.

Age 3 : The bangle will select out all children below 65% of Harvard standard weight for age (all the third degree cases and all the worst of the second degree).

The author is Community Health Consultant with the Voluntary Health Association of India, C-45, South Extension, Part II, New Delhi-49. **In this article Dr. Laugesen brings out his findings about measuring malnutrition amongst children in the age group of one to four years by a simple device. A child's bangle 4.0 cms. in internal diameter can diagnose undernutrition and marasmus in individuals and communities. The bangle test is based on the principle that arms circumference in the toddler varies little with age but varies greatly with nutritional status.** (*A sample bangle of the correct size will be mailed out free on request to TNAI office.*)

Ed.



An illustration of Child's Bangle : The bangle is passed up the arm in one straight push. If it goes above the elbow the child is malnourished. No attempt is made to twist it or force it.

Age 4 : The bangle will select out the very few children with marasmus or third degree malnutrition in this age group. The bangle will not select out second degree malnutrition at this age.

The bangle favours children under the age of 3, female children who have been under weight for a long time. These are the groups in which most of the malnutrition deaths will occur. With the bangle test we can identify these children and take preventive action.

(*iv*) *Monitoring of feeding programmes*

A youth on a cycle can monitor one feeding centre daily. He measures the children with the bangle, during the hour of feeding. He can use the feeding register. From this the number who are bangle positive can be kept note of, each week or fortnight. As the body weight can fall by 10% per week in total famine, at least fortnightly checks are needed in famine areas. A rising percentage of bangle positives means that the ration is not sufficient or that it is not reaching the children.

Action plan when the Bangle Test is positive :

In times of food scarcity, extra food needs to be fed to the affected children in the affected villages. The village people can be recruited to use the bangle in selecting out only those village children who need such special care. In 'normal' times, the custom has been to give only breast milk for the first year of life. The mother is repeatedly encouraged to feed solid food, as often as possible, in as much quantity as possible, from the fourth month of age. If this is done, very few children need die of malnutrition.

Reference

Laugesen, Child's bangle for nutrition screening, submitted for Indian Paediatrics of August 1975.

Acknowledgement

Thanks are due to Mr. Jamal Masih for assistance in measuring 200 children in Delhi ; to Miss M. Mills and the staff of Christian Hospital, Diptipur for assistance in measuring 100 children in Orissa, to Gopal Datia and UNICEF for the use of photographs, and OXFAM for travelling expenses.

Reprinted from The Nursing Journal of India, August, 1975 issue

NUT. 5.13

VOLUNTARY HEALTH ASSOCIATION OF INDIA

C-14, Community Centre, Safdarjung Development Area, New Delhi-110016
Phone : 652007, 652008 Telegrams : VOLHEALTH New Delhi-110016

VHAI-249

EXERCISE ON GROWTH CHARTS FOR UNDER FIVES

And Indigenous Calendar

These records are central to all activities in the Under Fives Clinic, and are now coming into use in many countries.

To understand how they are used let us take for our example Bobbi who was 2 years old when seen in summer of 1976 and we will complete a chart for her. Her mother says Bobbi was born in May.

Turn the chart sheet until the boxes in which we fill in the months are down the left hand side . (Fig.1)

Fill in the month of birth, which in this case is May, in the first space of each year. You will notice that this first space is more heavily outlined. Write 'MAY' in each of these.

Then fill in the other months, as shown, for 2 years.

Once this calendar is completed, we never need calculate the age again

How old was Bobbi in July, 1976?
.....months

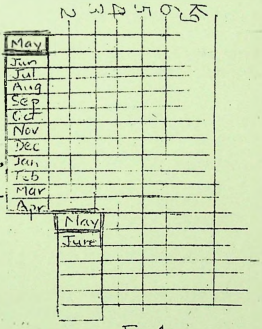


Fig. 1

Turn the chart so that the kilogram weights are down the left hand side.

Now, when the child is weighed each month put a large dot in the month space. (Fig.2)

Bobbi, Born May 1976

1976 Weight in kilograms		1977	
May	3.0	May	6.5
June	4.0	June	7.5
July	4.5	July	8.0
Aug	5.5	Aug	8.5
Sept.	6.0	Sept	9.0.
Oct.	6.5	Oct.	9.0
Nov.	Did not attend	Nov	9.5
Dec.	7.0	Dec.	2.5
1975 Jan	Had whooping cough	Jan. 76	10.0
	Did not attend	Feb	9.5
Feb.	Still away	March	10.0
March	6.0 Measles	April	10.5
April	5.5 To Nutrition Feeding Centre with marasmus		

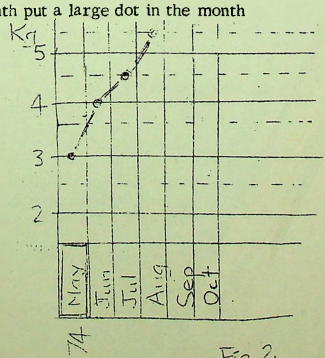


Fig. 2.

1. What are the advantages in the mother keeping this record?

2. What are the advantages of this record over six pages of clinical notes?

3. List some of the reasons for Bobbi's loss of weight following whooping cough and measles.

4. The child illustrates one of the problems in timing DPT immunization. What is this?

EXERCISE IN USE OF INDIGENOUS CALENDAR

When was the child born?

Mother says Bobbi was born at amavasya. This was in the month of Baisakh after Baisakhi. We look at the indigenous calendar (VHAI-215)

	1974	1975
Baisakh	mid April to mid May	
Amavasya in Baisakh	22 April	11 May
Baisakhi	13 April	13 April

Which month was Bobbi really born in ?

1. Rural mothers often do not know the English calendar. How many health workers would know the village calendar?

2. Would it be easier to record on the growth chart all months as indigenous or "desi" months from the beginning, without translation?

3. How would we make up an indigenous calendar? Which of these events would be important in your area?

   Phases of moon
   Desi months
   Local village festivals and markets
   Events such as floods, famine, new road
   Seasons for planting and harvest.

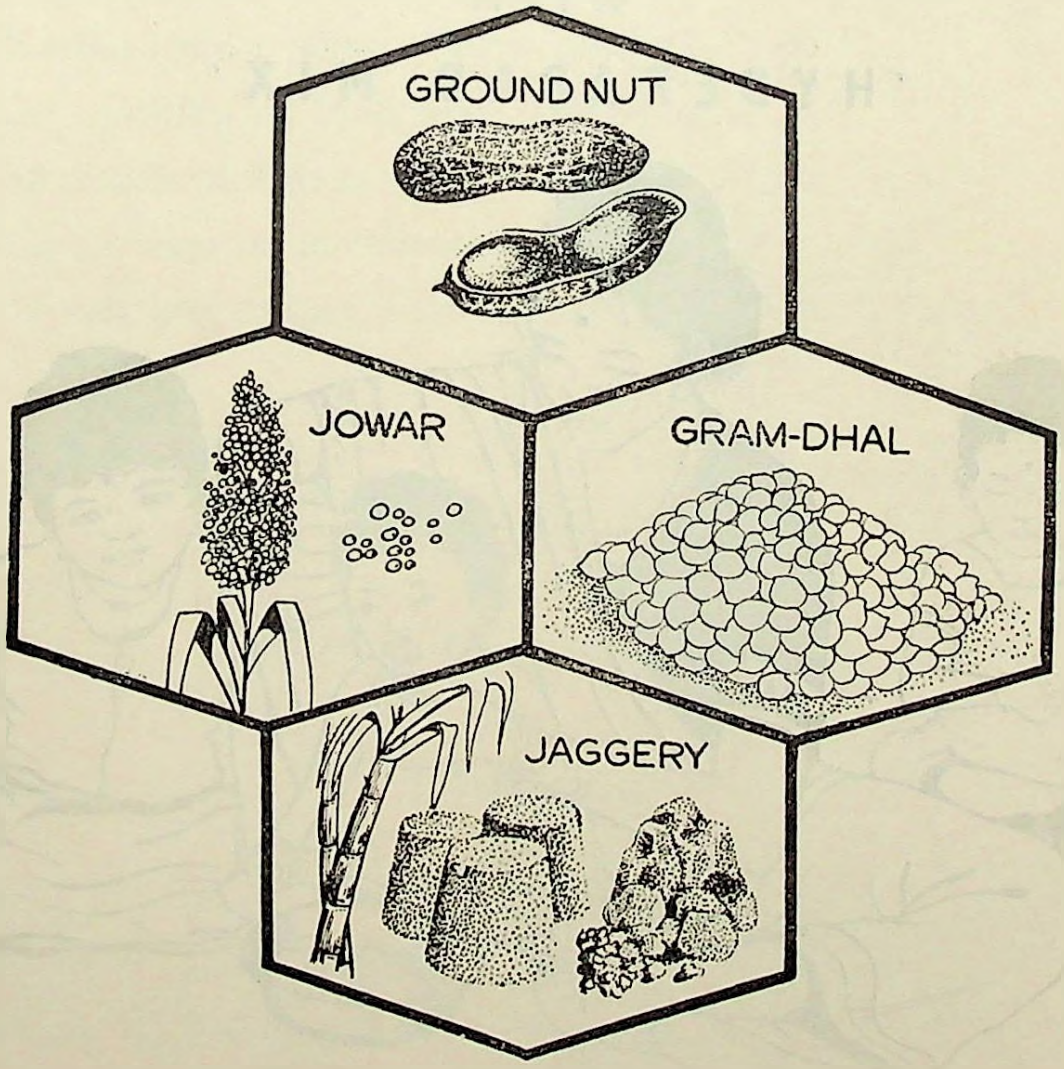
4. Which languages would be needed and which staff would find it useful?

FIGHTING
MAL-NUTRITION
WITH
'HYDERABAD MIX'

INDO–DUTCH PROJECT FOR CHILD WELFARE
(STICHTING NEDERLANDS KINDERHULP PLAN)
Chevella Block, Hyderabad District, A. P.

Protein packets made out of local seasonal crops, such as jowar or ragi, gram-dhal, ground-nut and jaggery have helped in eradicating diseases of mal-nutrition in nearly 7,000 children in the selected villages of Chevella Block of Hyderabad District.

Each packet of 70 grams contains:



Wheat or Jowar	... 35.0 gms.	Protein content of	... 10 gms.
Bengal Gram	... 11.0 gms.	Calories	... 250
Ground-nut	... 6.0 gms.	Vitamin 'A'	... 50 IU
Jaggery	... 11.5 gms.		
Defatted Soya Flour	... 6.0 gms.		

Cleaning, roasting and grinding is done by local members of Mahila mandals who earn a marginal profit of about 3 to 4 paise per packet, the monthly consumption being 3,000 packets

The results of using these packets in the past three years are:

Reduction of oedema fluid in first week,

Increase of weight from second week.

Disappearance of oedema, improvement in mental changes, subsidence of diarrhoea and puffness of face in second week.

Increase of weight at the end of 4 weeks (0.66 kg. average.)

Manner of Feeding:

As plain powder, or
with milk as porridge, or
as jaggery balls (laddoos), or
in bread cakes (chapathies).

To convince the villagers that protein packets can be made by them with local ingredients, a nutrition demonstration unit has been established at Kanakamamidi, where seasonal crops are being grown by a local farmer on one hectare land, donated to the Indo-Dutch Project. Mahila mandals will use the produce for preparation of protein packets for the Nursery Schools (Balwadis) and creches. This provides a chain of demonstrations - growing of local high yielding crops, method of preparing protein packets at the village level, utilising the packets in different ways for mothers and childern, controlling mal-nutrition and encouraging local mothers to use this 'mix' at home

**
**

Nutrition Demonstration Unit

Information regarding project acitvities can be had from
Dr.H.W.Butt, Director, Indo-Duch Project for Child Welfare
6-3-885, Somajiguda, Hyderabad - 500 004. Tel. 35938.
Res. Tel. 33408.

Issue No. 3 August 1995

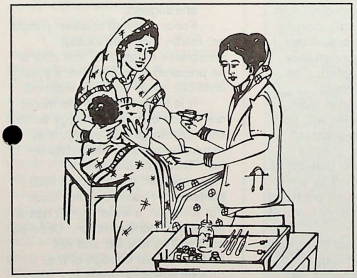
Health Dialogue

A forum for the exchnage of news and views on primary health care

Link with malnutrition

This issue of *Health Dialogue* looks at the link between acute respiratory infections and nutrition. Children who are severely malnourished have a much greater risk of dying from pneumonia than other children, yet it is more difficult to recognise pneumonia in severely malnourished children. A recent study showed that children with severe malnutrition often have pneumonia without the usual clinical signs — fast breathing or chest indrawing.

This means that all severely malnourished children with cough or difficult breathing should be admitted to hospital and treated for severe pneumonia.



Much still needs to be learnt about pneumonia in these children, but research suggests giving either a combination of benzypencillin plus gentamicin, or chloroamphenicol intramuscularly should be the first choice of action.

The link between ARI and nutrition is two-way. Malnutrition means a child is more likely to develop pneumonia. Unless particular attention is given to feeding sick children, respiratory infections can cause a well nourished child to lose weight and become malnourished.

High fever, a block nose and fast breathing can interfere with normal feeding. Articles inside discuss how to overcome these problems and provide guidelines on how to make sure children receive the nutrients they need.

Finally, this issue contains a success story from Pakistan. It is difficult to carry out research as part of the day-to-day work of a busy hospital. However, Pakistan's Children Hospital introduced a simple ARI register to collect data on the success of introducing standard case management, which has produced extremely encouraging results. (Sêe page 8)

We would strongly advise other hospitals and health centres to collect data in a similar way so that feedback can be obtained on the impact of ARI programme activities. Gathering such evidence of a reduction in deaths, or costs, can be an important way to convince health workers and families that this approach really works.

Harry Campbell
(ARI News Issue No. 30)

In this issue :

CMAI
Christian Medical Association of India

AHRTAG
Appropriate Health Resources & Techmnologies Action Group

Health Dialogue, Issue no. 3, August 1995, Published quarterly by CMAI.

Feeding sick children

Children with respiratory infections need nourishing food to help them to recover. Kenneth Brown provides recommendations on appropriate diets for children of different age groups and how to overcome feeding problems.

Little research has been done into appropriate diets for young children with acute respiratory infections, so there are few specific guidelines on how to feed children during and after respiratory infections.

However, a lot of research has been done into feeding children who have diarrhoea, which shows that most children with diarrhoea should be fed the same diets as healthy, well nourished children. It is likely that this is also true (with only a few exceptions) for children with ARIs.

Therefore this article describes general recommendations for feeding healthy children of different ages, and then discusses some changes that might be necessary for children with ARIs.

Exclusive breastfeeding

It is well established that exclusive breast-feeding (giving breastmilk only, with no other foods or fluids, including water) is the best way to feed young infants. It ensures that infants grow well and protects them from diarrhoeal and respiratory infections.

However, there is some debate about when to introduce complementary (weaning) foods. If these foods are introduced too early, an infants's breastmilk intake is reduced and replaced with less suitable sources of nutrients, and the infant is exposed to infection. But on the other hand, if complementary foods are introduced too late, an infant's growth and development may be delayed due to inadequate nutrient intake. Current recommendations are that complementary foods should be introduced between four and six months of age.

Research recently completed in Honduras provides new information on when to introduce complementary foods. In the study, exclusively breastfed four-month-old infants were randomly assigned to two groups; one group continued to be breastfed exclusively until six months of age while the other group was fed high quality, industrially processed complementary foods, such as rice cereal with egg yolk, and mashed fruits and vegetables, in addition to breastmilk. High quality complementary foods were chosen in order to identify possible benefits of introducing complementary foods early.

However, there was no difference in infant's growth from four to six months of age between the two groups. Total energy intake was similar in both groups. Infants who received complementary foods consumed less breastmilk, despite mothers continuing to breastfeed them as frequently as when they were exclusively Breastfed. The infant's feeding and growth continued to be studied in their second six months of life with both groups receiving home-prepared complementary foods. Infant's acceptance of food and patterns of growth were not affected by whether they had been exclusively breastfed or received complementary foods at 4-6 months of age.

The results suggest there was no advantage in introducing complementary foods before six months of age. However, most of the infants studied had normal birthweights (weighing 2,500 grams or more) which may have affected the results. More research needs to be done to find out whether these recommendations are relevant to low birthweight infants whose mothers may be more likely to be undernourished.

Complementary feeding

Once complementary foods are introduced, breast-feeding should be continued for as long as possible, as breastmilk is a high quality source of easily absorbed energy, protein, vitamins and minerals.

Complementary foods given in addition to breastmilk should be carefully chosen to provide the nutrients required by growing children. A good diet is one where meals combine foods with different nutrients (sometimes called multi-mixes) including:

- local staples (such as cereals or starchy vegetable tubers)
- protein sources (such as beans, groundnuts, meat, eggs, milk or fish)
- foods rich in vitamins and minerals (vegetables, fruits or animal products) and, if necessary:
- extra sources of energy (oils and sugars).

Foods given to children should be: readily available locally, acceptable to families, and able to be prepared in a form that a young child can easily eat (e.g. mashed).

It is important that the mixed diet is rich enough in energy so that children can get the energy they require before their stomachs are full. This is called energy concentration: the energy a food contains per volume of the food. For example, a watery gruel has a low energy concentration. Children are likely to feel full and not manage to eat enough of it to provide adequate energy.

Energy concentration is measured in kilocalories per 100 grams of food. If children are fed four times a day they need at least 80 kilocalories/100g serving of food; if they receive three meals a day they need 120 kilocalories/100g. Watery cereal gruel commonly fed to infants being weaned in West Africa

is well below the recommended energy concentration (at 25-30 kcal/100g). Full fat animal milks are also low in energy concentration (60-70 kcal/100g). Mashed root vegetables (100 kcal/100g) and cooked rice (100 kcal/100g) are about the required energy concentration, while bread (300-400 kcal/100g) has high energy concentration.

If common complementary foods have a low energy concentration, this can be increased by adding fats or oils (such as butter or oil) which have a very high energy content. However, only small amounts of fat or oil should be added, otherwise children may satisfy their energy needs and stop eating before they have taken in enough other nutrients such as protein or micronutrients (small amounts of vitamins and minerals which the body needs to function well). Ideally, health workers providing advice to families on increasing a food's energy concentration should consult a trained nutritionist first.

A major challenge to health workers, nutritionists and programme planners is to ensure that local mixed diets provide the full range of micronutrients. Sometimes local diets are deficient in a particular micronutrient. In some cases it may be necessary to provide micronutrient supplements or add the missing micronutrient to industrially produced foods (such as adding iodine to salt). However, the main focus should be to ensure that local communities have access to good mixed diets which provide the full range of nutrients required.

Dr. Kenneth Brown, Programme in International Nutrition, Department of Nutrition, 3150 Meyer Hall, University of California, Davis, CA, 95616-8669, USA.

For more information about nutrition for children write to AHRTAG for a list of further reading.

1. Cohen R J et al. Effects of age of introduction of complementary foods on infant breast milk intake, total energy intake, and growth: a randomised intervention study in Honduras, Lancet 1994;343:288-93

ARI News issue No.30)

Advice specific to ARIs

- Children with ARI may have feeding problems for several reasons
- Any infection, especially if fever is present, may reduce a child's appetite.
- An infant with a blocked nose may find feeding difficult because he or she is having to breathe through the mouth.
- Fast breathing or respiratory distress makes feeding difficult and can lead to the child choking or inhaling food into the lungs.

For these reasons, special nursing or home care may be needed and feeding practices may have to be adapted as described below.

Fever There is little scientific information on how to stimulate the appetite of febrile children with infections. Some health workers believe that reducing fever by giving paracetamol may help overcome lack of appetite, but there is no good evidence to support this.

The most important thing is to advise families and care givers to continue to offer sick children a nutritious diet and encourage them to eat, so that as soon as their appetites return they can easily get the nutrients they need. In the recovery period, children should be offered small amounts of food more frequently than usual to give them the chance to correct any nutritional loss which may have occurred during the illness.

Blocked nose If a child's nose is blocked by thick mucus, someone in the family should be shown how to clean the child's nose, using a soft, clean cloth, dipped in lightly salted water. The cloth should be rolled until it is pointed, then inserted gently into the child's nostril and turned around.

Fast breathing or respiratory distress If the child is breathing very rapidly (more than 80 breaths a minute) it may be advisable to stop normal feeding until the child's breathing settles down in order to reduce the risk of inhaling food into the lungs. In a hospital setting, with access to the right equipment and good nursing care, nasogastric feeding can replace normal feeding (although there is a risk of inhaling food with this procedure also).

If a child is normally breastfed, but is unable to suckle for a short time, show the mother how to express her milk. Expressed breastmilk could be fed to the baby through a nasogastric tube. Even if it is decided not to use a nasogastric tube, expressing breastmilk will help ensure that the mother's breasts do not become uncomfortable and will help maintain her breastmilk supply so that the child can easily start breast-feeding again when he or she is better.

Dr. Kenneth Brown

Vitamin A deficiency prevention is best

Does giving Vitamin A supplements to children hospitalised with pneumonia improve their recovery? Chris Kjolhede, Anne Gadomski and Fracisco Chew report on new research.

Vitamin A deficiency is a serious public health problem in many developing countries, causing damage to people's eyesight and weakening children's resistance to, and recovery from, infections.

Several large studies have shown that giving high dose vitamin A supplements (also known as retinol) 2-4 times a year to children in places where vitamin A deficiency is widespread can reduce overall childhood mortality.

However, it is not clear whether vitamin a supplementation can prevent acute respiratory infections such as pneumonia or reduce the number of deaths associated with ARI.

A link between vitamin A deficiency and acute respiratory infections has been reported in some studies, but it is not known which is the cause and which is the effect. However, it is clear that ARI can cause a temporary lowering of vitamin A levels. One explanation for this is that vitamin A or retinol is lost in the urine of people with acute infections.

Studies of vitamins supplementation during measles have shown a beneficial effect, with a reduction in both the incidence of post-measles pneumonia and deaths from pneumonia. However, most deaths from pneumonia (more than 80 percent) are not linked to measles.

Vitamin A supplementation has not shown a clear benefit in infants under one year old. This age group is particularly important because that is when most cases of, and deaths from, ARI occur.

Does Vitamin A speed recovery?

Our study investigated whether high dose vitamin A supplements given to children hospitalised with pneumonia could enable them to recover faster. Children aged 3-4 months admitted with pneumonia to a Guatemalan hospital were divided randomly into two groups and given either a vitamin A capsule or placebo (a capsule without any medical benefit) in addition to the usual antibiotic and supportive treatment for pneumonia. Neither researchers nor parents knew which children had received which capsules.

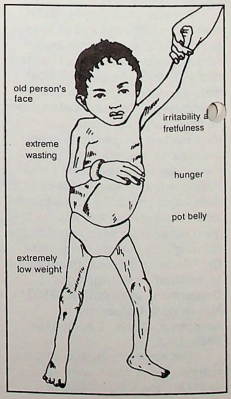
We then assessed children's recovery, including breathing rate, oxygen absorption and fever. There were no significant clinical differences between those who had received vitamin A and those who had received the placebo.

Our conclusion is that treating non-measles related pneumonia with vitamin A in addition to normal pneumonia treatment does not improve infants' and children's recovery. Two possible reasons for this in the hospital setting studied might be that only severe pneumonia cases were treated or that children were brought to hospital late in the course of pneumonia.[1]

However, the main lesson is clear. Efforts should focus on preventing malnutrition, including vitamin A deficiency, before a child becomes ill, rather than trying to treat it during an acute illness.

Dr Chris Kjolhede and Dr Anne Gadomski, The Mary Imogene Bassett Research Institute, 1, Atwell Road, Coopperstown, New York 13326-1394, USA. Dr. Francisco Chew, INCAP, carretera Roosewelt, Guatemala City, Guatemala.

1. *Stephensen CB et al. Vitamin A is excreted in the urine during acute infection. Am j Cloin Nutr, 1994; 60: 388-92.*



Feeding practices

Malnutrition is common in young children in India even though the incidence of Marasmus has come down considerably and one hardly sees any child with Kwashiorkor. The most vulnerable period is 6 months to 2 years. According to the National Family Health Survey, 1992-93, around 50-60% of children were malnourished by two years and the prevalence plateaus after that. Stunting was a major problem and was present in almost half the children. According to the National Nutrition Monitoring Bureau Survey 1988-92, stunting was present in 60% of children between 1-5 years. This sad state of affairs is due to a high infection rate at this age and a lack of understanding regarding the child's food requirements. Furthermore, when a child is ill with fever, acute respiratory infection, diarrhoea etc., he/she loses appetite and is not inclined to eat. Many families have a mistaken belief that a sick child needs less food and that he/she can only digest porridge, diluted milk, fruit juice etc. Most energy rich foods are considered bad for a sick child.

Exclusive breast-feeding

It has now been well established that exclusive breast-feeding protects the child from infections such as diarrhoea and respiratory infections. Unfortunately even though almost all women do breastfeed the baby, the iniciation is delayed in the belief that colostrum (perceived as blocked milk and looks like pus) is not good for a baby. Various fluids and herbal mixtures some with laxative effect including castor oil, are given for the first day or two, and sometimes even longer. There is also a misconception that there is no milk secretion, as on squeezing the areola, only a few drops ooze out. Giving water is also quite common even after breast-feeding has been established. Many mothers go back to their work fairly soon, and they start giving some diluted animal milk in addition to breastmilk to get the child "used to it". The health professionals too are guilty of advising pre-lacteal feeds. A few studies have shown that exclusive breast-feeding indeed is not common even though almost every mother breastfeeds naturally and doesn't have to be persuaded to do so. It is obvious therefore that benefits of exclusive breast-feeding need to be emphasised and the mother, the family and the community made aware of it. For a working mother, there is a dilemma and difficult choices have to be made. It is necessary therefore, that government, employers, family and the community helps to create conditions in which the mother can

exclusively brestfeed her baby for at least four months. Recently the role of stress, migration of the husband to urban areas in search of work, alcoholism etc. has also been highlighted.

In addition to breast milk, some semisolids need to be introduced around 4-6 months. Most family foods can be modified and made suitable for the child. These should be energy rich, and the quantity has to be increased gradually. Watery supplements such as juices, dal water, khichri water etc. should be strongly discouraged. Energy density of semisolids can be increased by adding oil butter, ghee or sugar. The child's energy requirement is high but the stomach is small and so he/she needs to be fed 5-6 times a day. It has to be emphasised that illness is not a contraindication for giving the normal family food, which the child was having earlier. Most illnesses depress appetite, and so the child needs to be coaxed to eat. Poor energy density foods from hawkers should be discouraged. These

increase the risk of diarrhoea also. Breast-feeding should be continued for as long as possible as breastmilk is an excellent source of energy, proteins, vitamins and minerals.

The cultural beliefs in "cold" and "hot" foods should not be condemned outright. With proper explanation, this obstacle can be overcome, or an alternative suggested.

Fruits such as mosumbi, apple, grapes and pomegranates are traditionally considered to be beneficial during illness and families spend a great deal of money to buy these rather than the energy rich banana, mango, papaya, chickoo etc.

The Indian diet is usually a mix of cereals and legumes and hence rich in proteins. Fermented foods too are popular in most parts of India. They are rich in vitamins. *Malting* is practised in some parts of India and amylase produced as a result of malting helps to reduce the viscosity and the child can eat a larger quantity. The grain is dampened to allow it to germinate, then it is dried, dehusked and ground. The malting process increases the content of riboflavin, niacin and iron. Porridge made from malted flour is less thick because of the presence of amylase and more flour can be used to make porridge as compared to ordinary flour. This increases the energy density of food. Food is less viscous and hence easier to eat. Ragi malt is used extensively for feeding young children in South India.

It is imperative that all the health workers, ICDS functionaries and others who are in contact with the community help to take the right messages regarding young child feeding in health or during an illness not only to the mother but to the whole family. Their training has to be tailored to meet this requirement.

Dr. Shanti Ghosh
Scientific Editor
Health Dialogue

The Child Survival and Safe Motherhood Programme (CSSM)

The Child Survival and Safe Motherhood Programme (CSSM) was launched by the Ministry of Health and Family Welfare in August 1992 with the objective of improving the health status of women and children and reducing maternal, infant and child mortality rates. The access to women and children established under the immunisation programme is now being utilised to intensify other services related to maternal and child health. All the districts will be covered by 1997. The programme will cost Rs. 11255.8 million over a seven year period and is supported by the World Bank and UNICEF. CSSM programme underlines the high priority by the central and state governments to improving the health status of women and children and reducing maternal, infant and child morbidity and mortality. The programme is geared to fulfil the goals set for the year 2000.

Goals for the year 2000

Infant mortality rate	50
Under 5 mortality rate	70
Maternal mortality rate	200/100,000

Births

Crude birth rate	21
Crude death rate	9

Life expectancy

Male	63 years
Female	65 years

Elimination of polio and neonatal tetanus

Service coverage

Antenatal coverage	100%
Information to couples about child spacing	100%
Effective couple protection rate	65%
Immunisation coverage	100%
Deliveries by trained attendant	100%

The package of services For the children:

- Essential new born care including exclusive breast-feeding
- Immunisation

- Appropriate management of diarrhoea and acute respiratory infections
- Vitamin A prophylaxis

For the mother

- Early registration of pregnancy
- Antenatal care and early identification of maternal complications
- Immunisation
- Prevention and treatment of anaemia by universal coverage with Iron Folic Acid (IFA) tablets
- Promotion of clean deliveries and deliveries by trained personnel
- Promotion of institutional deliveries
- Management of obstetric emergencies
- Birth spacing

Essential new born care

- Resuscitation of new borns with asphyxia
- Prevention of hypothermia
- Prevention of infections
- Exclusive breast-feeding
- Referral of the sick new born

Relevant equipment for newborn care is being provided at the PHCs and district and sub-district hospitals.

Strategies

- Train health personnel in new born care
- Provide basic facilities for essential new born care for low birth weight and sick new borns in the first referral units and district hospitals
- Train clinicians in the First Referral Units and district hospitals for the care of the sick new born
- Create awareness about essential new born care among health care providers
- Improve maternal care and promote birth spacing.

The programme addresses the major cause of morbidly and mortality in women and children which are preventable by readily available and cost effective interventions. Retraining of the medical and paramedical personnel is an important activity to ensure high quality of services. Vaccines, drugs and equipment kits are being provided to ensure availability of essential supplies in adequate quantities.

The existing health facilities in the rural areas are being upgraded to equip them to handle emergency obstetric cases.

Interventions for the reduction of Maternal Mortality

- Advice to women with medical problems to avoid pregnancy till health improves.
- Birth spacing
- TT 2 doses and IFA tablets
- Early treatment of maternal complications
- Institutional delivery for women at high risk
- Immediate referral and appropriate care of emergency obstetrics complications.
- Safe and clean delivery practices.

Delivery practices

25% or more deliveries in each state to be institutionalised and 100% to be conducted by trained personnel by 2000.

Strategies

Upgrading PHCs with labour rooms and other basic essentials.

Train health care providers including TBAs and ICDS functionaries to identify women with maternal complications, bad obstetric history or any high risk factor.

At least one dai will be trained in each village.

Training on diarrhoea has been integrated with the training on ARI and new born care. For management of ARI, contrimoxazole tablets are included in drug kit supplied to the sub-centres.

The existing health facilities in the rural areas will be upgraded to equip them to handle emergency obstetric cases.

In the districts under the CSSM, retraining of the medical and paramedical personnel is an important activity to ensure high quality of services and an integrated implementation of field activities. Drugs and equipment kits are being provided to all districts under CSSM to ensure availability of essential supplies in adequate quantities. Reporting forms for surveillance of all the childhood diseases and monitoring of performance of the interventions under the CSSM programme have been integrated.

Dr. Shanti Ghosh

Case management works

Mushtaq Khan and Gul Rehman describe how training in ARI case management reduced mortality from pneumonia and led decreased antibiotic use and cost savings.

Acute respiratory infections are the leading cause of childhood illness and deaths in Pakistan. They cause more than a quarter of deaths in the community of children under five years old and a third of hospital deaths in the same age group. ARIs are also the major cause of childhood illness in Pakistan.

Management of ARI may be complicated by: delay in seeking medical help; wrong or late diagnosis by a health worker; inappropriate drugs being prescribed; or antibiotic instructions not being followed.

Pakistan launched a national ARI control programme in 1989 with dual aims of reducing deaths from pneumonia of children under five, and rationalising the use of antibiotics and other drugs in treating children with ARIs. The programme promotes standard case management--the use of simple signs such as fast breathing and chest indrawing to diagnose pneumonia. Antibiotics are only recommended for pneumonia, acute tonsillitis, acute otitis media and mastoditis, not for simple coughs and colds. The use of commercial cough mixtures, many of which contain multiple ingredients, is also discouraged.

Training begins

Training in ARI case management began in 1990. Twenty ARI training units have been established for this purpose. One of these units is based at the Children Hospital in Pakistan's capital, Islamabad. Both staff of the Children Hospital and health workers from other hospitals and clinics are trained at the unit.

The Children Hospital has 230 beds for medical, surgical and neonatal patients. It has an out-patient department where 350-400 children are seen from 8 am - 2 pm. At other times children are referred to the hospital's emergency department. From January 1990 to December 1991, all doctors regularly employed at the hospital were trained in ARI case management at four-day training courses. Standard ARI case management was introduced in the out-patient and emergency departments.

Children with severe or very severe pneumonia seen in the outpatient or emergency departments are admitted to hospital. Other children with ARIs are sent home. Their care givers are advised on home care, and antibiotics are given to children with (non-severe) pneumonia, acute otitis media or streptococcal sore throat.

Since January 1990 details of children with ARIs have been recorded in special ARI registers. Standard terms-no-pneumonia, pneumonia, severe pneumonia, and very severe pneumonia-are used in this register. To assess the impact of case management, in-patient records of children with ARIs between 1989-1992 were analysed, and antibiotic prescription in the out-patient department was studied.

Assessing improvement

During this period the ARI case fatality rate (percentage of children admitted to hospital with ARIs who died) was more than halved (11.6% to 4.3%). This decrease was significantly greater than the reduction in overall

mortality (percentage of children admitted to hospital with any illness who died) Which fell from 8.7% to 7.3%. Antibiotic use in the out-patient department was reduced by two-thirds (54.5% to 18.7%).

Our results indicate that standard ARI case management using simple clinical signs reduces ARI mortality and reduces antibiotic use even in a teaching hospital.

Reduction in antibiotic use and the use of low-cost standard antibiotics also leads to cost savings. In the Children Hospital we saved to equivalent of over pounds 2,000 in one year alone, reducing the total antibiotics budget for the out-patient department by a third.

***Professor Mushtaq A Khan*, National Co-ordinator and Programme Manager, and *Dr. Gul Rehman*, National ARI Control Programme, Children Hospital, Pakistan Institute of Medical Sciences, Islamabad, Pakistan.**

(ARI News Issue No. 30)

Advising mothers

Cathy wolfheim describes a new WHO training initiative aimed at improving the way health workers advise mothers on how to manage diarrhoea at home.

Some health interventions depend mainly upon adequate supplies of drugs and equipment and health workers' skills to deliver the right treatment. However, good management of diarrhoea also relies on mothers being able to treat their children's diarrhoea at home.

How well mothers care for children with diarrhoea depends largely on how messages have been communicated by health workers.

There are three main guidelines for home management of diarrhoea:

- give the child more to drink than usual
- continue usual feeding, including breast-feeding if the child is being breastfed
- take the child to a health facility if danger signs appear

Mothers and other care givers need to know these rules so that they can apply them when their children are ill. People who have heard the rules before may need to be reminded.

One of the most effective means of communication is two individuals talking. Sometimes called "face-to-face, or one-to-one" communication. It allows an immediate exchange of information and ideas.

Health care workers often do face-to-face communication. They are usually respected as good sources of information, and they are in regular contact with many parents through their day-to-day work. However they may need help in improving their communication skills.

Integration with clinical training

WHO has recently developed a training guide called 'Advising mothers' which aims to teach health workers to communicate more effectively using the simple process, ask, praise, advise, check (see bottom left). The training activities in the guide are designed to be included in courses on clinical management of diarrhoea so that communication skills are given the same importance as clinical skills such as diagnosis or treatment. Alternatively, the training activities can be run as a separate 1/2 day course for health workers who have already been trained in clinical management of diarrhoea. Rather than attempting to produce communication 'experts', the training aims to teach a few essential communication skills to health workers.

The training guide emphasises the value of practising new skills. Practice helps participants to become familiar with listening and giving advice, and convinces them that the process works. In the same way that practice is important when learning to do new things such as driving a car or diagnosing illness. It is also important when learning how to talk to mothers more effectively, and how to use visual aids. In the training activities some skills are first practised as exercises, then participants are given the opportunity to practise the skills in a real life situation with mothers whose children have diarrhoea.

Cathy Wolfheim, CDD, WHO, CH-1211 Geneva 27, Switzerland.

Editors' note: In this issue of DD we refer to advising mothers since mothers usually bring children to clinics.

However, other people often look after sick children, grandmothers, fathers, older children and other family members. The same skills should also be used to communicate with them.

Summary of steps taught in training activities

ASK What was done for the child before coming to the health centre and listen carefully. Were drinks given? What sort? How much? Was the child given food? What food? How much? Any other treatment?

PRAISE the mother's helpful actions. Every mother bringing a child for care has done something right, even if it is only the fact that she has sought medical help.

ADVISE the mother about other things she can do to help her child. Even if a mother has taken most of the correct steps, she is likely to welcome further advice such as danger signs to watch out for if the child gets worse, or advice on preventing further episodes of diarrhoea. Make sure you do not overload her with information, choose the most important points.

CHECK that the mother has understood. AS her to describe what she will do when she returns home. This is better than asking: 'Do you understand?' She would probably answer 'yes', because she may be too embarrassed to say no. If possible, ask her to demonstrate what she will do, e.g. preparing an oral rehydration solution.

A good question

The way health workers ask questions is very important. Good questioning will allow a real exchange of information between you and a mother. Questions can be used for several purposes; finding out basic information, getting more information about something a mother has said, finding out what a mother already knows, and checking whether she understands and remembers what you have told her.

There are two basic types of questions:

Closed questions

These are questions that need only *yes* or *no* as an answer. For example, 'Did you prepare ORS solution? ' Have you continued feeding your child?' Closed questions often begin with the words; have, has, did, do, are or will. These sorts of questions are useful when you need to find out simple information, such as whether a mother prepared ORS solution or continued feeding a child.

However, closed questions are very limited. If a health worker only asks closed questions, a mother will have little opportunity to say anything apart from yes or no. The chance to find out other important information will have been missed.

Closed questions can also lead a mother to answer what she thinks the questioner wants to hear. For example, if you ask:' Did you give your child ORS solution?' Then she might say yes because she thinks that is the correct answer. If you ask instead 'What did you do for your child with diarrhoea?' It is more likely that she will describe what she actually did, since she has not been prompted to remember ORS.

Open questions

These are questions that require a mother to say much more than just yes or no. Such questions encourage her to describe what she did, explain why she did it, or outline what she understands about managing childhood diarrhoea. Open questions often begin with: What? When? Why? How?

Examples:

What did you do when you realised your child had diarrhoea?

How much has your child had to drink?

How do you prepare ORS solution?

When finding out what home care the child has received, it is useful to use a combination of closed and open questions as the following example shows.

HEALTH WORKER: Has your child been drinking lots of liquids?

MOTHER:No.

HEALTH WORKER:What seems to be the problem?

MOTHER: She was vomiting as well as having diarrhoea, so I thought if I gave her something to drink it would increase her vomiting.

Source : CDD, WHO, 1993 Advising Mothers. CDD/93.2

Copies of the 'Advising mothers' training guide are available to trainers and managers of health care providers. Write to CDD, WHO, CH-12311 Geneva 27, Switzerland.

What is communication?

Communication is the exchange of information. In health programmes, the aims of this exchange are to reach a common understanding and to change or reinforce certain behaviours that promote health.

The word 'exchange' is vital. Think about how two people hold a conversation. First, one person talks and the other listens. Then, based on what the first person has said, the second person responds. Information and ideas are exchanged between the two.

The course on advising mothers is also based on exchanging ideas. It starts with a health worker asking a mother key questions; then praising the mother, so the mother knows she is being listened to; then health worker giving the mother advice based on what the mother already knows and does.

Practical exercise for training courses.

This exercise aims to help you think about different ways of asking questions. Please change each closed question into an open question.

Example

CLOSED: Do you know about the importance of giving more fluids to a child with diarrhoea?

OPEN: How much will you give your child to drink?

Exercise

1.CLOSED: Do you understand what you should do at home now?

OPEN:.....

2.CLOSED: Do you have a one litre container at home to measure water for mixing ORS?

OPEN:.....

3. CLOSED: Do you know when to bring your child back to the health centre?

OPEN:.....

Suggested answers on page no.11

Examples of training activities story-telling

Ask participants to form small groups. Give each group a copy of the following story for one group member to read aloud while the others listen carefully.

Ana comes to the clinic with her very young baby. She has lost her health card and feels very frightened to tell the health worker. The health worker shouts at Ana: 'Where is your health card?' Ana whispers a response. The health worker shouts: 'If you cared more about this little baby you wouldn't forget to bring that card!'

Ana looks down and hand over the child who is crying. The health worker weighs the child, shakes her head sadly, and writes information in her book without telling Ana what she is writing.

Ana is frightened and worried. She thinks: 'is there something wrong with my daughter?' The health worker then speaks very quickly to Ana. "Your daughter is under-weight. Give her more food more often, especially fruits and vegetables. Breastfeed her frequently. That's all! Next time, bring your health card!'

Ask participants to discuss and write down on a chart:

(a) what did the health worker do that showed poor communication?

(b) what will Ana do as a result?

(c) suggest specific things the health worker could have done to ensure better communication.

In the same way as before, ask a spokesperson from each group to report on the group's discussion.

In the end, it may be worth-suggesting some of these points if groups have not already mentioned them.

(a) The health worker spoke quickly, wrote information without telling Ana, gave orders instead of information.

(b) Ana may worry, get discouraged, lose hope, forget the message, feel bad that she cannot buy enough fruit and vegetables, decide not to return the next time, tell her family and friends about the harsh person.

(c) The health worker could ask, listen to Ana, praise, advise, check.

Source: Learning to listen to mothers, Nutrition Communication project, Academy for Educational Development.

(Dialogue on Diarrhoea, Issue No. 58)

Suggested answers to practical exercises on page 11

Open questions

1 What will you do for your child when you return home?

2 What containers do you have at home for mixing ORS?

3 What signs would show that you need to bring your child back to the health care?

Simple language

1. *Mix the contents of this ORS packet with three soft-drink bottles of water. Then give your child a cupful every time she has diarrhoea.*

2 *After the diarrhoea is over, your child needs to eat more than usual. It is a good idea to give her snacks between meals or an extra meal each day.*

Active listening

Good communication is a two-way process with both health workers and mothers listening to one another, respecting each other's viewpoints and learning from one another.

Unfortunately, we have probably all seen examples of one-way communication where health workers talk'down' to mothers, lecture them, or criticise them. These mothers are likely to go away feeling misunderstood and humiliated. As a result, many of them will be unwilling to visit a health centre again.

Listening is a particularly important skill. Many of us might think we do this every day and do not need training in it. But do we listen with our full attention and really try to understand, rather than just hearing the words and reaching our own conclusions?

Very few of us could claim to be perfect listeners. But with training, many of us can improve our listening skills.

Active listening involves:

- giving our full attention to the person speaking.
- concentrating on what the persons is saying
- respecting the speaker's viewpoint
- checking that we have understood what the speaker is saying.

It does not involve:

- Carrying out another task at the same time switching off and thinking about other things interrupting the speaker telling the person that they are wrong.

Active listening builds relationships by showing the other person that we take what they say seriously and accept them. It helps to avoid misunderstanding. It encourages people to speak fully and frankly because they know their ideas will be listened to.

Much of active listening is common sense. The following points may help you to focus on how to listen more actively.

- Give the speaker your attention and make time for them. Different cultures have different ways of showing this. For example, in some cultures it may involve looking at the person, making eye contact and nodding.
- Be ready to summarise what the person has said. This helps to check your understanding and to demonstrate it to the other person. You may like to use expressions like: ' Are you saying....?
- If you do not understand, as, it is better ask: 'I'm not sure I understand the point about.....Can you explain it again,' than to ignore what the person is saying.
- Encourage the speaker if he or she seems uncertain. This may take the form of asking open ended questions such as:' And what happened next?', or making supportive comments or gestures. Sometimes silence can be a way of encouraging, you do not have to say something.
- Try not to respond until it is clear that the speaker has finished.

Two-way communication takes more time and effort than giving instructions, but it is time well spent when it results in improved care of children.

Source: The Open University, 1991. Managing Yourself, Block-1, Book 2. Managing Voluntary and Non-Profit Enterprises.

Health Dialogue

Health Dialogue is published quarterly by the christian Medical Association of India and is available in English. It has a circulation of over 22,000 in India.

Scientific editor : Dr. Shanti Ghosh.
Executive editor : Ms. Latika Singha.
Editorial advisory group :
Dr. Cherian Thomas, Dr Shanti Ghosh, Ms. Razia Ismail, Dr. M.K.Bhan Dr. Narender Gupta, Dr. Beverley Booth, Dr. Kalindi Thomas, Dr. Alfred Edwards.

DTP input : Ms. Susamma Mathew, Ms. Sandra Mark.

Distribution & mailing list :
Ms. R. Kamakshi.

Co-director and head of programmes and publishing services (AHRTAG):
Mr. Richard Manning.

Executive editor child health programme (AHRTAG):
Ms. Kate O'Malley.

Dialogue on Diarrhoea
Scientific editor : Dr. William Cutting.

ARI News
Editor-in-chief : Dr. Harry Campbell.

Technical editors : Prof. Peter Burney (UK); Dr. Anthony Costello (UK); Prof. Michael Levin (UK); Prof. David Miller (UK).

Ahrtag address :
AHRTAG
Farringdon Point
29-35 Farringdon Road
London ECIM 3JB, UK
Tel. : +44 171 242 0606 (International)
Fax : +44 171 242 0041 (International)
E mail : (Geonet) GEO2:AHRTAG or (Internet) ahrtag @ geo2.geonet. de

The views expressed in ***Health Dialogue*** are not necesssaily those of the editorial advisory group.

Christian Medical Association of India
Plot No. 2, A-3,
Local Shopping Centre,
Janakpuri, New Delhi - 110058
Phones : 5521502, 5599991
5599992, 5599993.
Telex : 31-76288 CMAI IN,
Fax : 011-5598150

Laser Typeset & Printed by :
New Life Printers (P) Ltd.
Mukherjee Nagar, Delhi - 110 009
Tel.: 7244855, 7243396

विटामिन और हमारा आहार

केन्द्रीय स्वास्थ्य शिक्षा ब्यूरो, स्वास्थ्य सेवाओं का महानिदेशालय, कोटला रोड, नई दिल्ली–110001 द्वारा प्रकाशित तथा प्रबन्धक, भारत सरकार मुद्रणालय, फरीदाबाद द्वारा मुद्रित ।

विटामिन और हमारा आहार

भोजन जीवन की प्रमुख आवश्यकता है। हमारा भोजन हमारे स्वास्थ्य का आधार है। शरीर की बढ़वार, स्वास्थ्य को बनाए रखने और रोगों की रोकथाम के लिये उपयुक्त ढंग का भोजन जरूरी है।

हमारे शरीर का निर्माण और उसके सामान्य कार्य-कलाप के लिये जिन चीजों की आवश्यकता होती है वे हमें कई पदार्थों से मिलती हैं। इन्हें पोषक तत्व कहते हैं। ये सभी तत्व हमारे आहार में मिलने चाहिए। प्रोटीन, वसा, शर्करा, विटामिन और खनिज पदार्थ ऐसे ही तत्व हैं। हमारे भोजन में प्रोटीन शरीर का निर्माण करता है। शरीर को ठीक ढंग से काम में लाने के लिये शर्करा और वसा हमें शक्ति देते हैं। सामान्य स्वास्थ्य बनाए रखने के लिये विटामिन का कार्य बहुत अधिक है। आइये, विटामिनों के विषय में थोड़ी जानकारी कर लें। इनके विषय में प्रायः चर्चा होती रहती है। डाक्टर अपने रोगियों को, अध्यापक अपने छात्रों को इनके विषय में प्रायः बताते रहते हैं।

विटामिन क्या है ?

विटामिन शब्द का अर्थ है "जीवनदायी तत्व"। हमारे सभी प्रकार के आहार में प्रायः यह थोड़ी बहुत मात्रा में अवश्य होता है। विटामिन 'ए', 'बी संश्लिष्ट', 'सी', 'डी', 'ई' आदि अनेक

विटामिन हैं। यदि ये विटामिन हमारे आहार में पर्याप्त मात्रा में न हों तो इनके अभाव में होने वाले रोगों के होने की संभावना रहती है।

विटामिन 'ए'

विटामिन 'ए' आँखों की अच्छी रोशनी, स्वस्थ त्वचा आदि के लिये जरूरी है। रतौंध के बहुत से मामलों में विशेषकर बच्चों में रतौंध की रोकथाम ऐसी सब्जियों और फलों के सेवन से हो सकती है जिनमें विटामिन 'ए' काफी मात्रा में होता है।

यह विटामिन अण्डे, जिगर, दूध, मक्खन आदि में पाया जाता है। नारंगी, पपीता, आम, तरबूज, पीला सीताफल, टमाटर, गाजर आदि पीले रंग के फलों और सब्जियों में कैरोटीन नामक तत्व काफी मात्रा में होता है। यह तत्व विटामिन 'ए' का पूर्ववर्ती तत्व है। यह पालक, मेथी, चौलाई आदि हरी पत्तेदार सब्जियों में होता है। ये शाक-सब्जियां सस्ती भी होती हैं, और आसानी से मिल भी जाती हैं।

विटामिन 'बी'

विटामिन 'बी'$_1$ (थायामिन); विटामिन 'बी'$_2$ (रिबोफ्लोविन); विटामिन 'बी'$_6$ तथा निकोटिनिक एसिड इस वर्ग के प्रमुख विटामिन हैं।

विटामिन 'बी'$_1$ (थायामिन) :— इसकी कमी होने पर 'बेरी-बेरी' नामक रोग हो सकता है। यद्यपि यह रोग अंगों की दुर्बलता

साथ शुरू होता है, किन्तु बाद में हृदय के बढ़ने से अन्त में हृदय-गति रुक सकती है।

इस विटामिन की कमी से आमतौर पर सामान्य कमजोरी, पैरों में सुन्नता या झनझनाहट, मांस-पेशियों में लकवा, भूख की कमी, पेट की गड़बड़ी या चक्कर आने की शिकायत हो जाती है।

यह विटामिन खमीर, चावल, गेहूं आदि के चोकर में काफी पाया जाता है। इसके अतिरिक्त बिना पालिश के चावल, दालों और गिरियों, विशेषकर मूंगफली में यह विटामिन प्रचुर मात्रा में होता है।

विटामिन 'बी'$_2$:— यह विटामिन अधिकतर हाथ के कुटे चावल या बिना पालिश के चावलों में होता है। साबुत अन्नों, दालों, विशेषकर अंकुरित दालों, गिरियों, विशेषकर मूंगफली, खमीर, मांस, जिगर और अण्डे आदि इस विटामिन के अच्छे स्रोत हैं।

विटामिन 'बी संशिलष्ट' की सामान्य कमी, विशेषकर विटामिन 'बी'$_2$ की कमी के कारण जीभ फट जाती है जिससे पीड़ा होती है तथा मुख के दोनों कोने भी फट जाते हैं।

विटामिन 'सी'

विटामिन 'सी' शरीर के ऊतकों को संगठित रखता है और शरीर को छूत के रोगों से लड़ने में समर्थ रखता है।

इस विटामिन की कमी होने से फोड़े-फुंसियों के ठीक होने में देर लगती है। मसूढ़ों से खून आने लगता है, यह गड़बड़ियां इस बात का संकेत हैं कि आहार में विटामिन 'सी' की कमी है।

विटामिन सी की कमी के कारण "स्कर्वी" नामक रोग हो जाता है। इस रोग में जोड़ों में सूजन और दर्द होने लगता है, मसूढ़े फूल जाते हैं, दुर्बलता के साथ वजन कम हो जाता है।

अंकुरित चना, अंकुरित मूग, नीबू, नारंगी, सन्तरा, अमरूद जैसे फलों, टमाटर और ताजी हरी पत्तेदार सब्जियों, आंवला में यह विटामिन काफी मात्रा में होता है।

भोजन को अधिक पकाने और खाद्य पदार्थों को हवा में खुला रखने से यह विटामिन नष्ट हो जाता है। अतः टमाटर जैसी कच्ची खायी जाने वाली सब्जियों को काटने के तुरंत बाद ही खा लेना चाहिए। इस विटामिन को बचाने के लिये सब्जियां कम से कम पानी में और ढके हुए बर्तन में पकानी चाहिए।

विटामिन 'डी'

विटामिन 'डी' हड्डियों और दांतों को मजबूत बनाने वाले चूने को पचाने म सहायक होता है। बच्चों की कोमल हड्डियों को मोड़ देने वाले रिकेट्स रोग या गर्भवती माताओं के कूल्हे की हड्डी को विकृत करने वाले रोग की रोकथाम करने में यह उपयोगी है।

धूप सेंकना, इस विटामिन की प्राप्ति का सबसे सस्ता साधन है।

जिगर, कॉड लिवर ऑयल, अण्डे की जर्दी, दूध और दूध के उत्पादों में भी यह विटामिन पाया जाता है।

विटामिन सुरक्षित रखने की विधि

हम क्या खाएं— यह जानना एक अच्छी बात है। इसके साथ ही खाना कैसे पकाएं यह जानना भी अधिक उपयोगी है। खाना इस तरह से पकाना चाहिए कि पकाते समय सभी पोषक तत्व विशेषकर विटामिन नष्ट न होने पाएं।

यहां हम कुछ 'करने योग्य' और 'न करने योग्य' बातें लिखते हैं। पकाते समय इनका ध्यान रखने से विटामिनों का बचाव हो जाता है।

—सब्जियां बिना छीले ही पकाएं।

—सब्जियों और फलों का ज्यादा मोटा छिलका न उतारें।

—सब्जियों और फलों को साफ साफ पानी में धोने और काटने के तुरन्त बाद ही पका लें या परोस दें।

—चावलों को पकाने के लिये इतना ही पानी रखें जिसमें वे अच्छी तरह पक जाएं और बर्तन को सदा ढककर रखें। चावल पकाने के बाद यदि कुछ पानी फालतू बच जाये तो उसे फेंकें नहीं। इस पानी में पोषक तत्व होते हैं। इसे दाल या अन्य सब्जियों के पकाने में प्रयोग किया जा सकता है।

—हरी सब्जियां को पकाने में उतना ही पानी लें, जितने में वे अच्छी तरह से पक जायें।

—पकाने में बचा पानी कभी भी न फेंकें। उसे दाल आदि बनाने में प्रयोग करें।

—सब्जियां पकाने में खाने वाला सोडा इस्तेमाल न करें, क्योंकि इससे कुछ विटामिन नष्ट हो जाते हैं।

कुछ महत्वपूर्ण बातें

यह बात सदा याद रखें कि स्वास्थ्य के लिये प्रोटीन, वसा और शर्करा जैसे अन्य पोषक तत्वों के साथ विटामिन भी जरूरी हैं। शरीर के अनेक क्रियाकलापों के लिये विटामिन अनिवार्य माने गये हैं। प्रकृति ने हमें ढेर सारे विटामिन दिये हैं तो भी खाद्य-पदार्थों को ठीक से न छांटने, गलत ढंग से भोजन तैयार करने या अपनी अज्ञानता के कारण हम उनका उचित मात्रा में उपयोग नहीं कर पाते।

यह सही है कि हम नियमित रूप से विटामिन की गोलियां या विटामिन-शर्बत नहीं खरीद सकते या काफी मात्रा में दूध, मांस या अण्डों का सेवन नहीं कर सकते, किन्तु हम निश्चित रूप से कुछ हरी पत्तेदार सब्जियों और दालों की व्यवस्था तो कर ही सकते हैं।

अधिकांश विटामिनों की आवश्यकता बहुत थोड़ी मात्रा अर्थात् माइक्रोग्राम या मिलीग्राम में होती है, किन्तु ये अनिवार्य हैं और हमारे भोजन में इनका होना जरूरी है।

Nutrition and Health Sector

CARE INDIA

ADDRESSING NUTRITIONAL GAPS

IN CHILDREN UNDER TWO IN RURAL INDIA

Dr. Tara Gopaldas
Dr. Sunder Gujral

November 20, 1998

CARE INDIA
B 28 Greater Kailash 1
P O Box 4220
New Delhi 110048
Phones 6221728 6418421 6418422 6441948
6470254 6470258 6470299 6471527
TCN1362 CARE INDIA
Fax 91 11 648 3007 91 11 647 3098
E Mail cbox@careindia.org

CARE
INDIA

FOREWORD

Both the Government of India and CARE-India have prioritized a response to the problem of malnutrition among young children in India. Increasing the precentage and number of children 6 to 24 months who receive and consume a supplementary meal is a key intervention to addressing the problem of malnutrition, as this age group is particularly at risk of growth faltering.

Dr. Tara Gopaldas and Sunder Gujral review the scenario of malnutrition among children in this age group in India; the role of supplementary nutrition in filling nutritional gaps; and specifically CARE-India's efforts in promoting the receipt and consumption of a supplemental meal among children 6 to 24 months of age. The report provides a summary of efforts to improve access, availability, acceptability and utilization of foods at the community level. It also highlights Health Days where Take Home Rations are provided as an effective means for achieving improved coverage rates of receipt and consumption of supplemental food among children in this age group. The report benefits from the inputs of a number of field staff, guidance provided by Dr. Sanjay Sinho, and final formatting and editing done by Dr. Ranjani Saxena, Rina Dey and Suresh Babu.

CARE invites your comments and collaboration in implementing some of the key recommendations made in this report.

Sincerely,

Gita Pillai
Director, Nutrition and Health

CARE INTERNATIONAL
CARE Australia
CARE Canada
CARE Danmark
CARE Deutschland
CARE France
CARE Italia
CARE Japan
CARE Norge
CARE Österreich
CARE UK
CARE USA

ADDRESSING NUTRITIONAL GAPS IN CHILDREN UNDER TWO IN RURAL INDIA

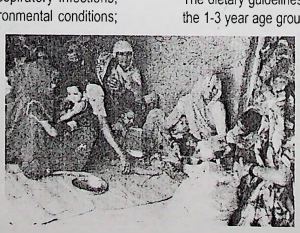
A REVIEW OF CARE-INDIA'S APPROACH

Tara Gopaldas and Sunder Gujral

1.1 NUTRITIONAL STATUS OF CHILDREN UNDER TWO IN INDIA

It is now well recognized that most of the children under two years of age, especially children 6 to 18 months, are extremely undernourished, underweight and stunted. More than half of the world's underweight children live in just three countries, namely, India, Bangladesh and Pakistan. The National Family Health Survey (1992-93) has found the prevalence of undernutrition to be very high in India. The survey found more than half (53%) of all children under age four to be underweight and a similar proportion (52%) to be stunted. 21-29% of children were severely undernourished according to weight for age and height for age measures. One in every six children was found to be excessively thin (wasted). It further documented that undernutrition varied substantially by the age of the child, being highest after first six months. Undernutrition was particularly high in Bihar and Uttar Pradesh, while the problem of wasting was most evident in Bihar and Orissa, which also have among the highest infant mortality rates in the country. [1]

There are several factors operating synergistically to hasten the rapid decline to undernutrition, especially from the sixth month of life. These are: the child may have been born low birth weight; lack of and/or total unsuitability of complementary foods; repeated episodes of diarrhoeal and respiratory infections; unhygienic personal, and environmental conditions; unsafe drinking water and poor sanitation; limited, distant, slow and non-affordable access to preventive and curative health services; poor income levels, illiterate and working parents; ignorance of simple and doable caring practices and large families (especially in North India) with narrow or no birth spacing.



1.2 NUTRITIONAL REQUIREMENTS FOR INDIAN CHILDREN 6 TO 24 MONTHS OF AGE

The nutrient requirements for early infants (6-12 months) and children 1-3 years as recommended by the Indian Council of Medical Research, 1992 is set out in Table 1[2].

Table 1
Recommended Daily Allowances for Infants (6 -12 months) and Children (1-3 yrs)

Group	Infants	Children
Particulars	6-12 months	1-3 years
Body wt (Kg)	8.6	12.2
Net Energy (kcal/d)	843	1240
Protein (g/d)	14	22
Fat (g/d)	25	25
Calcium (mg/d)	500	400
Iron (mg/d)	12	12
Vitamin A (µg/d)	350	400
β - Carotene (µg/d)	1200	1600
Thiamin (mg/d)	0.6	0.6
Riboflavin (mg/d)	0.7	0.7
Nicotinic acid (mg/d)	8.0	8.0
Pyridoxine (mg/d)	0.4	0.9
Ascorbic acid (mg/d)	25	40
Folic acid (µg/d)	25	30
Vitamin B-12 (µg/d)	0.2	0.2-1.0

Source: Nutrient Requirements and Recommended Dietary Allowances for Indians, The Indian Council of Medical Research, New Delhi, 1992

The dietary guidelines for the infant (6-12 month) and the 1-3 year age group as per the National Institute of Nutrition (NIN), 1998 are reproduced in Table 2[3]. It is evident from the table that, our rural, tribal and urban children aged 6 to 24 months are in no way fortunate enough to receive the balanced diet recommended by NIN. In North and West India, the children under two receive minuscule amounts of *dal-roti*, while in

South and East India they receive rice and *sambhar/ dal*. The child, fortunately, is on breast-milk right into his third year. The NFHS found breast-feeding to be universal in India, with 95% of all children born in the four years preceding the survey having been breast-fed. However, among children aged 6-9 months, less than one third were receiving solid or mushy food (amount unspecified) in addition to breast-milk[1].

Table 2
Balanced Diet for Infants and Children.

Food Groups	Infants (6-12months) Amount/ day(g)	Children (1-3 years) Amount/ day(g)
Cereals and Millets	45	120
Pulses	15	30
Milk (ml)	500	500
Roots and Tubers	50	50
Green Leafy Vegetables	25	50
Other Vegetables	25	50
Fruits	100	100
Sugar	25	25
Fats/Oils (visible)	10	20

Source: Dietary Guidelines for Indians-A Manual, The National Institute of Nutrition, 1998
Note: Top milk of 200 ml has to be given even in case of breast-fed infants

Items listed in the NIN balanced diet for infants and young children such as top milk, roots and tubers, green leafy vegetables, fruits, fats and oils and sugar are luxuries beyond the means or comprehension of any typical rural ICDS household. These expensive items of fruits, vegetables, milk and pluses are the dietary avenue to supply vitamins and minerals to the young child, which most ICDS-rural households cannot afford.

1.3 ROLE OF SUPPLEMENTARY NUTRITION IN FILLING NUTRIENT GAPS

Supplementary nutrition is a nutritional intervention, which aims to make up for the deficit in the child's diet. The supplement provides the child with energy, proteins and micronutrients. Various nutritional programs have demonstrated the importance of supplementary nutrition and the difference it has made to the nutritional status of the vulnerable age group. Data from one such projects, CARE-India's Project *Poshak*, 1975 is produced in Figs. 1 to 3. These data represent the average daily intake of the experimental group that received the supplementary nutrition of vitamin-mineral fortified and sweetened Instant-Corn-Soya-Milk (ICSM), breast milk and some home diet and a matched control group that did not receive the supplementary nutrition[4,5].

One can see glaring deficits in the control group relating to calories, vitamin C, calcium and iron, in the infant (6-11 months). The deficit gets accumulated with respect to calories, vitamin A, vitamin C, calcium and iron in the 12-23 months old child. This is because the volume of breast milk drops and the amount of complementary home diet are very meager. Data show that the 2-3 years old child is able to fend for himself/herself better than the younger age groups as he/she is practically on the home diet. Great deficiencies in vitamin A and vitamin C persist.

Most of the ICDS rural infants have to depend on fortified supplementary food to obtain their RDA of vitamins and minerals, at least partially. Every attempt should be made therefore to see that the complementary or supplementary food is fortified with 80% to 100% of the child's RDA, especially that of vitamin A, B-complex, C, iron, and zinc; is low-bulk (soupy), yet 'high in nutrient density', so that, the child can consume all or at least almost all of his/her ration in one or two sittings; and gets to the home of most children under two, through delivery channels such as Take Home Rations(THR).

These three important conditions need to converge, if the rural ICDS children are to benefit from supplementary food. It is of utmost importance that policy makers, implementers and the public health and nutrition community recognise these facts. It is unfortunate that not even nutritionists and dieticians have sufficiently realised that the consistency, nutrient-density and amount an infant can consume at a sitting vary enormously for a 6-9 months old; a 9 -12 months old; a 12 -15 months old, and so on till the child reaches his/her second birthday. More operational research and field-testing need to be done in this area.

Data reproduced from Project *Poshak*

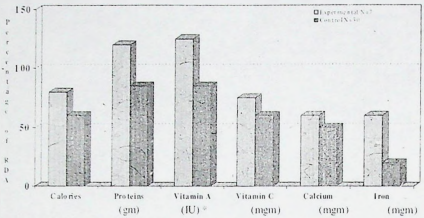


Fig. 1: AVERAGE DAILY NUTRIENT INTAKE OF EXPERIMENTAL AND CONTROL GROUPS OF PRESCHOOL CHILDREN 6 TO 11 MONTHS OLD (EXPLORATORY PHASE)
* Vitamin A (All Retinol)

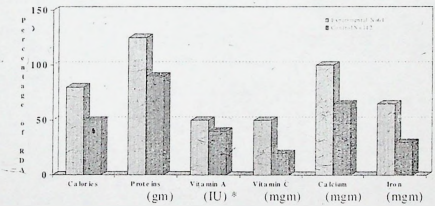


Fig. 2: AVERAGE DAILY NUTRIENT INTAKE OF EXPERIMENTAL AND CONTROL GROUPS OF PRESCHOOL CHILDREN 12 TO 23 MONTHS OLD (EXPLORATORY PHASE)
* ¼ Retinol + ¾ Carotene

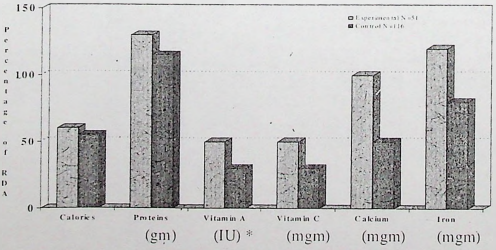


Fig. 3: AVERAGE DAILY NUTRIENT INTAKE OF EXPERIMENTAL AND CONTROL GROUPS OF PRESCHOOL CHILDREN 24 TO 36 MONTHS OLD (EXPLORATORY PHASE)
* ¼ Retinol + ¾ Carotene

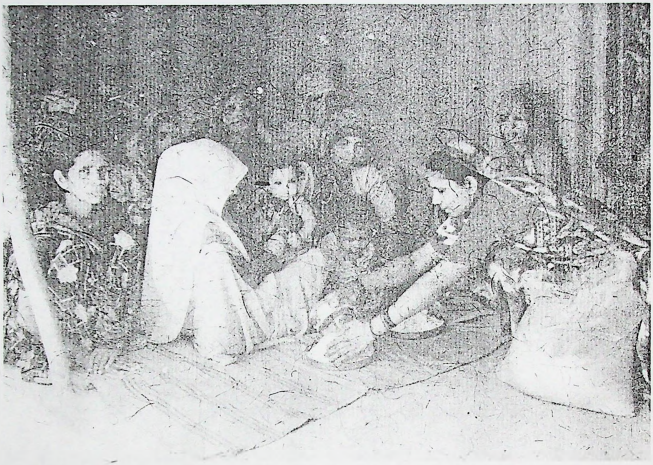


TABLE 3

Nutrition and Health Days (with or without THR)

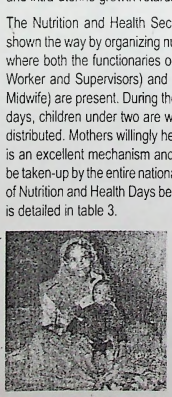
State	*Geographic coverage*	*FY '98 Plan*	*Total achieved*	*HI*	*CB*	*BN*	*FM*
Andhra Pradesh	AWCs/Villages initiated Blocks initiated	2083 16	1428 16	103 1	1325 15	Nil	Nil
Bihar	AWCs/Villages initiated Blocks initiated	165 9	165 9	110 3	55 6	Nil	Nil
Madhya Pradesh	AWCs/Villages initiated Blocks initiated	2000 35	2267 40	295 3	1208 15	764 22	Nil
Orissa	AWCs/Villages initiated Blocks initiated	775 16	775 16	100 1	675 15	Nil	Nil
Rajasthan	AWCs/Villages initiated Blocks initiated	800 18	324 11	38 1	286 10	Nil	Nil
Uttar Pradesh	AWCs/Villages initiated Blocks initiated	11684 99	9341 99	283 3	1913 19	7145 77	Nil
West Bengal	AWCs/Villages initiated Blocks initiated	712 4	21 2	14 1	7 1	Nil	Nil
Total	**AWCs/Villages initiated Blocks initiated**	**18219 197**	**14321 193**	**943 13**	**5469 81**	**7909 99**	**Nil**

2 CARE-INDIA'S UNIQUE NUTRITION AND HEALTH DAY STRATEGY FOR REACHING THE MAXIMUM NUMBER OF CHILDREN UNDER TWO IN THE ICDS

CARE-India assists the ICDS in seven states of India, namely Andhra Pradesh (AP), Bihar, Madhya Pradesh (MP), Rajasthan, Orissa, Uttar Pradesh (UP), and West Bengal[Table 4]. CARE has taken a bold step in formally reinstating THR as its food delivery system for pregnant, lactating, and children under two years of age. This was the delivery system it pioneered and piloted in MP, through Project *Poshak* in the seventies, which is often quoted[2, 5].

It has recently gone operational with its innovative Integrated Nutrition and Health Program (INHP) from October 1996. Extremely practical synergies between nutrition and health have been planned and implemented along with ration distribution, for the pregnant, lactating women and children under two in the ICDS. INHP places emphasis on improving women's health and nutrition to achieve reductions in neonatal mortality, preventing and managing infections, preventing and rehabilitating from malnutrition since malnutrition is the underlying cause of 67% of all deaths due to infection and a significant factor in low birth weight and intra-uterine growth retardation.

The Nutrition and Health Sector of CARE-India has shown the way by organizing nutrition and health days, where both the functionaries of the ICDS (*Anganwadi* Worker and Supervisors) and health (Auxiliary Nurse Midwife) are present. During these nutrition and health days, children under two are weighed and the THR is distributed. Mothers willingly help and participate. This is an excellent mechanism and strategy that needs to be taken-up by the entire national ICDS. The magnitude of Nutrition and Health Days being held in CARE areas is detailed in table 3.



Its overall strategies, therefore, rightly concentrate on increasing coverage of the hitherto 'invisible categories' of pregnant, lactating women and children under two years of age; empowering mothers to improve the health and nutritional status of themselves and that of their infants; and forging collaboration and partnerships with the GOs, NGOs, and CBOs (Community Based Organizations).

Table 4
Total CARE-India Assisted ICDS Areas

States	AP	Bihar	MP	Orissa	Rajasthan	UP	WB	Total
Blocks	108	157	146	134	69	104	177	915

Source: Ref CARE India's Quarterly Results Report for April 1 1998, to June 30, 1998

The overriding and immense advantage of THR is accessibility and coverage. THR enabled the vital contact between mother and children under two and the *Anganwadi* center (AWC) to be made. Once this was achieved, a tremendous improvement in selected indicators, such as receipt of THR in the past two days; breast feeding started within 6/8 hours of birth; complementary food started from 6 to 10 months was noted [Table 5].

Table 5
Improvement in Selected Nutrition Performance Indicators in the Children Under Two in High Impact Blocks

Performance Indicator (Results for Q4 –HI)	All States		AP		MP		UP	
	FY 97	BLS	FY 97	BLS	FY 97	BLS	FY 97	BLS
Supplementary Nutrition % 6-24 months (past 2 days)	68	41	87	57	NA	11	72	22
Breast Feeding % giving within 6/8 hours	65	35	33	29	NA	66	43	8
Complementary Feeding % 6–10 months giving mushy food	75	46	62	56	NA	49	NA	52

Source: Ref. 9. Jomi N. CARE-India's INHP Results Reports. Achievements versus Plans (FY 1997 Vs FY 1996), 1998, and Ref. 10. Puri G. CARE-India's Integrated Nutrition and Health Program (1995-2000).

3.1 IMPROVING OUTREACH AND ACCESS TO FOOD

As of March 1996, 5,614 ICDS-projects covering 21.3 million beneficiaries have been sanctioned by the GOI. The seven states where CARE-India is assisting the ICDS have particularly large numbers of projects. Interrupted delivery of supplementary nutrition has been a perennial problem in the ICDS. Delivering the food component from the block to the AWCs especially the far-flung ones has also been a perennial logistical and monitoring problem. Even within the village, the generally 'invisible' categories of beneficiaries at the AWC have been the pregnant/lactating women and children under three. The problem of outreach and contact becomes aggravated during the harvesting seasons.

The Planning Evaluation Organization (PEO) Evaluation, 1976[5] and the ICDS National Evaluation in 1992[7] pointed out that children under three could not make it on their own to the *Anganwadi* center (AWC). Project *Poshak* in MP 1975[4,5], also showed that children below three could not be transported every day to a feeding center for spot feeding. This problem is even more accentuated for children under two, especially in scattered tribal hamlets, hilly areas or even within a village. CARE- India's baseline survey, 1997 reports that 40% children under two years of age were brought to the AWC in the past one week for spot feeding, a figure often grossly over-reported by the *Anganwadi* worker (AWW)[8]

Possible solutions

1. Take home rations have been successful in reaching children under two. However, the THR has to be made attractive and meaningful to the mothers in order that they come regularly to collect the THR especially designated for children under two. Possible areas that can be strengthened are counseling on the child's weight and repeated demonstrations of cooking and feeding THR to meet the special needs of infants 6-9 months; 9-12 months; 12-15 months and so on. The nutrition and health staff as well as the mothers will realize how much a cooked portion of a single ration will be and how much of this an infant of a specific age group can consume over a reasonable period of time (say 20 minutes). This kind of practical and visual education will immediately communicate to both ICDS staff and mothers.

2. It would be useful if the nutrition and health days are held every 15 days rather than every month, with one of the days reserved only for children under two years of age and one exclusively for the mothers (pregnant and lactating). The village elders and members of the village panchayat should be encouraged to participate and get actively involved.

3. The strategy of using community change agents to ensure that the services of ICDS are understood by all; and to roundup all children under two years of age, and their mothers is an excellent strategy for outreach. It could be universalized in the ICDS.

4. Setting up of 'seasonal crèches' will enhance the THR and should be considered for both mothers and child beneficiaries. Since, mothers will have to stay back on nutritional and health days, some monetary compensation for doing so may be considered by the village panchayat.

5. Opening sub-centers for facilitating outreach in scattered hamlets

6. An alternative delivery system is dry ration distribution on a predecided frequency, which increases the receipt of food to the home of the child under two. The CARE-India 1998 Results Report, indicates that THR had succeeded in reaching over 68% of children under two in all states (High Impact Blocks); and as high as 87% in AP[9].

3.2 IMPACT ON AVAILABILITY AND ACCESSIBILITY OF FOOD TO CHILDREN UNDER TWO

1. It was very clear from the field visits to the three states, that the THR had helped to reach food to almost all the registered beneficianes.

2. In-hard-to-reach hamlets and villages as in MP, there is no other substitute for THR.

3. The nutritional and health days (once a week, fortnight or month) were immensely successful in getting the ICDS and Health functionaries at a fixed place and at a fixed time. Since, it was mandatory for the mother to bring her baby, all the target beneficiaries were available for health services like immunization and for regular monthly weighing. It is an ideal situation where need-based demonstrations of how to prepare the THR and feed the baby can also be done. The mothers cheerfully volunteered to help in the distribution of THR. A sense of ownership and responsibility was instilled in each mother when she paid her rupee on the nutrition-health day for the comprehensive set of services.

4. Cross infections among 60 children under three being huddled in a small AWC were avoided.

5. There was much more accountability by the ICDS staff for supplementary food distributed.

6. The responsibility for caring for vulnerable children under two was transferred to the mother and the family.

7. Repeated cooking and feeding demonstrations done on the nutrition and health days can prove to be a powerful nutrition-education instrument.

3.3 ACCEPTABILITY OF THE FOOD BY CHILDREN UNDER TWO

CARE-India supplies Corn-Soya-Blend (CSB) and Salad oil (SO) to the ICDS program. Table 6 depicts the percentage contribution of a single ration of 65 g CSB + 8 g salad oil to the RDA of child under two years of age.

Table 6
Nutrient value of CSB and Oil

65g Ration of CSB +8g of Oil	Nutrient Value	Percentage RDA
Food Energy	319 Kcal	26
Protein	11.7 g	53
Vitamin – A	1105 IU	69
Riboflavin	0.33 mg	47
Folic Acid	13.00 mcg	43
Vitamin C	26.00 mg	65
Calcium	520.00 mg	130
Iron	11.70 mg	98
Zinc	1.95 mg	39
Iodine	32.50 ppm	108

Source: Nutrient Requirements and Recommended Dietary Allowances for Indians. The Indian Council of Medical Research, New Delhi, 1992

Assuming the child 6 to 24 months consumes his/her entire ration, this would satisfy the GOI requirements of delivering 300 Kcal and 12 g protein per child per feeding day and address the nutrient gap of calories in their usual diet. However, the nutritional gap in vitamins and mineral remains.

1. CSB and Salad oil are excellent complementary foods. The only problem with the CSB is that it is gritty or grainy in texture. When cooked it becomes pasty and non-homogenous to touch and taste. It is not appropriate for the early infant or even the late infant. The bulk and pastiness does not facilitate the consumption of the full ration. Children upto one year of age and even upto two, have a poor swallowing reflex and are slow feeders. Hence, feeds that are nutrient dense but 'liquidy' go down faster, without spillage or waste. There are many options to enhance its acceptability.

- Fine-grind it. This could be done in USA itself.
- Extrude CSB rather than roast it. Extrusion will powder the product and will thoroughly cook it. This could be done in USA too.
- Blend in Salad oil, extra vitamins, minerals and 5% ARF (Amylase-Rich-Food). This should be done at the final stage.
- All these processing actions can be done at the manufacturing end, and the specially processed food can be separately bagged and demarcated for children under two.

2. If this is not possible, Modern Foods Ltd. Delhi can process it in this way for at least UP. Further, since the RTE for UP is sweetened with sugar (25%), we would strongly urge CARE-India to consider

replacing 5 to 10% of the sugar with an equivalent amount of commercial Barley Malt Powder (cheaper than sugar). We would also urge CARE-India to consider bringing up the levels of the vitamins and minerals to 80% of an one-year-old Indian child's RDA[2] Table 5.

3. Both Project *Poshak*[5] and M/s IESSCO Pvt. Ltd.[12] have noted that most Indians like a fried/roasted/ caramelized smell and flavor. If within manufacturing and/or processing costs, the addition of a synthetic smell/flavor could be considered.

4. M/s IESSCO Pvt. Ltd., have also reported that about half the UP mothers in focus group discussions, felt that the CSB-RTE was not suitable for children under two years of age[12]. They felt it was too dry, caused diarrhea, and children under two could not consume their ration. The RTE had to be made semi-solid with milk or water. They felt the dry RTE choked the young child. However, the CSB-RTE in gruel, *halwa* or *dalia* form was suitable.

5. The concept of 'hot' and 'cold' foods are firmly entrenched in most rural and tribal populations. For instance, especially in MP and UP home-diets made out of wheat, *ghee*, milk, jaggery and pulses, all considered 'hot' would be appropriate for the cold and rainy seasons; whereas rice, curd, *lassi*, groundnuts and sugar (cold foods) are fed to the child in summer[5]. Likewise, CSB/oil recipes and ingredients should be adapted to the season.

3.4 IMPROVING UTILIZATION

Although there is clear evidence that the strategy of dry ration distribution on a predecided frequency increases the delivery of food to the homes of children under two, it is still a question as to how much of the THR gets into the stomachs of the children under two. There is a lack of sufficient appreciation among all concerned, namely, the ICDS health and non-health staff, INHP-CARE-India staff, community and mothers, that unless a major portion of this food is fed to the intended children, he/she will not improve in weight or health. It is possible that children under two will consume only a fourth to third of the ration, while the rest is consumed by other siblings and the family.

Possible solutions

1. CARE-India is actively promoting the concept of feeding the total amount of dry ration to children under two. This has to be done by the ICDS-staff, health staff, panchayat, village health practitioners, village school teachers, change agents and adolescent girls.

2. Change agents, and adolescent girls can advice and ensure that the food is given to the children under two in the house, while the children above two are fed at the *Anganwadi*. This will minimize sharing.

3. On the nutrition and health days, repeated cooking demonstration of recipes might be done. A single demonstration 'child' of 6, 9, 12 months can be fed in front of the mothers group. They will then learn two important facts: a) the amount that can be consumed by the infant; b) that the amount consumed per sitting will increase with age. Even a few months difference in age would make a big difference in consumption. By 18 months, the child would probably consume the entire ration at a sitting.

4. Mothers can be requested to bring their home-tumblers or *katoris*. These can be calibrated for CSB and oil single rations.

5. The mother should be encouraged and counseled to give the full ration in small amounts over 2-4 feeds. She must be told to feed children under two when the children above two are at the *Anganwadi* Center. Minimization in 'sharing' can be achieved in this way. The above concept was not found to be strong at any level (ICDS, NGO, Health Staff or even the CARE-India-INHP Staff). It needs to be built into the capacity building strategy.

6. All concerned should become familiar with the number of pieces a particular single ration would yield e.g. how many *laddoos*, *dosais* or the amount of *halwa*, *sheera*, *payasam* etc. This concept also does not exist presently.

3.5 INCREASING PALATABILITY OF THE FOOD FOR CHILDREN UNDER TWO

1. The Regional Profile for 'Malnutrition in South Asia', UNICEF, 1997 strongly recommends the use of the ARF technology as a manageable, practical and traditional technology to increase energy intake of traditional low energy-gruels[13]. We would go a step further and strongly endorse the adoption of the 'ARF Technology' for the immediate improvement of the CSB-THR ration[14-15]. Any germinated cereal grain powder is an Amylase-Rich-Food. Due to germination, the amount of an enzyme called µ-amylase increases enormously. It is this enzyme that is responsible for rapidly liquefying even bulky or pasty CSB-oil rations. Hence, the THR becomes smooth and semi-liquid while retaining all its good nutrition. Adding amylase rich food to the CSB enables children under two to drink the cooked ration in one or two feeds[14-15].

2. For children under two, especially children under one, it is the consistency and texture of the complementary food that are of paramount importance. However, in a mother-child dyad, it is she who decides. Most Indian mothers like a caramelized or roasted taste and flavoring. Both the mothers and the babies like it sweet. Intake by children is definitely better with a sweet tasting preparation[5].

3. Sweet tasting or 'liquidy' *dalia, rabadi* or *kheer* type of recipes would be most suitable for the early infant in MP and UP. It would be the *payasam* counterpart in AP.

4. The older child (1-2 years) may like *laddu*, which the mother can make by roasting the grainy CSB in the Salad oil, add some jaggery and fashion into *laddus*, *halwa*, *sattu* or *prashad*. Salty preparations would be chapati, *paratha*, *dosai* or *uppumav*. Our interactions with the mothers in UP, MP and AP (particularly in UP) showed that most of the mothers generally wanted to cook only two times (morning and evening), perhaps due to fuel and time constraints. They usually chose to make the dish that was most convenient for them. For instance, *roti* in UP, MP, and *uppumav* in AP. Sweetening the CSB with jaggery or sugar was a special treat. In short, the mothers were not enterprising about varying the CSB-oil recipes for children under two years.

3.6 APPROPRIATENESS OF THR FOR REHABILITATION

Children in grade III and IV are usually very anorexic. Hence, it is very necessary that they be given frequent small feeds of the CSB-oil-THR (double ration). The amount of vitamins/minerals consumed will be in direct proportion to the amount of THR consumed. Even if 50% of the THR or one single ration is consumed, it will certainly bring up the depleted macro and micro nutrient status of the child. The feeds could be made nutrient-dense but liquidy with Commercial Barley Malt Powder-ARF, or with Ragi-Malt powder, which tribal groups of AP make as local weaning food. The mother or caregiver should make the feeds as palatable as possible by cooking it in milk, where sugar or jaggery should be added. Mashed banana and soft mashed rice with some oil (to increase the calorie value of the food) could also be given. The mother should be counseled to devote some time and patience in feeding the child. The family should be made to realize that some money for milk, banana, jaggery has to be spent by them for nutritional rehabilitation. Double ration of CSB-oil cannot rehabilitate by itself. Preliminary project monitoring data indicate that diarrhea and ARI case management at the home level is excellent since the inception of INHP[9]. Perhaps the change agents, the AWWs and the adolescent girls can help the mothers of sick children, by being available to make small CSB-oil-ARF-feeds.

3.7 VIEWS OF THE IMPLEMENTERS AND BENEFICIARIES ON THE THR

A. The ICDS and health staff

The entire gamut of implementers, namely, the ICDS staff of CDPOs, supervisors and AWWs were fully in favor of the THR strategy. Apart from the high coverage and receipt of the supplementary food as compared to center-based feeding, the THR and nutrition and health days had made the administration and logistics much

simpler. For the first time both ICDS and Health Staff came together at the AWC on a fixed date and a fixed time. Hence, both Nutrition and Health Services were delivered to mother and child. Since mothers had to come with their under- two children only once a month, compliance was very high. Empowerment of the community and beneficiaries was a new and welcome feature. The catalytic role of the CARE-India-INHP staff was highly appreciated in all three States.

B. The CARE-India-INHP staff

CARE-India-INHP staff voiced all the advantages and the one disadvantage of the sharing of THR. Much of the credit for the success of nutrition and health days, in all the three States, goes to the CARE-India-INHP staff. CARE-India-INHP staff have a particularly good relationship with the community, village revenue officer, panchayat, beneficiary households, change agents, CBOs, NGOs and *Anganwadi* Workers. They were confident that the battle of 'full portion size' and the reduction in 'sharing' could surely be won, as the CSB and oil had traveled all the way from USA to practically every rural/tribal household of registered beneficiaries in the 7 states. They said that they were not aware that the children in the age group of 6-36 months were actually three different population segments as far as the dietary habits and problems were concerned. They now realized why the early infant could not consume much of the CSB and salad oil THR.

C. Community leaders and change agent strategy

All groups were very positive about the THR. The Sarpanchs felt that the mothers and the community were full participants and that the health of the mothers and the community had improved. The change agents who had been chosen for their leadership qualities stood out as far as confidence went. They were knowledgeable about the THR (except importance of portion size), and the nutrition and health services offered to the mother and the child in the INHP. None of the change agents in AP had more than 2 children. Hence, they were good role models for other mothers.

D. The Mothers/Pregnant and Lactating Women

The women beneficiaries were unanimously appreciative of the strategy. The most advantageous reasons according to them was time saved, having food at home, independence as to when to cook and how much to cook, ability to feed both children under three and above three two times a day, and sharing the food with other needy members of the family (they were quite open about this). Some said they did not like the oil being mixed-up with the CSB. Mothers in AP took a lively interest in the 'single-ration' cooking demonstration and its subsequent feeding to a healthy 7-month-old child.

4. GLOBAL AND NATIONAL EXPERIENCE OF FOOD DELIVERY MECHANISMS

Beaton and Ghassemi in their excellent review of Supplementary Feeding Programs for Young Children in Developing Countries, 1982 concluded that 'Take Home' food delivery systems were effective in achieving greater coverage of children under two at much lower cost[20]. In the seventies, there was a spurt in testing various types of supplementary feeding programs, namely, On-site, take-home and nutritional rehabilitation programs. Anthropometric gains attributable to 'Take Home' feeding programs ranged from 21% to 75%[21]. Moffat, in Uganda (1973) and Alderman etal in Jamaica (1977); The Asia Research Organization in the Philippines, (1976); Khare etal in Maharashtra (1976); and Gopaldas etal in MP (1975), were able to show extremely impressive reduction in grade II and III degree malnutrition ranging from 27% to 75%. The major Indian studies on THR are: CARE-India's Project *Poshak* in MP (1970-75)[22]; The Sidney Cantor/ATAC Study on 'take-home' dry food as a distribution system in Tamil Nadu (1973)[22]; The Evaluation of the India Population Project, Karnataka (1981)[23]; and the Maharashtra study by Khare et al, (1976)[24]. The findings of all the international and national studies went heavily in favor of the THR for the children under three, except for the one fact that there was some 'sharing' or dilution of the THR at home.

Advantages of the THR

- **Very high geographic outreach**
- **Covers majority of under two population**
- **Convenient for the mothers**
- **Less expensive than fed-on-site**
- **Minimizes cross infections**
- **More realistic child care education and caring practices for the mother**
- **Mother can feed what the child likes in frequent feeds**
- **Treats malnutrition in its milieu**
- **Child is more emotionally secure at home**
- **Ensures weight gain inspite of 'sharing' of the THR.**

5. CONCLUSIONS

- THR is the most appropriate food delivery system for children under two years of age.
- If combined with nutrition and health days and the use of village level change agents, it becomes an extremely strong and practical way to make the supplementary food available and accessible to children under two.
- The present CSB-SO can be made more acceptable/palatable for children under two by incorporating the ARF-technology; by making it ready to eat; and by making it sweet.
- Some sharing or dilution of the THR is inevitable. However, all attempts must be made to ensure that the beneficiary child consumes a major portion of THR.

6. RECOMMENDATIONS

6.1 RECOMMENDATIONS ON THE FOOD DELIVERY SYSTEM

- THR has been shown to be the best food delivery system for children under two years of age. It should, therefore be used universally in the ICDS.
- THR can be immensely strengthened by seeing that the strategies of the ration distribution, nutrition and health days and village level change agents, converge.
- THR distribution should be done at least two times a month. One of the nutrition and health/take home ration days could be exclusively for individual counseling and/or attention to the registered beneficiaries.
- The THR rations have definitely reached the household level. The current problem is to closely monitor and test out strategies that will ensure that children under two years of age consume more of the THR.
- The Village Panchayat, the local CBOs, the Change Agents and the adolescent girls could all be used for household level monitoring, counseling and actual demonstrations of how it is to be used for the beneficiary child only. This is bound to reduce 'sharing' of the food with other siblings or other adult family members.
- There are many ways to enhance the concept of a full THR ration for children under two. They are as under:
  - — On nutrition and health days, repeated cooking and feeding demonstrations of a single ration must be done with infants of specific ages, namely, 6, 9, 12 months and so on. The mothers and ICDS staff will learn two important facts: 1) the amount that has to be and is actually consumed by the infant, and 2) that the amount of THR consumed per sitting increases with age.
  - — Storage canisters for the ration and calibrated tumblers/katoris to cook the correct amount at home.
  - — The mother should be encouraged/counseled to give the full ration divided over 2-4 feeds to children under two when the older siblings are away at the AWC. The problem again and again is that minuscule amounts are fed to children under two years of age.
  - — All concerned should become familiar with the number of pieces a particular Single Ration would yield, e.g. how many *laddus*, *dosais* or the amount of *halwa*, *sheera*, *payasam* etc. This concept does not exist presently.
  - — The training and capacity building programs for all should be greatly strengthened by incorporating the above concepts.

— Appropriate strategies should be worked out for the agriculturally peak months. Rural communities work in the fields for about six months in a year. Institution of 'Seasonal Creches', distribution of increased levels of RTE-THRs, and compensating mothers monetarily for collecting the rations may be some of the strategies to be considered.

6.2 RECOMMENDATIONS TO IMPROVE ACCEPTABILITY

A. Make changes in the physical characteristics of the CSB.

- CSB is grainy and gritty. The grits are very hard. At the simplest level the CSB can be find ground at the manufacturer's end, for children under two. A gritty product could cause gastrointestinal problems in these children.
- If possible, extrusion technology can be employed on raw corn and raw defatted Soya. This will result in a completely cooked and homogeneous powdered CSB. This again is most easily done at the manufacturer's end. Such a product will have very suitable physical characteristics for feeding the children under two.
- If this is difficult to operationalize, the mother/ care giver of the children under two may be counseled to fine grind the CSB in her household *chakki*. Alternatively, the AWC-helper/Change Agents/ adolescent girls/CBOs can do this on the day before the nutrition and health day and THR distribution day.
- Sieving of the CSB by mothers at home must be discouraged. It divides the ration and renders it nutritionally imbalanced.

B. Make changes in the micronutrient composition of CSB

- The USA manufacturer may be supplied with the micro nutrient requirements of a one-year-old-Indian-child[Table 6]. He may be able to add 80% of the child's Recommended Daily Allowance. Now there is quite a wide variation in this [Table 6]. Since vitamins and bio-available iron come from expensive dietary sources which is beyond the economic capability of an average ICDS household to supply to its children under two, the CSB ration may be the child's major avenue to satisfy his/her micronutrient hunger.
- The present roasted RTE for UP should be periodically checked for its micronutrient content.

C. Offer nutrient dense but low-bulk rations.

- The CSB-oil ration on cooking becomes thick, pasty and voluminous. This is not appropriate for children under two (especially children under one year of age). Incorporate 5% Commercial Barley Malt (CBM) Powder. This can be most easily done at the manufacturing end. CBM is very cheap in the USA (20 cents per Kg.), and can be adjusted towards 5 gm of corn. CBM being the richest source of μ -Amylase, will instantly 'liquefy' the cooked up ration. Children under two find it easy to drink but not swallow a solid or pasty THR ration. This will go a long way to solve the major problem of 'portion size'. Acceptability and intake by the child will go up markedly.
- If this is not possible, a distribution of 150 gm CBM powder can be considered for 30 days at a time. The mother can bring a small container or *dabba* for this. Alternatively, a one time screw-top container may be considered.
- In some areas, communities traditionally germinate *ragi* (Tribal AP) or have been taught to germinate wheat (Rajasthan). Such germinated cereal powders are rich sources of ARF that the community or its households can acquire and use.
- The vital importance of nutrient dense but low bulk foods needs to be introduced into Training and Capacity Building right from the national to the household level.

6.3 RECOMMENDATIONS TO IMPROVE PALATABILITY

A. For the Supplementary food

- Infants definitely like a sweet food. If economically feasible, the ration can be sweetened (10 to 15%) at the manufacturer's end. The RTE for UP is 25% sweetened.
- If not possible, mothers could be encouraged to offer a sweet gruel to the extent possible.
- If some top milk or seasonal fruit can be offered, this will add to palatability and nutrition.
- Use of chillies and strong spices should be discouraged for this age group.

B. For the Home Food

Mothers/care-givers can be encouraged to add some thick unspiced dal to soft-boiled rice and add even half a teaspoon of oil to the dish. The same can be done with potato, yam etc. In case of *dal-roti*, the *roti* must be made mushy in the unspiced *dal*. This may be done in boiling water or even hot tea, if *dal* cannot be afforded. The amount should be at least half-a-cup. Usually a teaspoon or two is offered, offering of such *minuscule* amounts continues to be a problem.

6.4 RECOMMENDATIONS TO REHABILITATE SEVERELY MALNOURISHED CHILDREN

- The severely malnourished children under two years of age are 5% in AP, 16% in MP and 14% in U.P[8]. These children more than any other category need "low-bulk" yet "high nutrient density foods".
- Nutritional Rehabilitation with amylase liquefied feeds has been successfully done in Bombay, Chandigarh and Saudi Arabia. The CSB-Oil THR needs to be given more often, namely, 6-8 times over the day.
- Parents have to be prepared to spend a little more on foods such as milk, banana, sugar, oil and green coconut water etc.

6.5 RECOMMENDATIONS TO IMPROVE NON-FOOD FACTORS THAT INFLUENCE THE NUTRITIONAL STATUS

- Safe drinking water, personal hygiene of the mother and the child under two and a reasonably clean house environment.
- Most children living in rural, tribal and urban settings are infected with worms. Biannual deworming with single dose Albendazole or Mebendazole would go a long way to improve the child's nutritional status.
- A small family norm. AP leads the way in this respect. A child under two years of age automatically gets more attention from his/her mother if he/she is a single child or has only one other sibling. In this respect, it may be a good strategy to put the mothers of small norm families in MP and UP on a pedestal.

6.6 RECOMMENDATIONS FOR MULTI-STATE OPERATIONAL RESEARCH STUDIES

- Depending on the recommendations accepted, simple Seven-State-Operational Research Studies could be designed and conducted.
- To the extent, possible CARE-India-INHP staff could be trained to collect the data required; or alternatively the State-Level-Research -institutions used by Foundation for Research in Health Services (FRHS) could be considered.
- Product tests of THR with and without ARF need to be designed and field tested.
- Product tests of UP sweetened RTE-THR with and without ARF similarly needs to be designed and field tested.

6.7 RECOMMENDATIONS TO PRODUCE AND CIRCULATE PUBLICATIONS ON TAKE HOME FOOD DELIVERY MECHANISMS

- Project *Poshak*, may be reproduced and widely circulated. It is considered the most definitive work on take home food delivery mechanisms.
- Summary of the above Project may be translated into regional languages and circulated

7. REFERENCES

1. International Institute for Population Sciences (IIPS) 1995. *National Family Health Survey (MCH & Family Planning). India 1992-93.* Bombay. IIPS

2. Nutrient Requirements and Recommended Dietary Allowances for Indians. The Indian Council of Medical Research. New Delhi. 1992.

3. Dietary Guidelines for Indians-A Manual. The National Institute of Nutrition, 1998.

4. Gopaldas T etal: Project Poshak, Vol. .One, and 1975, printed by CARE-India, New Delhi.

5. Gopaldas T etal: Project Poshak, Vol. Two 1975, printed by CARE- India, New Delhi.

6. Planning Commission Evaluation Report on the ICDS (1976-78). New Delhi, India, Planning Evaluation Organization, New Delhi, 1982.

7. National Evaluation of the ICDS. National Institute of Public Co-operation and child development, New Delhi, 1992.

8. Nirmala Murthy : CARE-India's Integrated Nutrition and Health Program. The Baseline Survey Report (Consolidated for 7 states), Part II, 1997.

9. Johri N.: CARE-India's INHP Results Reports. Achievements versus Plans (FY 1997 Vs FY 1996), 1998.

10. Pillai G: CARE-India's Integrated Nutrition and Health Program (1995-2000).

11. Johri N.: CARE-India's Nutrition and Health Sector-Program update, 1998.

12. Consultancy Report by IESSCO Pvt. Ltd. On UP's RTE. Cited as an Appendix in Ref. (10).

13. Malnutrition in South Asia: A regional Profile. Edited by Stuart Gillespie. UNICEF, S. Asia, 1977.

14. Gopaldas T: Fighting infant malnutrition with amylase complementary foods. Nutriview, 2, 1998/2.

15. John C. and Gopaldas T: Reduction in Dietary Bulk of Soya Fortified Bulgar Wheat Gruels with Wheat Amylase-Rich Food. UNU Food and Nutrition Bulletin, 1988; 10 (4); 50-53.

16. Tara Gopaldas, Suneeta Deshpande, Urvi Vaishnav, Neha Shah, Pallavi Mehta, Sashi Tuteha, Shubhada Kanani and Kashmira Lalaani: The Transfer of a Simple Dietary Bulk Reduction Technology of Weaning Gruels by Amylase-Rich Foods (ARFs) from Laboratory to Urban Slum. UNU Food and Nutrition Bulletin, 1991; 13 (4). 318-321.

17. Tajjuddin K.M.: Studies on Nutritional Rehabilitation with ARF. Unpublished Ph.D. results, 1990.

18. Mujoo R.. Studies on Commercial Barley Malt. Unpublished Ph.D. results, 1993.

19. Gopaldas T and Deshpande S: The Miracle of Germinated Cereal Grain Powders. Daya Publishing House, Delhi, 1992.

20. Beaton G.H. and Ghassemi H.: Supplementary Feeding Programs for young children in Developing Countries. Am. J. Clin. Nutr, 23, 707-15., 1982.

21. Austin J.E. and Zeitlin M.F.: Nutrition Interventions in Developing Countries—An Overview. Published by Oelgeschlager, Gunn and Hain, Publishers Inc., Cambridge Mass, USA, 1981.

22. Devadas R. P.: Take Home System Vs On-the-spot feeding Proc. Nutr. Soc. India. 15, 68, 1973 (As a part of the Sidney Cantor Study, T.N.).

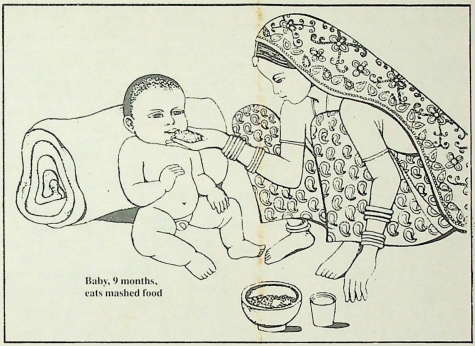
23. India Population Project, Karnataka: Nutrition Component. National Institute of Nutrition. Hyderabad, 1981.

24. Khare R.D., Shah P.M., and Junnarkar A. R.: Management of Kwashiorkor in its milieu; a follow-up for fifteen months. Ind. J. Med. Res. 64 (8),1119,1976.

Photo: Rina Dey

HEALTH BASICS:
WEANING

Breastmilk is the best and safest food for young babies. Older babies need extra foods as well as breastmilk. It is important that babies are given extra foods as well as breastmilk at the right age, and in sufficient amounts, to enable them to grow and stay healthy. Too little food, given too late, or inadequate food with too few nutrients may lead to poor growth and malnutrition. The malnourished child will get sick more often and will be less able to fight off illnesses such as diarrhoea. Weaning foods can, however, be very dangerous for babies. If they are not hygienically prepared they can be a major source of infection. This Health Basics insert describes good weaning practices to help families prevent diarrhoea in their children.



Baby, 9 months, eats mashed food

Child-to-Child, Macmillan

What is weaning?

Weaning means giving family foods in addition to breastmilk. Weaning is a gradual process by which the infant becomes accustomed to the adult diet.

It is not good for babies to stop giving breastmilk when new foods are first being given — weaning foods do not replace breastmilk, they complement it. As the baby gets older it needs more food to grow and stay healthy. The number of breastfeeds can be reduced slowly as the baby starts to eat more and more family foods. However, it is important to remember that until the age of about two years babies can still receive an important amount of nourishment from breastmilk.

When to start giving extra foods?

Weaning foods should be given to the baby at about the age of four to six months. At four months most babies start to need extra food in addition to breastmilk because they are growing fast and breastmilk is no longer enough.

Baby, 4 months, is fed soft food, fruit or vegetables, AS WELL AS breast milk

Child-to-Child, Macmillan

How should weaning foods be given, and how often?

Start by giving one or two teaspoons a day of carefully mashed food in addition to regular breastfeeds. Do not use a feeding bottle. Slowly increase the number of meals and the amount of food given. By the age of eight months most babies need four 'meals' a day including a variety of foods, in addition to regular breastfeeding. At one year old a child should be able to be given all types of family foods, although the food may still need to be softened or mashed. At this age a child needs to eat about half the daily amount of food its mother eats.

Feed babies using a clean cup and spoon. Do not add water to the weaning food. Watered down weaning food does not have enough nutritional value, and if the water is dirty or contaminated the baby will probably get diarrhoea. Patience is needed when babies are first starting to eat family foods — while they are learning to eat this way they may often spit out the food — this does not mean that they are

Produced by Dialogue on Diarrhoea, AHRTAG, 1 London Bridge Street, London SE1 9SG, U.K.

WEANING

not hungry. Let the baby get used to one food for a few days before introducing another.

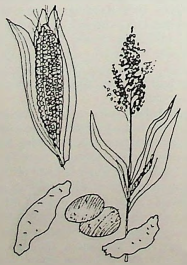
Weaning foods should ideally be:

- high in energy;
- easy to digest;
- low in bulk and viscosity (not too thick);
- fresh and clean;
- inexpensive and easy to prepare;
- not too highly seasoned.

What are good weaning foods?

A thick creamy porridge made from the basic food of the community is a good weaning food for babies. The basic food or staple is cheaper than most other foods and is usually eaten by the family at most meals. Examples of basic foods include:

- *cereals* — maize
  — wheat
  — sorghum
  — oats
  — barley
  — bread (soaked in gravy, milk, or tea)
  — rice
- *roots* — cassava
  — yam
  — cocoyam
  — potato
  — sweet potato
- *starchy fruits* — plantain
  — breadfruit
  — banana



On their own, especially when cooked in water, most cereals, grains and roots are too low in energy. Some oil or fat (or sugar) should be added to the porridge to make it richer and easier to swallow and digest. Adding oil increases the energy value of the weaning porridge.

Give this porridge in addition to breastmilk for about two weeks — after this time babies need other foods as well as breastmilk and porridge to provide enough energy and a balanced diet. It is important that weaning foods contain oils, fats or sugars; fruits; dark green vegetables or orange or yellow fruits; and food from animals or fish or from legumes (for example lentils). These different types of food provide energy; vitamins; and proteins. The best type of weaning meals should contain something from all of these groups. Continue to give breastfeeds regularly between meals.

Examples of types of foods from these groups are:

- *peas and beans*

These are as good as food from animals for providing protein but are cheaper. They need to be cooked thoroughly and mashed to make them easily digestible for babies. Examples include chickpeas, cowpeas, groundnuts, soya beans, split peas, lentils, blackeye beans, peanuts, red beans, navy beans.

- *food from animals and fish*

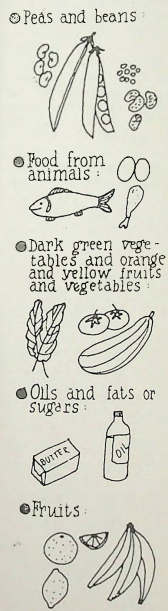
These are good for babies but are usually more expensive than peas and beans. Examples include meat, fish, offal, eggs, milk, and food made from milk such as cheese and yoghurt, curd, cottage cheese.

- *dark green leafy vegetables, and orange and yellow vegetables and fruits*

Babies need these foods to prevent eye damage and possibly blindness from shortage of Vitamin A. Examples include: spinach, kale, tomatoes, carrots, amaranth, sweet cassava, pumpkin leaves, calalu, pumpkin and pawpaw.

- *oils, fats or sugars*

These add extra energy to the weaning porridge or cereal dishes. Sugars are not as good as oils or fats and will also damage teeth. Examples include: corn, palm, groundnut, coconut and sunflower oils, ghee, butter, margarine, lard, any animal fat.



- *fruits*

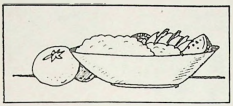
Before giving these to babies they should be peeled carefully or washed in clean water, then mashed or the juice squeezed out. If water is added to the juice it must be clean; otherwise babies may get diarrhoea. Examples include: oranges, pumpkin, tomato, banana, papaya, mango, pineapple.

Illustrations from Learn More about Breastfeeding and Weaning. League of Red Cross and Red Crescent Societies

Produced by Dialogue on Diarrhoea, AHRTAG, 1 London Bridge Street, London SE1 9SG, U.K.

WEANING

Food from the family pot



Family foods, that is foods that the rest of the family normally eat can give babies all the nourishment they need without any additional cost. There is no need to buy expensive commercially manufactured weaning foods. Talk to mothers about what the family usually eats and help them to decide which foods would be suitable to give a young baby. Family pot feeding — giving the family food in a mashed form, without or before adding hot spices or extra salt, and adding something extra like oil, an egg, and extra dark leafy vegetables — is best. Put the child's food in a separate dish or bowl so that it is possible to see how much he or she eats. Also make sure that the bowl or plate and utensils used by the child are clean. This also encourages the child, as it gets older to learn to feed itself. Make sure that the child's hands are clean.

Photo by N. Rehman (UNICEF)

Use the cleanest water available for weaning foods and for washing uncooked food.

Cooking weaning foods

Cooking equipment, particularly stoves, plays a vital role in the health of the family or community. Safe, economical stoves are essential to provide heat and light and to cook safe and nutritious meals.

A good cooking stove helps to ensure that weaning foods are well cooked and properly reheated. A stove should be:

- safe (so that children do not burn or scald themselves);
- easy to use and suitable for frequent use;
- fuel efficient, i.e. should not waste or use too much fuel, or produce too much smoke;
- be capable of cooking and reheating food thoroughly and boiling water using minimal fuel and time.

ICDDR, B Photo

Careful preparation of weaning foods helps to prevent diarrhoea.

Food that has not been cooked or reheated thoroughly may contain diarrhoea-causing germs (pathogens). Cooking food thoroughly so that it boils can make it safe by destroying these pathogens (e.g. bacteria and parasitic eggs). Cooking food can also improve its flavour, making it more palatable for children, and the addition of other ingredients can increase the nutritional value of the food. (Badly or over-cooked food on the other hand can cause loss of nutrients and contribute to malnutrition). Cooking food also makes it easier to chew and digest and helps the body to absorb nutrients from it.

Preparing weaning foods

Contaminated weaning foods give babies diarrhoea. Careful preparation and storage of weaning foods keeps them safe. Follow these rules for safe preparation of weaning foods:

- wash hands before preparing food;
- if possible prepare weaning foods immediately before they will be eaten;
- wash all utensils before preparing food, and scrub chopping boards and tables;
- cook or boil food well;
- reheat food thoroughly if it has been kept for more than two hours, until it boils. Boiling food will kill any germs that may have contaminated the food while it has been stored. Let it cool before giving it to the baby;
- mash foods up with a clean pestle, fork or spoon. Never use a sieve as these are difficult to keep clean;
- use the cleanest water available for making weaning foods and for washing uncooked foods. If possible boil

Produced by Dialogue on Diarrhoea, AHRTAG, 1 London Bridge Street, London SE1 9SG, U.K.

WEANING

the water if it has not come from a clean source such as a tap or water pump. Boiling water will kill the germs that cause diarrhoea.

Storing weaning foods

- Do not store weaning foods for more than two hours if possible. Keep them stored in clean covered containers that keep out flies and other insects.
- Keep in a cool shady place out of direct sunlight if possible.
- If food has been kept for more than two hours reheat it thoroughly so that it boils.

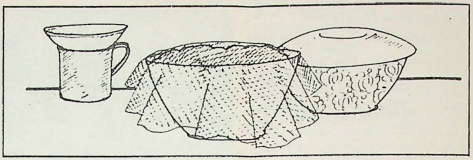
ICDDR, B photo

Keep food in a cool shady place.

Personal hygiene and weaning foods

Hands should be washed before preparing weaning foods and before feeding them to the baby, particularly after using the latrine. Unwashed hands can pass on diarrhoea germs via food to the baby. Mothers should be especially careful to wash their hands, with soap if available, after cleaning their baby's bottom.

Remember: *cool, covered, clean cooked food is safe food* **but** *faeces, flies, filth, fingers can mean dirty unsafe food.*



Why do weaning age babies get malnourished?

This is usually because:

- they are not given the right sort of weaning foods or enough food;
- they grow very fast and need plenty of energy rich foods — more for their size than older children or adults;
- they may be taken off the breast too early, or suddenly, i.e. as soon as extra foods are given;
- they have small stomachs and do not get food often enough. Two or three meals a day like the rest of the family is not enough for the weaning age baby;
- they do not have enough teeth to chew, and need food that is soft and easy to swallow.

Why do weaning age babies often get diarrhoea?

- After four to six months of age babies have lost some of the protection against disease given to them by their mothers at birth (maternal antibody) and from breastmilk.
- They may also get diarrhoea from the new foods that they are being given if these are prepared or given to the baby with dirty hands and utensils. Food that is not stored safely, but which is left uncovered and open to dirt and flies, or kept in dirty containers, will quickly go bad, become contaminated and may give babies diarrhoea.
- Also at this age babies start to move around more, put things in their mouths, and are more likely to come into contact with germs and dirt. However, they are too young to have built up much immunity themselves to protect them against diseases such as diarrhoea.

The weanling with diarrhoea

As at any other age, the weanling with diarrhoea must be given plenty of appropriate fluids and continue to eat plenty of nourishing food to help recovery and ensure that there is no growth retardation.

Weaning education

Before talking to mothers about which weaning foods to give, you will need to be aware of the family's socio-economic status, and availability of different types of foods, particularly those which are seasonal. Some existing beliefs about foods and feeding are beneficial, others may be more harmful, but make suggestions tactfully and explain how a weaning diet can be made more nutritious using local foods. In many places you may also need to win over the support of the grandmother if you

Photo by S.C. Pal (WHO)

Hands should be washed before preparing weaning foods.

Produced by Dialogue on Diarrhoea, AHRTAG, 1 London Bridge Street, London SE1 9SG, U.K.

WEANING

Photo by Carolyn Watson

Remember that no two babies are the same in which foods they like more than others.

are to change what mothers feed to their young children.

For example, there are, in India, beliefs about the digestibility of certain foods and their consistency. Far too often watery gruels or lentil water or thin vegetable soups are given in the belief that the baby will not be able to digest anything else. But these have no or very little energy value. Beliefs in 'hot' and 'cold' foods or, for example, that cereals are bad for the liver, should not be condemned, but can be overcome with patience and alternatives suggested. Many mothers believe that their baby needs expensive or special foods, which they cannot afford. They may also ask how the child can eat proper food before it has any teeth. Emphasise that this is not a problem if the food is properly mashed and soft.

Feeding the weaning child

Points to remember

- Feeding is a matter of using good sense. Like adults, babies may like a particular food more than another, and may be more hungry on some days than others. No two babies are the same in which foods they like more than others. Some babies prefer sweet things while others prefer salty things. Make allowances for this.
- Mealtimes should be pleasant and 'force' must not be used in feeding. Remember that learning to swallow semi-solid food may be difficult for a baby who only knows how to suck the breast.
- If a particular food is refused, do not offer it again for a few days. Try something different.

Home and community weaning food production

This can be done:

- at home using a cereal staple plus legume/seed/nut mixture. The mixture should be easily reconstituted and should have a shelf life of at least one week (simple grinding devices to reduce the time and work involved are recommended); or
- at community level through community groups. Women's groups can initiate and operate communal production/income generating activities which may or may not be subsidised. The use of oils, pineapple juice, papaya juice and fermentation methods as well as germination can decrease the viscosity of weaning foods. Community level activities should have an educational and health component and should be integrated into, for example, children's supplementary feeding programmes.

There are several approaches to decreasing the viscosity and bulk of weaning food. Fermenting sorghum produces enzymes which decrease viscosity, as used in Tanzania. In South India, fermentation of rice and legumes is used to decrease viscosity. With bulky staple foods common in Asia and Africa, a small child would have to consume about 1 kilogramme of cooked rice or cooked banana to obtain only 1,000 calories. Small children cannot cope with such enormous quantities of staple foods to meet their energy needs. More energy dense, less bulky, low viscosity foods for young children should be promoted.

Acknowledgements

This DD insert is based on an article by Dr Shanti Ghosh and material from:

- Learn More About Breastfeeding and Weaning. League of Red Cross and Red Crescent Societies 1987.
- Primary Health Care Technologies at Family and Community Levels. Aga Khan Foundation, UNICEF, WHO, 1986.
- Feeding Mother and Child. The Caribbean Food and Nutrition Institute.
- Prevention of Diarrhoea. Supervisory Skills. WHO, 1987.

Produced by Dialogue on Diarrhoea, AHRTAG, 1 London Bridge Street, London SE1 9SG, U.K.

RESOURCE LIST

Addresses for organisations supplying books/manuals, audiovisuals, and newsletters, are listed under sources of information and materials.

SOURCES OF INFORMATION AND MATERIALS

- **American Public Health Association,** International Health Programmes, 1015 Fifteenth Street, N.W., Washington, D.C. 20005, USA.
- **Caribbean Food & Nutrition Institute,** PO Box 140, Kingston 7, Jamaica.
- **Child-to-child Programme,** Rm 833, Institute of Education, 20 Bedford Way, London WC1 0AL, UK.
- **Clearinghouse on Infant Feeding & Maternal Nutrition,** American Public Health Association, 1015 Fifteenth Street, N.W. Washington, DC 20005, USA.
- **Find Your Feet,** 13-15 Frognal, London NW3, UK.
- **Intermediate Technology Publications Ltd.,** 103-105 Southampton Row, London WC1B 4HH, UK.
- **International Nutrition Communication Service (INCS),** Education Development Centre, 55 Chapel Street, Newton, MA. 02160, USA.
- **Institute of Nutrition & Food Sciences,** University of Dhaka, Dhaka 2, Bangladesh.
- **International Children's Centre,** Chateau de Longchamp, Bois de Boulogne, F75016, Paris, France.
- **League of Red Cross & Red Crescent Societies,** 17 Chemin des Crêts, P.O. Box 372, 1211 Geneva 19, Switzerland.
- **London School of Hygiene & Tropical Medicine,** Department of Human Nutrition, Keppel Street, London WC1 7HT, UK.
- **Macmillan Press Ltd.,** Houndmills, Basingstoke, Hampshire RG21 2XS, UK.
- **National Food & Nutrition Committee,** PO Box 2223, Government Buildings, Suva, Fiji.
- **Nutrition Foundation of India,** B 37 Gulmoher Park, New Delhi, India.
- **Nutrition Foundation of the Philippines, Inc.,** 107 E. Rodriguez Sr., Boulevard, Quezon City, PO Box 3, Philippines.
- **National Institute of Nutrition,** Indian Council of Medical Research, Hyderabad 500 007, India.
- **Ministry of Health, Nutrition Section,** Box 2084, Konedobu, Papua New Guinea.
- **Oxford University Press,** Walton Street, Oxford OX2 6DP.
- **Teaching Aids at Low Cost (TALC),** PO Box 49, St. Albans, Herts. AL1 4AX.
- **Tanzania Food & Nutrition Centre,** Box 977, Dar es Salaam, Tanzania.
- **UNESCO, Nutrition Education Programme,** 7 Place de Fontenoy, 75700, Paris, France.
- **UNICEF,** UN Plaza, 4/1234C, New York 10017, USA.
- **Urban Resource Systems,** 783 Bcuna Vista West, San Francisco, CA 94117, USA.
- **Voluntary Health Association of India (VHAI),** 40 Institutional Area, South of IIT, New Delhi — 110 016, India.
- **World Health Organisation (WHO),** Nutrition Unit, 1211 Geneva 27, Switzerland.
- **World Federation of Public Health Associations** (c/o American Public Health Association, USA)
- **World Neighbors,** 5116 North Portland Ave., Oklahoma City, OK 73112, USA.

BOOKS/MANUALS

Cameron M & Hofvander Y. **Manual on Feeding Infants and Young Children.** Oxford University Press. 1983.

Child-to-child Programme. **Child-to-child Reader: Good Food.**

Caribbean Food & Nutrition Institute (CFNI). **A Guide to Feeding the Weaning Age Group in the Caribbean.** 1982 and **Improving Weaning Practices in the Caribbean, Self Learning Modules for Community Workers.** 1986.

Ebrahim G.J. **Nutrition in Mother and Child Health.** Macmillan. 1983.

Ghosh S. **The Feeding and Care of Infants and Young Children.** Voluntary Health Association of India (VHAI). 1985.

Hollis C. **Using Communications To Solve Nutrition Problems.** International Nutrition Communication Service (INCS) 1986.

Israel R., & Lamptey P. **Nutrition Training Manual Catalogue for Health Professionals, Trainers and Field Workers in Developing Countries.** (INCS)

Joint WHO/UNICEF Nutrition Support Programme. **JNSP Nutrition Learning Packages, Package 4: Young Child Feeding.**

League of Red Cross & Red Crescent Societies. **Learn More About Breast Feeding & Weaning.** 1987.

Nutrition Handbook for Community Workers in the Tropics. Macmillan/CFNI. TALC. UK. 1986.

Pacey A. **Gardening for Better Nutrition.** Intermediate Technology Publications 1978.

Proceedings First Asian Household Nutrition Appropriate Technology Conference. Colombo, Sri Lanka. UNICEF 1981.

Ritchie J.A.S. **Nutrition & Families.** Macmillan. 1983.

Royal Tropical Institute. Mauritskade 63, 1092 AD Amsterdam. The Netherlands. **Ready-made Weaning Food Mixtures in Developing Countries.** 1983.

De Swemmer C. *et al* **Manual for Child Nutrition in Rural India.** VHAI.

Tregoning M.A., & Bova G.S. **Better Child Care.** TALC. UK.

UNESCO. Nutrition Education Series. Issue 10. **Easy to Make Teaching Aids for Nutrition Teaching Learning.** 1984.

UNICEF. **The UNICEF Home Gardens Handbook — For People Promoting Mixed Gardening in the Humid Tropics.**

Wade I. **City Food Crop Selection in Third World Cities.** Urban Resource Systems. 1986.

World Federation of Public Health Associations. **Programmes Activities for Improving Weaning Practices.** Information for Action Issue Paper. 1984.

WHO. **Guidelines for Training Community Health Workers in Nutrition.** WHO Offset Publication. 2nd Edition. 1986.

Nutrition Educational Materials Listing. WHO. 1984

Show and Tell. Nutritional Educational Programme. UNESCO. 1985.

AUDIOVISUALS

Videos

How to Wean Your Baby. A 20 minute video cassette & slide/audio cassette. 1986. CFNI.

Lucky Gary. A 10 minute video on weaning aimed at eastern Caribbean audiences. CFNI.

Slides

Weaning Foods & Energy. TALC, UK.

Filmstrips

Filmstrips available on feeding babies suitable for audiences in Guatemala, Nepal, Philippines. World Neighbors, USA.

Flipchart

Infant Care & Feeding. World Neighbors, USA.

Flannelgraph

Series includes: **Feed Your Children Often, Give Your Child Plenty of Soup.** TALC. UK.

NEWSLETTERS

Bulletin of the Nutrition Foundation of the Philippines. Nutrition Foundation of the Philippines. *Bi-monthly, English & Tagalog, Subscription.*

Cajanus Magazine, Caribbean Food & Nutrition Institute. *Quarterly, English, Subscription.*

The Fiji Food & Nutrition Newsletter, The National Food & Nutrition Committee. *Fiji, English, Subscription.*

Nutrition, Division of Nutritional Sciences, Cornell University, USA. *English, Free.*

Nutrition & Development. Ministry of Health, Papua New Guinea. *Quarterly, English, Subscription.*

Nutrition News. National Institute of Nutrition, India. *English, Free.*

Nutrition News, Institute of Nutrition and food sciences, Bangladesh. *Quarterly, English, Subscription.*

Mothers & Children. American Public Health Association. *English, French, Spanish, Free.*

Tanzanian Food & Nutrition Journal. Tanzanian Food & Nutrition Centre, Tanzania. *English, Subscription.*

Vitamin A + Sieve, Rodale Press Information Services, 33E, Minor Street, Emmaus, PA 18098, U.S.A. *English, Free.*

Xerophthalmia Club Bulletin. 31 Observatory Street, Oxford, U.K. *English, Free.*

Published in India by L.D. S. Mukarji General Secretary, CMAI on behalf of Ahrtag, London.

Produced by Dialogue on Diarrhoea, AHRTAG, 1 London Bridge Street, London SE1 9SG, U.K.

CHC Team

NUT S.18

DIET FOR CHILDREN

First 4 months - Only mother's milk. No Water.

From 5th month onwards -

Breast feeding to continue. Add following foods as advised. /with Start/ boiled and cooled water with a small glass. No need for use of bottle at any age.

1. Cereals : Home made dalia (Porridge) or suji kheer or thin seera with ghee or soaked bread or mashed boiled rice or phirni made from rice powder and milk may be started after completion of 4 months. One or two teaspoons are given twice a day in between two feeds around 8 AM and 7 PM. Keep increasing every 3rd or 4th day to the amount accepted. Later on, may also add cereals around 2 P.M.

2. Mashed banana can be added a week after starting the cereal. It may be mashed with malai or milk - a quarter banana to begin with. Increase by quarter every succeeding week to the limit accepted. This can be given with cereal or at another feeding time. You can interchange banana with apple sauce (Cut peeled apple into small bits; boil it with some sugar; mash in a mixer or with fork). Once prepared, it may be kept in a covered jar in a cool place or in a refrigerator for 3 to 4 days. Other seasonal fruits like pears (boiled), papaya, mango, chikoo etc. can also be given.

3. Soft-boiled egg: Add a week later. Boil the egg in water for 3 minutes and then cool in running water. Commence with one tea spoon of the yellow with a pinch of salt and/or sugar to taste. Gradually increase by tea spoon increments adding the white of the egg so that baby may use the whole egg in about 4 weeks from the commencement.

4. Mashed and well-cooked vegetable : Add a week later, with ghee or butter or cooking oil and salt and sugar. Begin with 2 to 4 tea spoons just preceding any other feeding and increase progressively. (Dark green leafy vegetables, carrots, peas and pumpkin are preferable items).

5. Dahi : Add a week later, sweetened and/or salted, two or four tea spoons to begin with; increase progressively.

6. Mashed and well cooked khichri or rice and dal : Add 1-2 weeks later, with salt and/or sugar and ghee or coking oil or butter. Begin with 2 to 4 tea spoon and increase to the quantity accepted by the baby.

As items 2 to 6 are added, do not stop or reduce previous ones. The object is to foster more tastes and increase quantity to the amount accepted. Patience and perseverence are key words. In case you have started feeding solids with a bigger baby, you can always begin with a larger amount and increase rapidly.

N.B. In families with history of allergy (Asthma, Eczema), avoid addition of egg, cocoa preparations (like Chocolate), juices and wheat preparations until the completion of 6 months. With a strong family history of allergy, it may even be better to avoid all foods other than breast milk in the first 6 months of like.

Around 9 months : Add undiluted cow's or buffalo's milk with a glass. If the milk contains too much fat, remove cream. Continue mother's milk.

..2..

After one year : Mother's milk can be continued upto 2 years. Give cow's or buffalo's milk from a glass (2-3 times). Gradually let the child get used to food made at home. Children who do not eat enough at a time should be offered food every 2-3 hours. But do not force. Make sure that enough protein containing foods are given (like pulses, gram, peanuts, peas, beans, egg, fish mutton, liver). Sprouted gram or moong is very nutritious. Green, orange, red and yellow vegetables are essential; cheapest seasonal fruits should be preferred. If child doesn't like milk , give milk preparations like curds, Encourage the child to eat with spoon or with own fingers. Washing hands before and after meals should be encouraged. Chapati should be made from whole wheat flour. Polished rice is not as healthy as parboiled rice. Scrape vegetables like Potatoes instead of peeling them. Water in which rice or vegetables have been boiled should be utilised. Do not overcook the vegetable. Avoid too much spices. Avoid chocolates, sweets, biscuits, cold drinks, sharbats, flavouring agents etc. as far as possible .

SIMPLE REMEDIES FOR COMMON AILMENTS

1. Watery motions

Do not starve. Let the patient eat or drink what he/she likes. May prefer rice preparations, curds, banana, potatoes, stewed apple. If breast-fed, continue breast-feeding.

Water - 1 litre	=(Capacity of 2 dairy milk bottles)	) Mix: Taste. The solution should not taste more salty than tears.
Salt - 1 teaspoon		) For younger children use 3/4 teaspoon of salt.
Sugar - 8 teaspoons		

Add lime juice (sour/sweet) or orange juice to taste (Some children prefer without juice. They may prefer juice separately.). Keep this solution in a refrigerator or a cold place. Consume as much as possible. For teenagers, aim at 2 glasses (8 Oz glass) after each loose motion. For younger children, one glass after each loose motion (if child doesn't take much at a time, give few sips every 5-10 mts. day and night). The idea is to ensure ensure enough urine output. (Make fresh solution after 24 hours) Where possible, boil the water and cool it before adding salt and sugar. Once the solution is ready, do not boil it.

2. Fever

Do not be scared of fever. It is our friend. It helps us fight infection. Avoid drugs for lowering temperature. Prefer physical methods like keeping the skin cool, light clothing, fan or AC, sponging of whole body with tap or stored water, cold packs on forehead or limbs and free flow of air into the room. If an infant is prone to convulsions with sudden rise of fever, use paracetamol (like Crocin, Pyrigasic, Calpole or Metacin) tablets/ syrup. Infants - 1/2 to 1 teaspoon. Children - 1 to 2 teaspoons. Teenager 1 tablet. Can repeat after 4 hours if required.

3. Cough :

Mix 2 parts of honey to 1 part of lime juice.

1/2 teaspoon (say for a baby around 3 months) to 1 tablespoon (say for an adolescent) every 3-4 hours.

4. Blocked nose

Water - 4 ounces (120 ml) Mix, boil, cool
Salt - 1/4 teaspoon) 2-3 drops into each nostril.

5. Burn

Pour cold water, colder the better. Do not apply any ointment.

6. Minor injury :
(in an immunised person) - Just wash with soap and water, nothing else need be done.

7. If symptoms persist or the looks of the child cause anxiety, consult your Doctor.

- - -

NUTRITIONAL REQUIREMENTS OF CHILDREN

Years	4–6	7–9	10–12	13–15
Calories	1,500	1,800	2,100	2,500 (boys) 2,200 (girls)
Protein (g./kg)	1.66	1.59	1.48	1.44 (boys) 1.40 (girls)
Calcium (mg)	400–500	400–500	600–700	600–700
Iron (mg)	15–20	15–20	15–20	25 (boys) 35 (girls)
Retinol (ug)	300	400	600	750
Thiamine	0.5 mg. per 1,000 calories consumed			
Vitamin C (mg)	30–50	30–50	30–50	30–50
Vitamin D (i.u.)	400	100	100	100
Vitamin B_{12} (ug)	1.5	1.5	2.0	2.0
Folic acid (ug)	50–100	50–100	50–100	50–100

RECOMMENDED NUTRIENT ALLOWANCES DURING PREGNANCY AND LACTATION

	Indian Reference Woman (sedentary work)	Pregnancy (second half)	Lactation
Calories	1,900	+ 300	+ 700
Protein (g)	45	55	65
Calcium (mg)	400–500	1,000	1,000
Iron (mg)	20	40	30
Vitamin A (ug)	750	750	+ 400
Vitamin D (iu.)	100	400	400
Thiamine (mg/1,000 calories)	0.5	0.5	0.5
Riboflavine "	0.55	0.55	0.55
Niacin "	6.6	6.6	6.6
Ascorbic acid	30	50	50
Folic acid (ug)	100	150–300	150
Vitamin B12 (ug)	2.0	3.0	2.5

NUT-5

HEALTH, NUTRITION AND EDUCATION OF GIRLS IN INDIA : AN INTEGRATED APPROACH

Jon E. Rohde

"The health and nutrition of the girl today will affect the health and survival of the future generation, because she is the mother of tomorrow and no future can be built on an edifice that is not strong and healthy and which is corroded with discrimination and injustice at every level." Bharat Ghosh (*Indian Pediatrics*, January, 1986)

"The most crucial segment of our population from the point of view of the "quality" of our future generation are today's young girls who are just on the threshold of marriage and motherhood. Their attainments and competence will be the major determinants of the health and nutrition of children of the next generation. It is precisely also this segment of our population that has been sadly neglected in all our development and educational programmes." (C. Gopalan - *NFI Bulletin*, January, 1984)

Background

More than two-thirds of India's children are malnourished, growing slower, smaller and with more frequent illness and less stamina than their more fortunate peers. Remarkably more than one-third of Indian babies are born malnourished or low birth weight (LBW), less than 2.5 kilograms. LBW babies are more likely to be infected and far more likely to die than babies of normal weight. Mortality is 3-5 times higher in LBW babies, accounting for half to 2/3 of all infant deaths. Even amongst the well to do LBW babies are born : upto seven per cent in Western countries, a similar percentage among the well to do in

India. But other developing countries have far lower rates of LBW, globally estimated to be 15%. Even in Africa the estimate is only 20% LBW birth and in Latin America 12-15%. It is the high rate of LBW that determines initially high infant mortality, high malnutrition. Low birth weight is the first major problem facing India's next generation.

How can this problem be addressed ? Feed the mother well while she is pregnant, better ante-natal care, fewer infections in the mother, are frequent answers and they are all right to a degree but the hard fact is that the small size of Indian mothers is itself a major cause of low birth weight. Small body size is the best predictor of the LBW baby : mother less than 145 cms tall, less than 40 kgs in weight. In much of the country up to 30% of the mothers fall into these categories and have LBW rates of two, three or four times more than other women in the same socio-economic setting. The other group contributing most LBW is adolescent girls having their first pregnancy. Upto 50% of these births are LBW. What can be done ?

Maternal size is fixed. This paper describes a strategy that can address in a short term a major part of this problem at the root cause, maternal size and nutrition.

Girl children in India

With important exceptions, such as the state of Kerala, girl children experience higher mortality, and particularly, higher rates of malnutrition than boy children, in their earliest years of life. Efforts to include them in food supplement programmes, such as ICDS, are partly successful, but the majority of rural and poor urban girls reach the age of adolescence some twelve to fifteen centimetres shorter than their well-to-do peers in the same society. Repeated efforts to reach them at the youngest ages have been relatively unsuccessful.

However, a second unexploited opportunity presents itself, as every girl on reaching adolescence will undergo puberty and this period of two to three years of hormone stimulation changing the body of a girl to that of a woman, is accompanied by a growth spurt. Careful studies have shown that even children who are stunted and malnourished throughout childhood, if fed adequately during the adolescent growth spurt under the influence of the normal body hormones, will experience catch-up growth and

achieve an adult size, almost as great or indeed as great as children who were better nourished throughout their young childhood. One African study (AJCN 36, 527, 1982) demonstrated complete catch-up during adolescence of a cohort of girls who at age 10 years were fully 20 cm stunted in comparison to a normally nourished cohort. Only a normal diet in adolescence led to this remarkable catch up growth. Thus adolescent growth spurt in girls offers an opportunity, provided there is an adequate diet, to make up for deprivation of the past.

Interestingly, in each girl this happens at a slightly different age, but the age is not what is important. At the first sign of puberty, (the initial development of the breasts is the earliest sign that the endocrine system has started to secrete the hormones that mediate the transition from a young girl to an adult woman), if fed extra food, catch up growth could occur. The maximal rate of growth occurs at the initiation of puberty - to wait for menarche is clearly too late. Not only a taller and heavier adult woman but also one with larger organ systems and a greater capacity to bear children successfully will result. Particularly the growth of the pelvis in this period will reduce the dangers of child birth and make that process easier and safer, reducing maternal mortality as well as perinatal deaths. Of particular interest is the predictable decline in LBW incidence associated with taller, heavier mothers. In a study of 341 primiparous women (first baby) maternal weight and height explained 38 of birth weight variation (Bhatia - *Indian Pediatrics*, 1984, 21:365). Adolescent growth spurt is the great opportunity for society to give to its daughters what they did not receive as young children, full healthy growth.

Literacy and Mothering Skills

It is well known that the most important factor for determining the survival of a child is the literacy of the mother. Literate women make far better use of health services, feed their children better, have better nourished and healthier children who die at far lower rates, even half those of illiterate mothers. But is it literacy the ability to read and write that accounts for this difference? There is evidence that in fact it is mothering skills and the social status of the mother that accounts for this important difference. The literate mother tends to know her rights

and opportunities and will make better use of ante-natal care services, health care and institutional delivery or at least assistance from a trained mid-wife. She knows more about feeding children, getting them immunised, and she is more likely to accept family planning methods and space her children. Perhaps even more important, she views herself, and is viewed by her family, as a person whose opinion matters and she participates more fully in the decision making process of the family. Literacy grants power and status, both in the eyes of the woman herself as well as the people she lives with.

For the little girl who has not had the opportunity for school or has had to drop out, adolescence offers a new opportunity to attain some of the skills, self-respect and community esteem accorded to her literate sisters. If, during this period, she is involved in a programme to provide her with knowledge and skills of motherhood and she is recognized for these, say with a "certificate of home economics", even if she is not fully literate, she may achieve the level of acceptance, a level of self confidence and a level of knowledge and ability to assure the survival of her child. A proposal to this effect was made some two years ago by Dr. C. Gopalan, President, Nutrition Foundation of India, but has not apparently been given serious consideration (NFI Bulletin 5:1,1984).

It may be by working in an Anganwadi assisting and caring for children or in some similar village based programme. There she herself could receive supplementary food and would be trained in certain essential mothering skills: child feeding, child immunisation, importance of monitoring of growth of the child and practical ways of improving a child's nutrition using oral rehydration for diarrhea, importance of periodic vitamin A, basic hygiene, and improvement of the environment, all aimed at preventing illness and improving the child's health and growth. She can learn about her own health and, particularly, as adolescence comes upon her, about the changes taking place in her own body. She can learn about the physiology of reproduction and of contraception and will be better prepared to enter into marriage both as a wife and mother with a fuller understanding of her own body and physiology and of the benefits to her and her family of planned fertility. She may learn specific skills of caring for children, of washing them,

feeding them, preparing foods; the most modern concepts of health and nutrition can be taught to her during this time. Perhaps in addition, she could learn useful household skills in cooking or sewing, agricultural skills to help her contribute to the income of her family or to her own financial independence when she is married.

After completion of the programme, during which she has received supplemental education, supplemental feeding and improved her own health and growth, having passed through adolescence, the young woman is provided with a certificate similar to a school leaver which will perhaps enhance her status in her family's eyes and those of her in-laws when she is married.

For Tomorrow's Generation Today !

A programme to assist adolescent girls in growth, health, education will have rapid pay-offs. These girls, who would enter a programme today at an average age of 11 or 12 years, can be expected to be having their first child within the next seven to ten years, a child who under the present circumstances have a 50% or greater chance of being LBW. Improved diet during adolescence might add 5-10 cm to adult height and several kilograms body mass thereby reducing maternal risk during first pregnancy and substantially reducing the problem of LBW. Programme graduates would rapidly show benefits to their families and to society of the investment made in them during the years of their adolescent growth spurt when their minds and bodies would be adequately nurtured to better serve them in their adulthood as a woman, as a mother, as a wife, as a member of the society. This is in a very real sense our last opportunity to make up to these girls for what they did not receive during their young childhood years. It is an opportunity to dramatically affect the nutrition and survival of the next generation of children in India. It is a chance for a better tomorrow, today.

□□□

NUTRITION

Milk: It is an ideal food for infants and children and a good supplementary food for adults. It is nearly a complete food existing in nature. It contains all the nutrients.

Composition:

	Gms. per 100 gms		
	Cow's milk	Buffalo's milk	Human milk
Protein	3.2	4.3	1.1
Fat	4.1	8.8	3.4
Lactose	4.4	5.0	7.4
Calories	67	117	65

Rich: in calcium

Deficient: It is deficient in iron and vitamin C

Daily requirement: Adults 10 oz or 284 gms (non-vegetarian requirement - 20 oz or 568 gms)

Children 20 oz

Expectant mothers 40 oz

Milk borne infections: from the animal - Bovine tuberculosis, (Brucellosis) anthrax, achinomycosis, Q. Fever

from the human handler & environment - typhoid, paratyphoid, dysentries, cholera, diphtheria, infective hepatitis.

Prevention: Pasteurization - if effectively done - phosphatase test will be negative

Boiling

Rice: Main cereal consumed in south India, cheapest source of energy and contributes 70-80% of calories. Main source of thiamine and nicotinic acid. By virtue of its quantity it provides nearly 50% of protein requirements. Proteins of rice is of better quality than wheat although the protein content of wheat is more.

Composition:

	Gms. per 100 gms			mgm	mgm
	Protein	CHO	Fat	Thiamine	Nicotinic
Raw rice(mld)	6.8	78.2	0.5	0.06	1.9
Parboiled rice (mld)	6.4	79.0	0.4	0.21	3.8

Parboiled rice is superior in nutritive value to raw rice as regards the thiamine and nicotinic acid are concerned.

Daily requirements: 14 ozs or 400 gms. If milled raw rice is being consumed, it can be partially substituted by wheat, jowar or ragi. This improves the nutritive value of the diet (N.B. 100 gms or rice contains more proteins than in 100 gms of milk).

Wheat: Next to rice, wheat is the most important cereal

Daily requirements: 14 oz or 400 gms

Composition: (whole wheat)

	Per 100 gms
Protein	11.8 gms
Fat	1.5 gms
CHO	71.2 gms
Thiamine	0.45mgms
Niacin	5.50mgms

Though it has protein to the extent of 11.8% it lacks in lysine. It is a good source of thiamine and niacin.

Millets: Jowar and Ragi : - Jowar is deficient in lysine and has an excess of leucine. The consumption of jowar is occasionally found to be associated with pellagra.

Ragi is a popular millet in South India. It is very rich in calcium, and is a fair source of iron, phosphorous and thiamine.

Daily requirements: In combination with cereals daily requirement is 1½ oz or 400 gms.

Composition:

	Gms. per 100 gms		
	Protein gm	CHO gm	Calcium gm
Jowar	10.4	72.6	25.0
Ragi	7.3	72.0	344.0

Pulses: Pulses are next in importance to cereals as an article of diet in India. The common pulses used are red gram, green gram, black gram dhal, Bengal gram, dry beans, and dried peas.

Pulses are rich in protein containing about 20-25 g of protein per 100 gms. In vegetarian diets, pulses are the main source of protein. Pulses are good sources of B group vitamins, especially thiamine and riboflavine. Sprouted pulses are good sources of vitamin C.

Daily requirements: 3 oz or 85 gms

	Mgm per 100 gms			
Proteins %	mgm Thiamine	mgm Niacin	mgm Riboflavine	mgm Iron
Bengal gram 17.1	0.3	2.9	0.15	10.2
Black gram 24.0	0.42	2.0	0.37	9.1
Red gram 22.3	0.45	2.9	0.19	5.8
Green gram 24.0	0.47	2.1	0.39	7.3

Groundnuts: Groundnuts or Peanuts are extensively grown in India. It is rich in fat, protein is equal to pulses. It is also rich in nicotinic acid, thiamine and riboflavine.

Composition:

	Per 100 gms	
Protein	25.3%	Groundnuts after extraction of fat is a cheap and rich source of proteins
Fat	40.1%	
CHO	26.1%	
Thiamine	0.9 mgm	
Riboflavine	0.13 mgm	
Nicotinic acid	19.9 mgm	

Daily requirements: In combination with pulses 3 oz

Green leafy vegetables: Eg. spinach, amaranth, fenu greek, cabbage are cheapest protective foods. These are excellent source of carotene and vitamin C. They are also good sources of calcium, iron, riboflavine and folic acid. They provide cellulose which acts as roughage. It plays an important role in persons who go on diet to cut down calories.

Daily requirements: 4 oz or 114 gms.

Oil: Eg. groundnut oil, gingelly oil etc. vegetable fat. It is 100% fat, yields 900 calories per 100 gms. Contains no vitamin, contains more of polyunsaturated fatty acids. Lowers the serum cholestrol.

Daily requirements: 2 oz or 57 gms.

Ghee: Animal. Except for little moisture it nearly cent per cent fat. Yields between 820 to 895 calories. Good source of vitamin A (200 i.u./100 gms) contains more of saturated fatty acid and hence tries to raise serum cholestrol.

Daily requirements: In combination with other fat like oil 2 oz (N.B. vegetable fats usually do not contain vitamin A)

Vanaspathi: Popular cooking media in our country. It is manufactured by hydrogenation of vegetable oils. On hydrogenation saturated fatty acid content increases. Gives about 700 i.u. of A and 150 i.u. of 'D' per 100 gms. It is 100% fat and yields 900 calories.

Daily requirement: In combination with other fats 2 oz.

Sugar & Jaggery: These are carbohydrate foods. Sugar is a pure carbohydrate food and contains no proteins, fats or minerals. 400 cal./100 gm.

Jaggery: Is used in place of sugar. 383 cal./100 gms. It is also rich source of iron 11.4 mgm/100 g.

Daily requirement: Sugar and/or Jaggery - 2 oz or 57 gms.

Egg: It is an important source of animal protein. It contains also the nutrients except CHO. It contains protein, fat, calcium, all the vitamins except C. It is a complete protein containing all essential amino acids.

Composition:

Protein	13.3%
Fat	13.3%
Minerals	1%
K Cals	143

Daily requirement: 1 egg (1½ oz)

Root and tubers: Generally used as vegetables.

Potatoes, tapioca, carrot, onion, raddish. These especially potatoes are rich in CHO. Poor source of fat and protein. Good source of calcium and phosphorous.

Carrot rich in carotene
Potatoes rich in vitamin C

Daily requirement: 3 ozs or 85 gms.

//24/2/1976//

Child Nutrition & Feeding Practices

Field work: 16/10/81

History / Characteristics	1	2	3	4	5	6	7	8
1. Age of Child.	8 mth	1yr 2m	3yr	1½yr	2 yr	3yr	1yr 2mth	
2. Sex / Social group	M / Middle class Hosp Pell.	M / Lower Middle class Hosp Pell	F (1st Born)	M – Ulv 2nd	M	Prem (M) ?	2nd Born (M) 2yr 4m	
3. Birth Weight	9lbs	7lbs	(Small)	2.25 kg Hosp	–			
4. Present weight	–	–	–	–	–	–	–	
5. Arm Circumference	16.5	12.5	11.5	–	–			
6. Bangle Test	+ve	+ve	+ve	–	–	+ve	+ve	
7. Signs of Under nutrition		Not active			Pale	Scaly Skin		
Skin			Pale					
Hair		brown	Brown		Nil Activ	–		
Eyes		Sunken						
Mouth						–		
Others			–			Pale	Pale	
8. Breast Fed or not	✓	✓	✓	Imth	✓	✓	✓	
9. Still on Breast Milk	✓	✓		×	✓	2 10ml	✓	
10. Whether supplementor Starved			Cows milk from the Begin	Lactogen	Nothing given	–	–	
– When	3rd mth	5th mth		Glaxo				
– What type	←	Farex + Cerelac	Solids after 1yr	Farex				
– effects.	–	Diarrhoea Vomiting Stomach pain	exty					
11. Whether water given. (Boiled or not)	–	–	✓	✓	✓	✓	–	

Com # 22-9
N.C.T.S.

History/Characteristics	1	2	3	4	5	6	7	8
12. Milestones								
Rolling over	✓	✓	✓	✓	✓	✓	✓	
Crawling	✓	✓	✓	✓	✓	✓		
Sitting	✓	✓	✓	✓	✓	✓		
Standing		weak	—		✓	✓	✓	
Talking	—	—	✓	✓	✓			
Teeth	✓	✓	✓	✓	✓	✓	✓	
Toilet training	—	—	—	✓	—			
Immunization	✓	✓	Not given	✓	✓	—	✓	
13. Siblings if any	—	—	6 boys 1 girl					
State of Health	Baby Born	1st Born	7th Born	1st Born	1st Born			
14. Medical Problems if any	Cough Cold	Regular Diarrhoea	Recurrent	None	—		Teething	
15. Grandmothers Remarks if any		Mother doesn't eat not caring		—	—			
16. Any other observations		Whatever eaten comes out (Tonic)	PHC doctor (Tonic)	—	—			
17. Social Assessment	M/c	(Tonic) M/c	Mother Not educated	—	—			
18. Advice given if any	R/ for cough cold	Ragi	Ragi Porridge Green	—	—			

General Observations
(pertaining to most of the children)

1. Most children Breast fed longer than 1yr
2. Weaning/Supplementation - 3-5th month
3. First food Cows Milk Ragi
   Farex/Cerelac Rice
4. Milestones nomal - except walking in some cases
5. Water given to all children (separately)
6. First 3 days - Newborn not given mothers milk.
7. Arm circumference/Bangle good indication of malnutrition (Severe, Moderate)

Specific Observations
(pertaining to specific children)

1. 2 mothers - thought tonic was more important than food
2. Colic/Diarrhoea after supplementation prevents continuation

Also ask re Castor oil use

What can be done/what can we do?

1. Nutrition Demonstration by Ms Asuri - For mothers on Supplementation - Ragi, porridge / GLV Juice
2. Follow up visits by CHW to encourage mothers
3. Handout on Nutrition — (Kannada) Directorate

Recommended Nutrient allowances during preg + lact:

	Ordinary ref. 2	Preg.	Lactation.
Kilocalories	1.900	+ 300	+700.
Prot. (g).	45	5·5	65.
Ca (mg).	400-500	1000	1000
Iron (mg).	20	40	30.
Vit A (µg).	750	750	+400.
Vit D (µg).	2·5	70	10.
Thiamine mg/100Cal	0·40	0·40	0·40
Riboflavin "	0·60.	0·60	0·60
Niacin "	6·6	6·6	6·6.
Vit C.	30	50	50.
Folic Acid µg.	200	400	300.
Vit B12 µg.	2·0	2·0	2·5.

Daily energy & protein rqmts for diff ages in childhood

age grp.	Bodywt (kg)	Energy (kcal)	Prot. (gm)
0 - 6 mths	3 - 7	600.	11
6 mths - 1 yr.	7 - 9.	800	13.
1 - 3 yr.	9 - 13.	1200	18.
4 - 6 ·	15 - 17	1500.	22
7 - 9 ·	18 - 21	1800.	33
10 - 12 ·	23 - 28.	2100.	41

The best indicator of infant nutr is its body wt.
Energy rqmts 1000 Kcal at age of 1 yr (i.e. 2 adult rqmt), after that add 100 Kcal for every year of life.
Prot rqmts are to body wt or as a % of energy need - (8-10% of the energy need may be given as protein.)

Causes of malnutr:

1) Inad. diet - qty / quality - poverty + ignorance
2) Inf / parasitic diseases
3) poor envir: cond, large fam size, poor mat. hlth, failure of lact, prem. remov. of bottle feeding, bad feeding practices

517420

Nutrients – their sources.

Deficiency signs.

causes of malnut°:

Rgmts of mother + children

Breast feeding. – weaning – supplementary food. – Recipes.

Anemia.

effects of malnutri° in mothers & children

Malnutri° in India.

Local food sources – Kitchen gardens.

National programmes.

Nutri. educ°:

52145

an unfortified biscuit and cold drink. The biscuits and cold drinks were distributed daily during the school week, during the first two hours of the school day, for a period of 12 months. No intervention took place during school holidays or on public holidays. Distribution and consumption took place under close supervision and compliance was recorded daily. To exclude parasitic infestations as a confounding factor, the children of both groups were dewormed.

The 12-month intervention resulted in a significant improvement in blood levels of vitamin A, ferritin, iron, haemoglobin, haematocrit and in urinary iodine levels in the group who received the fortified biscuits compared to the unfortified group. The greatest improvement in vitamin A and ferritin status was seen in children with low values at the start of the study, while the intervention had little effect on those with adequate status: i.e., those that needed it most benefited the most from the intervention. The prevalence of low serum vitamin A levels (<20 µg/dl) dropped from 39% to 12%, of low serum ferritin levels (<20 µg/l) from 28% to 14%, and of anaemia (<120 g/l) from 30% to 16%. There were no significant reductions in the group receiving the unfortified biscuit. The prevalence of low urinary iodine levels (<10µg/dl) in the fortified group decreased from 98% to 30% after 6 months, and to 5% after 12 months. In the unfortified group the prevalence decreased from 96% to 90% and 34% after 6 months and 12 months, respectively. The iodisation of salt became compulsory in South Africa during the second half of our study, thus contributing to the improvement in iodine status in both the fortified and unfortified groups. There was no reduction in the prevalence of goitre, which was 21% at the baseline assessment; a 12-month period may, however, have been too short to reverse an already enlarged thyroid. The biscuit was well accepted and 74% of the children indicated that they would prefer more than the three biscuits they were receiving. The price of three biscuits is US$0.05 per child per day and provides 191kcal. The cost of fortification itself is US$0.86 per child per year.

A danger of school feeding is that parents may reduce the food provided for children at home. Using a biscuit as a vehicle for fortification eliminates this problem, because it is seen as a snack rather than a meal and therefore unlikely to replace meals given to the child at home. In this study the biscuit intervention had no effect on the number of children who ate breakfast before coming to school, nor on the number of children bringing food to school. Additional advantages of using a biscuit are that it needs no preparation, is easy to distribute and has a long shelf life. It is also easy to monitor and therefore less open to misuse or corruption.

Dealing with the hidden hunger of micronutrient deficiencies through food fortification is regarded as a short- to medium-term solution to address an immediate need. Longer-term solutions will include nutrition education in schools and communities with regard to the need for diverse diets. Should a fortified biscuit be implemented in school feeding, it is recommended that it be accompanied by a relevant nutritional message which would put the fortified biscuit in the diet into perspective.

Using a micronutrient fortified biscuit and cold drink in school feeding is feasible, effective and practical, and can seriously be considered for addressing micronutrient deficiencies in school children. The role of nutrition education as a long-term solution should, however, not be overlooked.

The biscuit is now commercially available and is actively marketed at the primary school level by the food industry, using the scientific results to promote its use in school feeding programmes throughout South Africa. Once in place, an effectiveness study will be carried out.

Lize van Stuijvenberg, Senior Scientist, P.O. Box 19070, Tygerberg, 7505, South Africa. Tel. 27 21 9380911 x 264 Fax: 27 21 9380321 Email: lvanstui@eagle.mrc.ac.za AJS Benadé is Programme leader of the Nutritional Intervention Programme, Medical Research Council, Cape Town, South Africa. Mailing address: Medical Research Council, PO Box 19070, Tygerberg 7505, South Africa. Tel: 021 938 0283 Fax: 021 938 0321 Email: sbenade@eagle.mrc.ac.za The information contained in this article is also available as a technical report and a policy brief issued by the MRC. Both are available free of charge on request from Dr Benadé.

NUT-5

SCN NEWS

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

UNITED NATIONS

ADMINISTRATIVE COMMITTEE ON COORDINATION

SUB-COMMITTEE ON NUTRITION

Number 16, July 1998

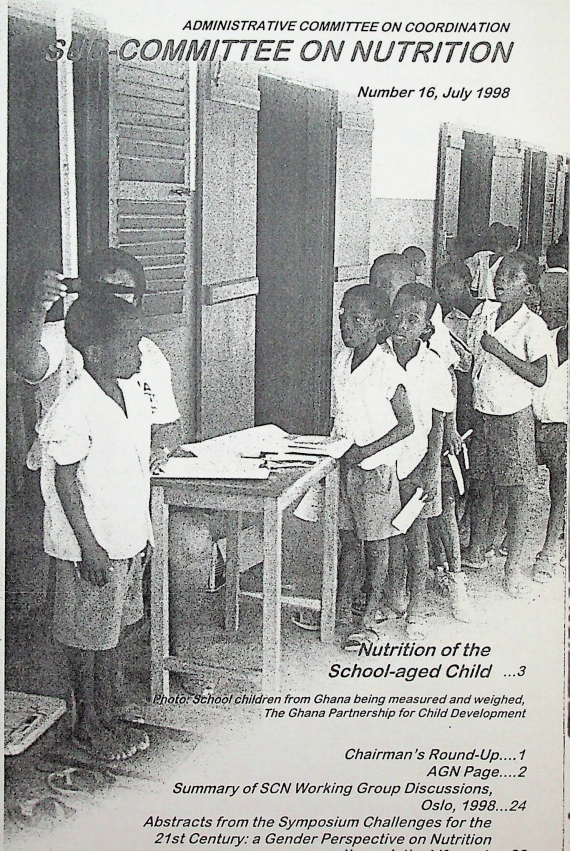


Photo: School children from Ghana being measured and weighed, The Ghana Partnership for Child Development

UNITED NATIONS ADMINISTRATIVE COMMITTEE ON COORDINATION
SUB-COMMITTEE ON NUTRITION
(ACC/SCN)

The ACC/SCN is the focal point for harmonising the policies and activities in nutrition of the United Nations system. 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 SCN is responsible for overseeing the direction, scale, coherence and impact of the UN response to the nutritional problems of the world.

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 SCN held its first Session in 1977 in Rome.

The UN members of the SCN are FAO, IAEA, IFAD, ILO, UN, UNDP, UNEP, UNESCO, UNFPA, UNHCHR, UNHCR, UNICEF, UNRISD, UNU, WFP, WHO and the World Bank. From the outset, representatives of bilateral donor agencies have participated actively in SCN activities. Non-governmental organisations are also involved. The SCN is assisted by the Advisory Group on Nutrition (AGN), comprised of six nutritional scientists and practitioners of world repute from different regions. 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 a symposium on subjects of current importance for policy. The SCN brings certain such matters to the attention of the ACC. The SCN sponsors up to nine working groups on specialised areas of nutrition.

The SCN compiles and disseminates information on nutrition, reflecting the shared views of the agencies concerned. Regular reports on the world nutrition situation are issued. Nutrition Policy papers are produced to summarize current knowledge on selected topics. SCN News is normally published twice yearly and reports on the nutritional status of refugees and displaced persons (RNIS) four times per year. As decided by the Sub-Committee, initiatives are taken to promote coordinated activities - inter-agency programmes, meetings, publications -- aimed at reducing malnutrition, primarily in developing countries.

SCN NEWS No.16 was edited by Cathy Needham
The nutrition in emergencies section was compiled by Jane Wallace

We are most grateful for contributions as shown in Sources after articles
Illustrations by Lindsay Barrett

SCN NEWS is issued in July and December each year by the Secretariat of the UN ACC Sub-Committee on Nutrition.

Your contributions to future issues would be 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:

Chairman: Dr Richard Jolly
Special Advisor to the Administrator
United Nations Development Programme
One United Nations Plaza, New York, NY 10017, USA
Telephone: 1 212 906 5764, Fax: 1 212 906 6661
EMail: Richard.Jolly@undp.org

Technical Secretary: Dr Sonya Rabeneck
ACC/SCN c/o World Health Organization
20, Avenue Appia
CH-1211 Geneva 27, Switzerland
elephone: 1 41-22 791 04 56, Fax: 1 41-22 798 88 91
EMail: accscn@who.ch

We gratefully acknowledge funding assistance from
the Government of the Netherlands and USAID
for the preparation and printing of this issue of SCN NEWS

MESSAGE FROM THE CHAIRMAN

SCN's 21st Year and 25th Session: a worthy celebration in Oslo, Norway

The 21st anniversary of SCN's founding and its 25th Session was an important occasion. UN Agencies, Bilaterals and the Advisory Group on Nutrition (AGN) were present in force, with a new participant - the Asian Development Bank. With more NGO participants than ever before, the turnout for the opening of the Symposium - *Challenges for the 21st Century: A Gender Perspective on Nutrition Through the Life Cycle* - was probably a record, and the opening addresses by the Norwegian Minister of International Development and Human Rights Dr Hilde Frafjord Johnson, and Dr Gro Harlem Brundtland, Norway's former Prime Minister and Director-General of WHO, made the event very special. It was most fitting that this 25th Session of the SCN was hosted by a national government - Norway - a first in SCN history.

The Session itself was full and substantive. The various working groups spent the weekend discussing scientific, policy and programmatic developments and developed priorities and recommendations for action (for a summary of discussions see page 24). Highlights of the Session included:

- the presentation by Philip James on the preliminary findings of the *Commission on Nutrition in the 21st Century*, which provoked lively discussion and debate (see SCN 25th Session report, available from the SCN Secretariat in Geneva or on the SCN website - http://www.unsystem.org/accscn/);
- the 1998 *Abraham Horwitz Lecture* - a most lively and unforgettable presentation on breastfeeding by Isatou Semega-Janneh;
- the presentation of the *Third Report on the World Nutrition Situation*, with its encouraging news of the significant progress over the last two decades in reducing stunting in all regions of the world (except Sub-Saharan Africa);
- the splendid presentation by Mercedes de Onis and Cutberto Garza on the WHO research project to develop a new reference for child growth.

The 25th Session gave us an opportunity to look back at the vision and creativity of the SCN's founders. With the help of George Beaton (who had reviewed the SCN records), my opening remarks underlined some of the SCN's pioneering achievements:

- its very creation by ECOSOC in 1977 as a 'triumvirate' (Dick Heyward's terminology) – the UN Agencies, Bilaterals and the AGN. It is probably the first interagency committee of the ACC to include civil society as an integral part of its structure;
- SCN's leadership in proposing and mobilising action in key areas of nutrition: iodine deficiency, vitamin A and iron;
- the establishment of interagency mechanisms for reporting on key areas of nutrition, the *Reports on the World Nutrition Situation*, the *Nutrition Policy Papers*, the regular reports of the *Refugee Nutrition Information System*;
- SCN's basic work in providing a forum for strengthening coordination – by sharing information on past and future activities, and by reviewing implementation of major international commitments made at the World Summit for Children, the International Conference on Nutrition and the World Food Summit.

I hope all of us left Oslo with a new sense of opportunity and challenge. For all the progress, high levels of undernutrition are still an outrage and violation of the human right to food and nutrition in a world where global consumption totals $24 trillion and where we now have knowledge and practical examples of how undernutrition can be rapidly reduced.

Soon we will have a draft report setting out the elements of a strategic plan for enhanced interagency collaboration to accelerate action to achieve nutrition goals. Sonya Rabeneck, Lilian Marovatsanga and I have visited UN Agencies for discussions in the preparation of this report. Already one clear lesson has emerged – that there is as much need to strengthen nutrition priorities and coordination *within* agencies as there is to strengthen coordination *between* agencies. As SCN Chairman, I wish all SCN participants and SCN's wide group of supporters every success as we respond to the nutrition challenges ahead.

Richard Jolly

AGN PAGE

The AGN and Current Members

The Advisory Group on Nutrition (AGN) provides assistance and advice on policy and the science of nutrition to the SCN. It is comprised of nutritional scientists and practitioners of world repute from different regions (see *SCN News No.15 p2* for details of current members).

After six years of service, Jak Jervell retired from the AGN in March 1998. Jak contributed enormously to the work of the AGN and we thank him greatly for his work. He can be contacted by email on jak.jervell@klinmed.uio.no

Update on AGN Activities and Discussions

The AGN met at the SCN's 25th Session, held in Oslo, Norway in March 1998. During the latter half of 1997, the AGN undertook assessment missions to two countries (Zimbabwe, Bangladesh) to look at coordination at country level. This work was highlighted as being important to the SCN in fulfilling its mission to harmonise and enhance the effectiveness of food and nutrition programmes.

The AGN members found that while there was good cooperation and information sharing between UN agencies, coordinated action tended to occur on an *ad hoc* basis and usually as a result of strong leadership by certain individuals, rather than because of a formal institutional policy. Coordinated actions between UN agencies were found to be most effective in response to acute emergency situations such as famine or civil strife.

The lack of intersectoral coordination of action, follow-up to plans of action, and programme implementation at the country level was reflected in the words of one national planner:

"Nutrition is everybody's business and nobody's responsibility"

On a positive note, the process of thematic planning, led by UNDP (see *SCN News No.15 p43*) was seen to offer some promise for greater coordination and interaction at the country level. Furthermore, future visits by AGN members will focus on countries with successful experiences in country level coordination, and it is intended that during such visits, AGN members will help with strengthening interagency work and catalysing coordination.

Other activities and discussions:

- ◊ The AGN recently addressed the question of using food balance sheets (FBS) to determine the micronutrient content of food supplies. They concluded that this is potentially very useful and should be explored further, however at present, using the FBS to calculate figures for micronutrient availability is premature.
- ◊ In considering what actions are necessary to reduce malnutrition globally, the AGN is examining the current activities of the UN lead agencies, and reviewing key agency documents to identify successful approaches.
- ◊ The AGN will provide advice to the SCN Secretariat in a project aimed at comparing different methods of anthropometric data analysis being used to estimate malnutrition in young children, with the purpose of defining the best approach to use in future analyses.
- ◊ In recent discussions of the role of multiple vitamin and mineral supplementation in maternal nutrition, the AGN concluded that early trials of supplementation in pregnancy should be closely monitored to evaluate any adverse effects. In addition, more research is needed on the effectiveness of generalised medicinal supplementation before this practice can be recommended for adoption at the community level. The need for controlled randomised clinical trials with large numbers of subjects is considered necessary before multinutrient supplementation is considered at the policy level.

A copy of the full AGN report, *'Report of the Meeting of the Advisory Group on Nutrition at the Twenty-Fifth Session of the Sub-Committee on Nutrition, Oslo, Norway, 26 March 1998'*, is available on request from the ACC/SCN Secretariat, c/o WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Fax: 41 22 798 8891 Email: accscn@who.ch

NUTRITION OF THE SCHOOL-AGED CHILD

There are more children of school age, and more children going to school than ever before. Around 90% of the world's children now survive beyond their 5th birthday[1]. These successes raise new concerns. Ill health and nutrition compromise both the quality of life of school-age children and the potential to benefit fully from what might be the only education they receive.

In many developing countries there are more teachers than health workers and more schools than clinics. The infrastructure of the school system therefore provides an opportunity for health services to reach children in a cost-efficient way.

This feature brings together a variety of articles, and reports of two new publications on the health and nutrition of school-age children. The papers range in content from the assessment of nutritional status in school-age children, to examples of school-based nutrition and feeding programmes in different countries. The nutritional concerns of school children in industrialised countries – concerns that are also emerging in some areas of the developing world - are also presented.

OVERVIEW TO THE FEATURE

The first article in this feature presents new data from the Partnership for Child Development, showing that nutrition problems of school children may be greater and more widespread than previously thought (see page 4). Furthermore, anaemia data from the database on iron deficiency being developed by WHO indicate a higher prevalence of anaemia in school-age children than in pre-school children, although data are limited (see page 7 of this feature). It is likely, therefore, that the scale of nutritional problems in school-age children may have previously been underestimated. Indeed, one of the main conclusions from the meeting of the *SCN Working Group on Nutrition of School-age Children*[2] in Oslo this year is that more data on the health and nutrition of school-age children are needed to assess the scale of their problems.

A survey of donor and agency support for school health and nutrition programmes is presented on page 8 of this feature. This review reveals a surprisingly broad-based support for school nutrition and health programmes and calls for stronger collaboration between UN agencies, bilateral agencies, NGOs and the implementing countries.

The article on nutrition of school-aged children in Mongolia provides information about food and nutrient intakes of school children, and describes how the very low intake of fruit in school-age children is responsible for the intake of some essential vitamins and minerals falling below Mongolian normative values (see page 10). This description draws on information from an extensive dietary survey report, which is one of the few nutrition studies in Mongolia that has been translated into English.

There is concern that school-based systems fail to benefit children who are not enrolled in school, but who may be the most in need. Although this remains a problem, school feeding programmes can motivate children to attend school and can motivate parents to enroll their children. Food-for-school programmes, such as the national programme in India described on page 13, for example, provide 'take home' food to children with high attendance records, and are often implemented to increase enrolment and attendance, particularly for girls. Furthermore, 'school health days' could bring in non-enrolled children to receive treatments, and thus provide effective outreach to the community at large.

[1] UNICEF. The State of the World's Children, 1995.

[2] A copy of the report from the Working Group on Nutrition of School-age Children (summarised on page 25), is available on request from the SCN Secretariat, c/o WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 0456 Fax: 41 22 798 8891 Email: accscn@who.ch

Practical experience gained by the Partnership for Child Development indicates that school-based health and nutrition programmes are feasible and effective, with clear potential to improve the nutrition and growth of school-age children (see below). Examples of school feeding programmes presented in this feature show varied success. In India, the government-funded Nutritional Support to Primary Education Programme (NSPE) is working well in rural areas. By the end of 1998, it is expected that the whole country will be covered by this programme (see page 13). The new school feeding programme being implemented in designated 'poor' villages in Indonesia, is still in its early days. Funded entirely by the government, the recognition of its importance for the long-term future of Indonesia is signified by the fact that funding support has been maintained in spite of the recent economic crisis (see page 15). In South Africa, a case study has shown that vitamin and mineral fortification of biscuits results in a significant improvement of micronutrient status when given as a snack to school children. The biscuit is now commercially available and is actively marketed at the primary school level by the food industry (see page 16). School feeding programmes in Kenya however, have suffered from lack of funds. The Kenyan case highlights the need to monitor programme impact in order to develop more cost-effective approaches. Some other lessons that have emerged from Kenya include the key role of parents in sustaining school feeding programmes, the concerns of safety and quality of food from vendors and hawkers, and the problems of money given to children for food being spent on drugs (see page 18).

The rising prevalence of obesity among school children, and the need for health education to focus on healthy eating is also presented in this feature. The article on page 22 provides an example of this focus on healthy eating, with the development of guidelines that promote healthy eating for school children in the USA . Nutrition concerns facing industrialised countries, and, increasingly, by some groups in developing countries include the problems of dietary excess and obesity, eating disorders and the future risk of chronic disease. The article on page 19 discusses these nutrition concerns. It also discusses the changing lifestyles and dietary patterns in industrialised countries, which are resulting in personal preferences driving the nutritional patterns of school children, rather than the availability of food itself. Finally, a study in Nepal has shown that in more affluent schools where convenience snacks are available, school children's food habits are changing towards a preference for modern convenience foods of poor nutritional quality (see page 21).

We would like to thank Andrew Hall (PCD, Oxford University) for helpful comments durng the preparation and editing of this feature.

THE PARTNERSHIP FOR CHILD DEVELOPMENT: PROMOTING THE HEALTH, NUTRITION AND EDUCATION OF SCHOOL-AGE CHILDREN

by Andrew Hall and Don Bundy

The Partnership for Child Development (PCD) was established in 1992 to conduct and promote operations research on school health and nutrition programmes, and to undertake research on the health and health education of school-age children (1). The establishment of the PCD was a response to the growing number of children who were surviving to school-age - a group which typically comprises between 20% and 30% of the population.

The 1993 World Bank Development Report, '*Investing in Health*' identified school health and nutrition programmes as one of 5 priorities for public health initiatives. This, however, was based largely on theoretical analyses and there was little prior experience of large-scale programmes. The first aim of the PCD therefore, was to gain practical experience of the processes, costs and issues involved in establishing school health programmes in a variety of settings.

The PCD was set up as a consortium of donors, countries and technical institutions to develop the intersectoral collaborations necessary to establish or strengthen school health programmes. The Scientific Coordinating Centre for the PCD is based at Oxford University in the U.K. This international initiative helps to provide technical assistance and support in order that low-income countries can monitor and evaluate the

costs, processes and impact of programmes. The programmes established so far have emphasised the development of national collaborations as a part of locally managed programmes, the core of which is the essential partnership between the health and education sectors. There are now PCD research programmes or activities in more than 14 countries around the world, supported by a broad range of international agencies (UNDP, WHO, UNICEF, World Bank), bilateral agencies (USAID, UK DFID), and charities (Rockefeller Foundation, Edna McConnell Clark Foundation, James S. McDonnell Foundation, Wellcome Trust and Save the Children Federation).

The practicality of the school-based approach

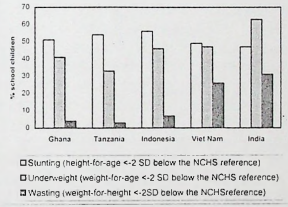
A core activity of the PCD is to evaluate large-scale demonstration school health and nutrition programmes. These are typically implemented by governments through the existing school system rather than through the traditional health infrastructure. The support for national programmes provides an opportunity for the typical unit of decentralised administration - usually the district - to develop methods and skills on a scale that is operationally informative and representative. In practice, the school-based health services evaluated so far have ranged in size from to 45,000 children in Viet Nam to over 3 million children in India. In Tanzania, for example, the PCD programme, called *Ushirikiano wa Kumwendeleza Mtoto Tanzania*, is being implemented by a collaboration between four ministries working in three districts of Tanga Region, and currently involves about 350 schools and 120,000 pupils.

The experiences of implementing these programmes have confirmed the practical benefits of the school-based approach and have led to some important conclusions (see Box below).

The effectiveness of the school-based approach

Although the impact of school health services on growth, nutritional status, parasitic infections and, in some countries, on cognitive functions, is being evaluated as a part of PCD programmes, this article will focus on nutrition. Evaluations are typically in the form of annual surveys of children both in districts where the programme is being implemented and in adjacent, comparison districts where programme implementation has not yet started.

The percentage of school children in five countries of the PCD showing evidence of undernutrition

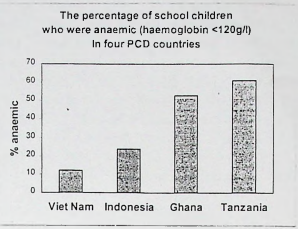


The baseline surveys have shed new light on the extent of undernutrition and ill-health experienced by school-age children. A recent analysis of anthropometric measurements of about 14,000 schoolchildren in Ghana, Tanzania, Indonesia, Viet Nam and India (see graph above) found that a large proportion of children have stunted height and low weight when compared with NCHS reference values. Wasting is less common, although over

Box: The practicality of the school-based approach - conclusions

- Simple, safe and effective health services such as deworming and micronutrient provision (required periodically but infrequently) can be provided through the school system.
- With minimal training, teachers can feel positive about providing health care to children, as long as the task doesn't take up too much of their time. In addition, children and parents are willing to accept teachers in this role and may perceive schools in a more favourable light as a result of such programmes.
- A school-based system is not expensive, mainly because an existing infrastructure is used. For example, in the African programmes of the PCD it costs 3–4 US cents per child to deliver an annual standard-dose tablet to treat intestinal worms. While a more complicated treatment, such as praziquantel to treat the disease urinary schistosomiasis, is more expensive to deliver at between 21-67 US cents per child, it is still relatively inexpensive compared with many other health, nutritional or educational interventions. The experiences of the PCD in both Africa and Asia have illustrated that the education and health sectors can implement a school-based programme at very low cost (2).

20% of school children studied in Viet Nam and India have low weight-for-height (3). Data on the haemoglobin concentrations of 3,000 children in four of these same countries, reveal that anaemia is very common in Tanzania and Ghana (4), and is least common in school children studied in the Red River Delta of Viet Nam (see adjacent graph). This may be largely related to the occurrence of hookworm infection, urinary schistosomiasis and malaria in the African programmes. Urinary iodine and serum vitamin A data from Ghana, Tanzania and Indonesia have indicated that deficiencies of these micronutrients are more localised in nature.



Surveys conducted after the programmes have been implemented are showing that school health services can have an impact on a broad range of health and educational outcomes. In Tanzania, for example, the children who had participated in the programme showed an average additional gain in height attributed to treatments with albendazole and praziquantel, of 1.5cms over 16 months, and an average increase in haemoglobin concentration of 4.8 g/l. There is, however, a large margin for further improvement. In Ghana, where evidence of better growth and improvements in educational achievements were also observed, the PCD programme is now investigating whether teachers can administer iron tablets to children once a week for a school term, and assessing what impact it would have on haemoglobin concentrations.

"Baseline surveys have shed new light on the extent of undernutrition and ill-health experienced by school-age children"

Action-oriented research

The PCD also provides a focus for a broad range of research activities in the field of school health with the aim of improving interventions and health education, and to develop better measures of outcome. For example,

- a large study of the impact of treating parasitic infections on children's cognitive functions and educational performance is being undertaken in Tanzania;
- studies are being done in Ghana and Tanzania to see how children perceive the pictorial messages used in health education materials with the aim of making them more easily understood;
- studies have been done in Ghana of children to investigate the health and social factors that are associated with not being enrolled in school because such children will miss out on both education and school health services; and
- a randomised trial is being done in Viet Nam to see if health education prevents reinfection with intestinal worms.

The future

Efforts are now being made to scale up school health and nutrition programme activities and to help countries to develop and implement their own programmes by means of programme toolkits and guides. To this end, the PCD is working with WHO, UNICEF, the World Bank and with other international agencies working in the field of school health (see page 8).

The PCD is also beginning new research studies. To strengthen the body of scientific evidence on the impact of school-based nutritional interventions, large-scale randomised trials are planned for Ghana and Tanzania to look at the outcome of programmes providing iron with and without anthelmintics in terms of growth, haemoglobin concentrations and educational achievements, and in Viet Nam of anthelmintics alone. Research studies are also underway in Uganda and India to look at the benefits of nutritional interventions such as vitamin A and anthelmintics as a part of early childhood development programmes, with the aim of improving the readiness of pre-school children for education.

Although experience of school health programmes and knowledge of the health and nutritional problems of school-age children is growing, there is still a lot to be done and much to be learned. The authors would be delighted to learn from others about their experiences and research and can place summaries of programmes and activities on a forthcoming School Health and Nutrition site on the Internet and look forward to hearing from you.

References

1. Partnership for Child Development (1997). Better health, nutrition and education for the school-aged child. *Transactions*

of the Royal Society of Tropical Medicine and Hygiene **91**, 1 - 2.
2. Partnership for Child Development (1998a). Cost of school-based drug delivery in Tanzania. *Health Policy and Planning*, in press.
3. Partnership for Child Development (1998b). The anthropometric status of school children in five countries in the Partnership for Child Development. *Proceedings of the Nutrition Society* 57, 149 – 158.
4. Partnership for Child Development (1998c). The health and nutritional status of school children in Africa: evidence from school-based health programmes in Ghana and Tanzania. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, in press.

For further information, please contact Andrew Hall at the Scientific Coordinating Centre, Partnership for Child Development, Wellcome Trust Centre for the Epidemiology of Infectious Disease, Oxford University, South Parks Road, Oxford OX1 3PS, UK. Tel: 44 1865 281231 Fax: 44 1865 281245 Email: child.development@zoo.ox.ac.uk Web: http://www.ceid.ox.ac.uk/child/

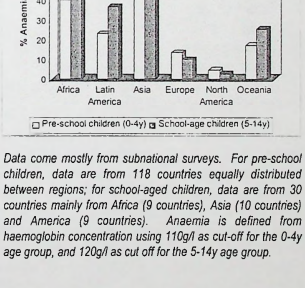
Don Bundy (Head of Centre) and Andrew Hall (Field Programmes Coordinator) are at the Scientific Coordinating Centre for the Partnership for Child Development at Oxford University. Partnership country programmes are coordinated by: Dr. Sam Adjei (GPCD, Health Research Unit, P.O. Box 184, Accra, Ghana); Prof. Charles Kihamia (UKUMTA, P.O. Box 9383, Dar es Salaam, Tanzania); Prof. Satoto (Mitra, Research Institute, Diponegoro University, Semarang, Central Java, Indonesia), Prof. Tara Gopaldas (124/B, Varthur Road, Nagavarapalayam, Bangalore 560016, India); Prof. Ha Huy Khoi (VPCD, National Institute of Nutrition, 48 Tang Bat Ho, Hanoi, Viet Nam).

ANAEMIA IN SCHOOL-AGED CHILDREN

by Bruno de Benoist and Yun Ling

Iron deficiency is the most widespread micronutrient deficiency in the world today. The anaemia it causes is a major problem among women and young children, but there is growing evidence that it is also a problem among school-aged children. Its importance as a public health problem in school-aged children deserves greater attention not only because of its deleterious effects, which include lower school achievement due to impaired cognitive development, fatigue and poor attention span, and increased morbidity because of reduced resistance to infection, but also because of the large numbers of school-age children affected. Indeed, recent estimates based on the WHO global database suggest that 7.8% of school-aged children in industrialised countries and 53% in developing countries are anaemic. Prevalences are highest in Asia (58.4%) and Africa (49.8%) where around half of school-aged children suffer from anaemia. Moreover, in developing countries, the proportion of school-aged children with anaemia is much higher than that of pre-school children (see graph).

These estimates should be interpreted cautiously since they are based mainly on subnational surveys from a limited number of countries for the regions mentioned. They nevertheless serve to draw attention to anaemia as a problem of public health importance in this age group and highlight the need for more information on its magnitude and causes so that appropriate control measures can be adopted. Countries in general, and developing countries in particular, can ill afford to allow their youth be damaged by so devastating a public health problem as anaemia.



Data come mostly from subnational surveys. For pre-school children, data are from 118 countries equally distributed between regions; for school-aged children, data are from 30 countries mainly from Africa (9 countries), Asia (10 countries) and America (9 countries). Anaemia is defined from haemoglobin concentration using 110g/l as cut-off for the 0-4y age group, and 120g/l as cut off for the 5-14y age group.

The WHO Micronutrient Deficiency Information System (MDIS) includes three databases on iodine, vitamin A and iron (see page 59). The database on iron deficiency (from which information has been taken for this article) is currently being developed, and WHO welcomes new contributions to this database. For further information about how to contribute to the database, please contact Bruno de Benoist, Programme of Nutrition, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 3412 Fax: 41 22 791 4156 Email: debenoistb@who.ch

SCHOOL-BASED HEALTH AND NUTRITION PROGRAMMES: A SURVEY OF DONOR AND AGENCY SUPPORT

by Don Bundy, Judy McGuire, Andrew Hall and Carmel Dolan

There are more children of school age and more children attending school than at any time in human history. These children are one of the most accessible population groups from a public health perspective because they are gathered together on an almost daily basis and because they are supervised by a trained workforce of teachers. They are also a group which can benefit considerably from nutrition and health interventions: good health and adequate nutrition promote both physical growth and learning, while good health and nutrition education at school age can lay the foundation for life-long good health.

Given the apparent opportunities for school-based health and nutrition programmes, the *SCN Working Group on Nutrition of School-age Children* commissioned a survey of what donors and agencies are actually doing for school children. The survey method was to conduct key informant interviews over a two-month period in early 1998, and to present the results for further discussion at the Working Group meeting in Oslo, April 1998 (see page 25). A major conclusion of this review process was that there was much more happening in school nutrition and health than was commonly perceived, and also that the activity involved UN, financial, bilateral and NGOs in partnership with implementing countries.

Many UN agencies have strategies or policies on school-based health and nutrition. UNICEF has articulated a school health and nutrition strategy that encompasses sound school policies and the rights of school children, skills-based health education, a healthy school environment, and improved access to health services for school children. UNDP was a founding co-sponsor of the Partnership for Child Development in 1992 and has continued to support operations research into the contribution to sustainable human development of health and nutrition at school age. WHO launched a Global School Health Initiative in 1996 with a focus on health promoting schools and regional networks[1]. The Health Education and Promotion Division is the focal point for the 8 Divisions which contribute to the steering group for school health and nutrition, but some 22 divisions at WHO are reported to be active in this area. UNFPA supports reproductive health programmes for adolescents in 98 countries, and school-based HIV/AIDS prevention activities in 95 countries. UNESCO supports the integration of HIV/AIDS education into the school curriculum and is a co-sponsor of UNAIDS, which has a specific working group on school based interventions. UNESCO also provides technical support for the WFP's school feeding activities which are underway in some 60 countries. FAO is currently field testing school-based nutrition education materials to promote dietary diversification and food security (see page 53).

Perhaps because school health and nutrition programmes are necessarily intersectoral, many of these activities are being implemented in partnership. This has been achieved formally, for example, by UNAIDS efforts to promote HIV/AIDS education in schools, co-sponsored by UNICEF, UNESCO, UNFPA, WHO and the World Bank. A looser partnership was created by the UNICEF School Based Initiative in 1994 which, through a series of technical support group meetings in Asia, Africa and the Americas, brought together WHO, UNFPA, UNESCO, the World Bank and NGOs to create a '*Situation Analysis Tool for School Health and Nutrition Programming*' (available on request from the PCD, see contact information on page 10). This partnership continues to grow: the tool has been evaluated by WHO in 5 African countries, with support from the Edna McConnell Clark Foundation, and is currently being evaluated for use in Spanish-speaking and Francophone countries by PAHO and USAID.

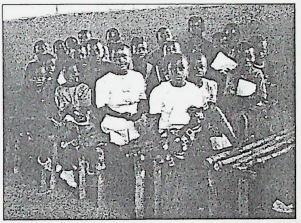
It appears that few bilateral agencies have specific policies which promote the health and nutrition of school children, but nevertheless most contribute significantly. Since 1992, CIDA has provided Can$87 million for nutri-

[1]Editor's note: A new WHO fact sheet (No.92; June 1998) on *'WHO's Global School Health Initiative: helping schools to become "Health-Promoting Schools"* is available on the web at http://www.who.ch/. The goal of the WHO Global School Health Initiative is to increase the number of schools that can be called 'Health-Promoting Schools'. Such schools are characterised by their constant strengthening of capacity to provide a healthy setting for living, learning and working. Further information can be obtained from the recent WHO publication *'Promoting Health through Schools'*, 1997, WHO Technical Report Series 870. pp.94 CHF 17 (CHF 11.90 in developing countries). Available from WHO distribution and sales, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2477 Fax: 41 22 791 4857 Email: publications@who.ch

tion projects. These actions specifically help school children: e.g., the elimination of iodine deficiency disorders (IDD) and vitamin A deficiency in school girls in the Indian Sub Continent, and school-based IDD monitoring in South America. The CIDA/WFP Women's Health and Nutrition Facility targets 0.9 million women and 2.2 million children, including school children, in 15 low-income countries with food, micronutrients and deworming. DFID, UK, supports the integration of health and nutrition education into school curricula, funds the School Health Action and Training Project for teachers in 700 schools in Delhi and Bombay, provides US$7 million worth of school-based health services in Andra Pradesh, and has provided water and sanitation for 800 schools in Kenya; yet DFID has no specific policy for the health of the school-age child. DANIDA, NORAD and SIDA also have no specific policy for the health of the school child, but provide major support for information-education-communication (IEC) and life skills to promote health - particularly reproductive health - to be integrated into school curricula. For example, the Regional Adolescent Social and Reproductive Health Project implemented by AMREF in Kenya, Tanzania, Uganda and Ethiopia is co-funded by NORAD and SIDA. In 1997, GTZ identified adolescents as a neglected group, and recommended increased programming in life skills training for youth health, HIV/AIDS and nutrition - particularly in Africa. USAID has both a policy for promoting the health of school children – in Africa and the Americas – and active programmes providing school-based health services, including interventions (such as micronutrient provision and deworming) and skills-based health education.

Much of the practical implementation of school health and nutrition activities is undertaken by international or local NGOs, even if funded by bilateral and other agencies. A survey of 10 major INGOs revealed that all were active in IEC and skills-based health education in schools, and a majority were promoting a healthy school environment and the provision of school-based health and nutrition services. These programmes are often very substantial. World Vision (Canada), for example, has a CIDA-sponsored Can$25 million programme in Ethiopia, Ghana, Malawi, Senegal and Tanzania that will, as one component, provide IEC, vitamin A and iron to school children and sanitation to schools. Catholic Relief Services is providing school-based IEC, feeding, specific micronutrients and first aid kits, in various combinations, in 10 countries, while Save the Children Federation (USA) is providing school-based IEC with or without micronutrient supplements and deworming in 15 countries. The coverage of IEC may be very extensive, for example, the Children's Health and Environment magazine supported by CARE in Thailand is read by more than one million students in 31,000 schools.

The multilateral financial organisations also play an increasingly important role. The Inter American Development Bank and the Asian Development Bank both provide loans in support of school nutrition and health programmes. The World Bank was amongst the first to identify school-based health and nutrition programmes as remarkably equitable and cost-effective interventions that contribute to human capital and social capital development. The World Bank, mainly through the International



(Courtesy of UNHCR)

Development Association, currently supports programmes that seek to deliver a simple package of locally-relevant health and nutrition interventions through schools, delivered on a scale that is a benefit rather than a burden on the education services. Such activities are typically small components (2% to 9%) of universal basic education projects (with total budgets in the range of US$35 to 60 million), but are also components of health and nutrition projects (with total budgets in a similar range), community funds for health, nutrition or education (with total budgets in the range of US$50 to 110 million), and Sector Investment Projects (with total budgets in the US$100s of millions). To enhance responsiveness to the needs of client countries, the World Bank has entered into productive partnerships with UN agencies (e.g., PAHO/WHO in Latin America and the Caribbean), INGOs (e.g. SCF (USA) in Africa) and technical groups (e.g. the PCD) as part of an International School Health Initiative (for further details of World Bank activity see page 22 '*Class Action*' by Joy del Rosso and Tania Marek).

Overall, this survey reveals surprisingly strong and broad-based support for school nutrition and health pro-

grammes. There may be a need to explore ways to build beyond the current levels of collaboration, and perhaps the *SCN Working Group on Nutrition of School-age Children* can contribute to this. Almost all UN agencies, funds and organisations with a mandate in health, nutrition or education have a specific policy to promote the health and nutrition of the school-age child, and most have active programmes in this area. The bilateral donors are active in the area, but curiously few have articulated specific health and nutrition policies for school children. This may reflect the ambiguities of the intersectoral status of some school "health" activities; school feeding, for example, is often seen as promoting school attendance and learning, and thus as contributing to educational rather than health outcomes. Or it may reflect a lack of recognition that programmes to promote adolescent health – a major area of current emphasis for prevention of HIV/AIDS, substance abuse, and violence – are frequently school-based in low income countries. The INGOs have clearly grasped this concept, and are expanding their definition of school health and nutrition to include school-based services, such as snacks, micronutrient provision and deworming. It seems to be this minimum package – health education and simple, well-tried health and nutrition services, both delivered through schools – that is emerging as a practical definition of a school-based health and nutrition programme.

This survey is a work in progress. If you would like a copy of the latest draft of the report, or if you would like to contribute to the survey, please contact Andrew Hall at the Scientific Coordinating Centre of the Partnership for Child Development, The Wellcome Trust Centre for the Epidemiology of Infectious Disease, University of Oxford, South Parks Road, Oxford OX1 3PS, UK. Tel: 44 1865 281231 Fax: 44 1865 281246 Email: child.development@zoology.ox.ac.uk

The survey was supported by a World Bank Special Grant and was conducted by Carmel Dolan with the Partnership for Child Development. The Partnership for Child Development programmes and activities are supported by the UNDP, the WHO, the British Department for International Development, UNICEF, the World Bank, the Edna McConnell Clark Foundation, The Rockefeller Foundation, the James S. McDonnell Foundation, and the Wellcome Trust.

Don Bundy is at the Human Development Network Education Department at the World Bank, Washington D.C. and at the Wellcome Trust Centre for the Epidemiology of Infectious Disease, University of Oxford; Judith McGuire is at the Latin American and Caribbean Human Development Network at the World Bank, Washington D.C.; Andrew Hall is in the Scientific Coordinating Centre of the Partnership for Child Development, University of Oxford; Carmel Dolan is a Freelance Consultant.

NUTRITION OF SCHOOL-AGED CHILDREN IN MONGOLIA

by Ruth English

The population of Mongolia (2.3 million people) is relatively young, with 38% under the age of 15 years (1). Fifty-two percent of the Mongolian population live in urban areas and 48% live in rural areas, with approximately 20% of the population being nomadic. Since the break-up of the Soviet Union at the beginning of the decade, the economy of Mongolia has been in transition, changing from a communist-based to a capitalist-based economy. This has meant much hardship for the Mongolian people. As the support base for the agriculture system and the social welfare programme services has eroded, agricultural production has fallen drastically and unemployment and poverty are increasing. The cities have large numbers of people concentrated in *ger* (tent) settlements with 60,000 families in the capital city of Ulaanbaatar. There are associated problems relating to safe drinking water, adequate sanitation and waste disposal, and increased levels of soil pollution. These living conditions contribute to ill-health and an unsatisfactory quality of life.

Education situation

Educational achievement has been high with a 95% literacy rate, 98% primary school coverage, 88% coverage for 8 years of schooling and 15% in higher levels. However this may be falling with increasing poverty and unemployment.

Nutrition situation of school children – nutrient intake

From 1993 to 1996, the National Nutrition Research Centre conducted dietary surveys on some 21,000 persons, including school children. The data collection comprised a 24-hour recall of food eaten the previous day, using a questionnaire form for response. The report of the *Nutritional status of the Mongolian population* (2) details the nutrient intakes of pre-school and school-age children in four age groups: 4-7y, 6-10y, 11-14y, and 15-17y. For the two older age groups, the nutrient intakes of boys and girls were estimated separately.

Nutrient intakes of school children in Mongolia

Nutrients	Age Groups					
	4-7y	8-10y	11-14y		15-17y	
			Boys	Girls	Boys	Girls
Protein (g)	75.6	69.0	64.7	56.2	73.0	57.4
Fat (g) – Plant	8.7	14.4	29.9	9.3	14.4	11.2
Fat (g) – Animal	22.4	25.4	40.6	28.9	34.0	29.0
Fat (g) – Total	31.1	39.8	70.5	38.2	48.4	40.2
Carbohydrate (g)	284.8	286.4	256.5	202.2	274.2	211.0
Energy (kcal)	1711	1780	1920	1378	1824	1435
Vitamin A (mg)	0.70	0.50	1.28	0.57	0.67	0.60
Vitamin B1 (mg)	0.88	0.90	0.94	0.75	0.98	0.82
Vitamin B2 (mg)	0.91	0.94	0.89	0.85	1.10	0.88
Niacin (mg)	8.54	8.87	20.3	7.70	10.5	8.00
Vitamin C (mg)	8.1	14.7	10.9	10.8	16.7	16.8
Calcium (mg)	180	202	720	186	217	227
Iron (mg)	11.0	15.0	---	12.1	16.0	12.4
% energy from protein:fat: carbohydate	18:16:66	16:20:64	14:23:53	16:25:56	16:24:60	16:25:59

The figures for vegetable consumption were not included in the report. The very low intake of fruit and possibly also vegetables was responsible for the low intake of some vitamins (e.g., vitamin C) and minerals, which fell well below the normative values for nutrient intakes developed for Mongolia in 1981 (3). It was noted that eggs and rice were not consumed at all. The low intake of milk and milk products explains the overall low intake of calcium and vitamin B-2, while the low consumption of vegetable oil, butter, milk and milk products result in the generally low intake of fat.

The energy intakes of the younger age groups are high in comparison with those in the 11-14y and 15-17y age groups - particularly in girls (see table above).

With regard to micronutrients, intakes of some essential vitamins and minerals in all age and sex groups are below the recommended levels developed for the Mongolian population (3). In particular, intakes of vitamin C, vitamin B-2, and calcium are low, although the calcium intakes of boys aged 11-14 years appear to be adequate. Iron intake could be considered low for girls of puberty age (11-14y and 15-17y). However, this level of intake may actually be adequate as a major source of the iron would be in the form of the more absorbable haem iron from meat products.

Food intake among school children

The average daily intakes of foods for school children (aged 4-17y) are as follows:

Meat and meat products	158.6g
Milk and milk products	282.4g
Flour and flour products	205.3g
Butter	6.0g
Fat	0.4g
Rice	211.6g
Fruit	4.6g

Nutrition situation of school children – malnutrition

There is evidence of nutrient deficiency diseases among school children in Mongolia. Meat and dairy products have traditionally formed the main part of the adult diet with flour and flour products. Dietary patterns have been changing over the period of economic transition, particularly in relation to the consumption of milk and milk products. Especially in the cities and towns, the availability of milk has been decreasing, partly due to a breakdown in the milk marketing systems from rural to urban areas.

Underweight

The National Nutrition Research Centre has conducted a series of anthropometric surveys in children under 5 years of age to determine the prevalence of undernutrition in young children in this country. While the overall prevalence of underweight (low weight-for-age) has decreased from 1992 to 1996, there has been an increase from 29.4 to 42% amongst children aged 25-48 months and from 0 to 13% amongst children aged 49-60 months. These results are indicative of an increasing problem of malnutrition and growth failure in children as they enter the school system.

Micronutrient deficiencies

There are three priority micronutrition deficiency diseases in Mongolia that primarily affect women and children:

◊ *Vitamin D deficiency*: There is a major problem of vitamin D deficiency in Mongolia. Surveys have identified prevalence rates of rickets varying from 6% to 68% in different populations, with an average prevalence rate at 3 years of 26.5%. In the 1992 child survey, 44.7% of children under five had one or more signs of rickets with bowing of the tibia being the most common sign. The cause of vitamin D rickets in Mongolia is as yet ill-defined, but the data indicate that many children carry the handicap of bone malformation from rickets through their school years into adulthood.

◊ *Iron deficiency anaemia*: The prevalence of iron deficiency is now reported to be as high as 28.8% in pregnant women and 43.6% in children below five years of age. No data are available on the prevalence of iron deficiency anaemia in children of school-age.

◊ *Iodine deficiency diseases*: In 1992, 1490 children aged 7-12 years from eight schools, were examined to determine the prevalence of iodine deficiency disorders (IDD). Two of the eight schools were on remote state farms. The survey showed an overall prevalence of 41% (range 24-83%), with children in the Bulgan area or Aimag, most at risk. Clinical signs of dysfunction of the thyroid were identified in 1.5% of the children. Overall, it is estimated that 28% of the population has goitre. Iodine fortification of salt is the major strategy being pursued to reduce and control IDD. Six plants produce salt in Mongolia. In 1996, it was estimated that 40% of households were using iodised salt. The small additional cost of fortified vs. unfortified is reported to be a deterrent to purchase of the iodised salt by poor families.

Other micronutrient deficiencies: In some country reports, reference is also made to the risk of vitamin A and vitamin C deficiencies in Mongolia. One survey indicated a prevalence of night blindness in 4.5% of a group of children, as reported by mothers. No evidence is available indicating that vitamin C deficiency has been clinically identified in school children or adults in Mongolia.

References

1. State Statistical Office of Mongolia. Mongolian economy and society in 1996. Uaanbaatar, 1997.

2. National Nutrition Research Center. Nutritional status of Mongolian population. Ulaanbaatar, 1997.

3. Ministry of Agriculture and Industry. Physiological norms for nutrient intakes for the Mongolian population. Ulaanbaatar, 1981.

Ruth English is a Nutrition Consultant and Honorary Research Consultant at the Department of Social and Preventive Medicine, University of Queensland, Australia. Postal address: P.O. Box 1491 Noosa Heads, Qld, Australia. Tel/Fax: 61 7 5449 2015 Email: renglish@ozemail.com.au This article is based on information obtained during a consultancy in Mongolia in May/June 1997.

SCHOOL FEEDING PROGRAMMES

School feeding programmes are one of several interventions that can address some of the nutrition and health problems of school-age children. If properly designed and effectively implemented, school feeding programmes can achieve a number of goals:

◊ alleviate short-term hunger, thus increasing attention and concentration span;

◊ encourage (or be used specifically to encourage) enrolment by girls and improve retention;

◊ motivate children to attend school and motivate parents to enroll their children in school;

◊ contribute to better nutrition and address specific micronutrient deficiencies in school-age children (especially iron and iodine deficiencies which directly affect cognitive development);

◊ increase community involvement in schools.

A series of three documents entitled "*School Feeding Programmes: Food for Education*" have been prepared by Joy del Rosso under the auspices of the Partnership for Child Development (see page 4) to provide governments, agencies and organisations with up-to-date information:

Part I: *Summary of Major Issues and Recommendations*
Part II: *A Review and Annotated Bibliography*
Part III: *Guidelines for School Feeding Programmes to Contribute to Improving the Effectiveness and Efficiency of Education*

Copies are available on request from the Partnership for Child Development, Wellcome Trust Centre for the Epidemiology of Infectious Disease, Oxford University, South Parks Road, Oxford OX1 3PS, UK. Tel: 44 1865 281231 Fax: 44 1865 281245 Email: child.development@zoo.ox.ac.uk Web: http://www.ceid.ox.ac.uk/child/

INDIA'S NATIONAL PROGRAMME OF NUTRITIONAL SUPPORT TO PRIMARY EDUCATION PROGRAMME (NSPE)

by Tara Gopaldas

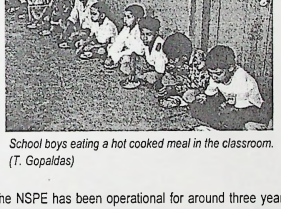
On August 15th 1995 (India's 48th Independence Day), the Government of India launched the National Programme of Nutritional Support to Primary Education (NSPE). A number of converging and positive factors contributed towards the launch of NSPE. These were:

- ◊ a strong political commitment at both central and state levels to universalise primary education;
- ◊ the decision by the Government of India to redeem the national pledge of allocating 6% of the national income for primary education;
- ◊ successive bumper harvests, the success of the 'Green Revolution' and the development of a large-scale public distribution system;
- ◊ the excellent report of the Committee on Mid-Day-Meals (1) which is the Plan of Action instrument for the NSPE[1];
- ◊ numerous research studies and publications in the 1980s and 1990s stressing the link between nutritional status and educational performance;
- ◊ a number of national and international surveys and studies to highlight the extremely poor nutritional and health status of the school child;
- ◊ some success stories of the cost-effectiveness of improving the micronutrient (iron, iodine, vitamin A) and health (intestinal parasites, impaired sight and hearing) status of the school child in the classroom itself;
- ◊ the strong recommendation of the Government of India that the NSPE should forge links with school health on the one hand, and with India's Integrated Child Development Services (ICDS – see *SCN News No.15 p27*) on the other.

Aims, coverage and budget of the NSPE

The main aim of the NSPE is to give a boost to the universalisation of primary education in India by increasing enrolment and attendance at schools, and simultaneously improving the nutrition education of the school child (aged 6-15y). It is much more a *food for education* scheme than a food for nutrition and health scheme as it is based on supplying those students with a good school attendance record with grain (wheat or rice) over a period of time. A school child with 80% attendance is supplied with 3kg grain per month for 10 academic months per year. The child or parent is expected to collect the grain from the designated ration (or public distribution) shop in the village.

The quantity of grain ration was guided by the findings of a 1990-1992 *Eight-States Diet and Nutrition Survey* conducted by the National Nutrition Monitoring Bureau (2). The survey found that the nutritional status of the rural school child was very poor, with only 6% classified as 'normal' when compared to the NCHS growth reference. The survey reported an average deficit of 620kcal and about 7g protein per day when compared to the Indian Recommended Daily Intake for this age group.



School boys eating a hot cooked meal in the classroom. (T. Gopaldas)

The NSPE has been operational for around three years. In 1995-6, 225,000 schools and 33.5 million school children were covered by the NSPE. This number rose to some 370,000 schools and 55.4 million school children in 1996-7. Attendance also increased from 21 million children in 1994 to 55 million in 1997. The NSPE has also helped to boost enrolment in primary schools.

All 32 states and union territories (UTs) of India are implementing the NSPE. Seven of these 32 states and UTs, namely, Gujarat, Haryana, Jammu & Kashmir, Kerala, Madhya Pradesh, Orissa, Tamil Nadu and the UT of Pondicherry, are providing school children with a hot cooked mid-day meal. This is usually a cereal-pulse preparation with some condiments and seasonal vegetables. The remaining states and UTs either prefer not to give meals, or are not ready at present to make the necessary arrangements for provision of a hot cooked meal and have opted to provide school children with 3kg of grain per month for an 80% attendance record.

[1] The NSPE is the current Mid-Day-Meal Programme (see *SCN News No.14 p23*).

Once the 'hot cooked meal' becomes the norm in India, with the majority of states and UTs providing hot meals, 5kg per month of grain per school child for 10 academic months will be supplied within those states and UTs that are not able to run a 'hot cooked meal' programme. This is based on the argument that other members of the family in addition to the school child will consume the 'take-home' grain ration.

The NSPE is a 100% Central Government sponsored scheme. The cost of the food grains and transportation are borne by the Central Government. In the case of hot cooked meals, the States or UTs have to bear all other costs (kitchens, cooks, fuel etc.) Rs.8000 million was spent in 1996-7 (equivalent to approx. 190 million US$), and Rs.9600 million has been allocated in 1997-8 (equivalent to approx. 225 million US$).

Preliminary reports indicate that the NSPE is working well in the rural sector but not so well in the urban sector where the ration shops may be located far away.

School girls receiving iron, vitamin A and anthelmintics in the classroom. (T. Gopaldas)

Monitoring and evaluation

The Government of India is developing a computerised Management Information System with the assistance of the National Informatics Centre in New Delhi in order to record data on enrolment, eligible beneficiaries for NSPE, and quantity of food grains allocated, collected and utilised. The system is not, as yet, fully operational as training at the state and UT level is required.

An all-India process and impact evaluation of the NSPE is urgently required. The reactions of the main actors, namely the school child, the teacher, and the local ration shop keeper are yet to be evaluated. Similarly, whether or not linkages have been formed with the primary health centres, the village *Panchyats* and the ICDS has to be ascertained. Furthermore, the advantages and disadvantages of the 'take home' grain ration versus the hot cooked meal variant have to be assessed. Above all, if the NSPE has an important nutritional status improvement objective, then its impact in this crucial area has to be evaluated.

How can the present NSPE be made to have a more nutritional and health slant?

- ◊ The NSPE must put nutrition and health objectives ahead of enrolment, retention and drop-out objectives.
- ◊ The NSPE must set a time-frame, say by the year 2000, where every primary and middle school child will receive a hot cooked meal.
- ◊ The NSPE must insist that a good brand of iodised salt be used in the hot cooked meal variant. India has the capability to produce the required quantity of iodised salt.
- ◊ In Indian communities, school-aged children are the age group most heavily infected with intestinal parasites. Hence, periodic deworming is a must. India has the capability to produce the required quantity of anthelmintics and dosing can and should be given by the teacher in the classroom.
- ◊ Weekly iron supplementation can and should be given by the teacher in the classroom. India also has the capability to produce the required quantity of iron supplements.
- ◊ India is one of the most vitamin-A deficient countries in the world. Legislation should make it mandatory that red palm oil, which is abundantly rich in β-carotene, be used in the hot cooked meals.

At present, India has a school-age population of approximately 200 million children. Policy-makers and implementers of the NSPE must realise that it would benefit the school child more to give him/her a health package of deworming, iron, vitamin A and iodine, rather than just grain. At Rs.10 (approx. 0.2 US$) per child per year, such a health package, delivered in the classroom throughout India, would cost Rs.2000 million a year versus a yearly expenditure of some Rs.10 000 million for the grain. The best proposition would be to give the school child both the hot meal and the health package in the classroom.

References

1. Nutrition Support to Education: report of the Committee on Mid-Day-Meals, New Delhi, May 1995.

2. Diet and Nutrition Surveys in Eight States of India on Rural Children (6-11y). National Nutrition Monitoring (Rural) Surveys. National institute of Nutrition, Hyderabad, 1990-2.

Tara Gopaldas is Director of Tara Consultancy Services, 124-B, Varthur Road, Nagavarapalya, Bangalore-93, India. Tel: 91 80 5242999 Fax: 91 80 5288098

SCHOOL FEEDING IN INDONESIA: A COMMUNITY BASED PROGRAMME FOR CHILD, SCHOOL AND COMMUNITY DEVELOPMENT

by Lisa Studdert and Soekirman

In July 1996, Indonesia initiated a national school feeding programme. Initially implemented in all officially designated 'poor' villages except those on the islands of Java and Bali, the programme expanded in year-2 of implementation to include all 'poor' villages throughout Indonesia. The programme now provides a nutritious snack three times a week to 7.2 million primary school children. In developing this programme, the Government of Indonesia has adopted a unique approach to school feeding with community-based implementation involving several community groups, utilisation of local foods, and education and health components. This design is aimed at an overall programme goal of human resource development while addressing several objectives that target human, economic and social development at the community level. The sustainability of the programme will depend on the empowerment of all involved people - especially women. The objectives and the programme design recognise that improvement in children's health, nutritional status and educational achievements requires interventions that extend beyond the school child in the schoolyard or classroom.

Human resource development in Indonesia

The Government of Indonesia has recognised human resource development as a key objective of its second (current) 25-year Development Plan. In the 1970s, the government launched a primary school development programme ensuring that every village in the country has a primary school. Building on this, the current 5-year Development Plan (1994/95-1998/99) has directed that all children should receive a minimum of nine years of schooling. There was concern, however, that these efforts have focused more on the infrastructure and policy than on the child and the child's capacity and ability to be in school and learn and progress effectively. Surveys in the early 1990s showed that up to 70% of children in 'poor' villages were consuming less than 70% of the their daily energy requirements; up to 40% of children are anaemic and between 50-80% of children have worm infections. Moreover, it is estimated that each year around 1.2 million children - or 4.2% of the eligible population - drop out of school.

Thus, the *Programme Makan Tambahan Anak Sekolah* (supplemental food for the school child - PMT-AS) was pilot tested in several provinces in the early 1990s and introduced as a national policy, with presidential endorsement, in 1996. Expenditure in 1997/98 was over US$ 100 million.

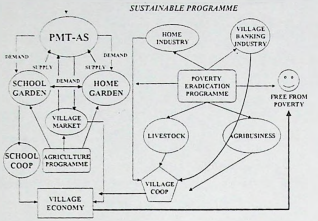
PMT-AS: the why and how

The objectives of the PMT-AS programme are divided into those for the school child, those for the school and those for the parents and community.

PMT-AS Objectives	
For the child:	-reducing absenteeism; -alleviating short-term hunger; -increasing total energy intake; -educating children on topics of health and nutrition; -reducing worm infection rates through the provision of deworming medication twice yearly.
For the school:	-improving teachers knowledge on teaching health and nutrition topics.
For the parents and community:	-knowledge and involvement of parents in children's health, nutrition and education; -increased demand and appreciation for local agricultural produce.

Implementation of the programme revolves around the provision of a mid-morning 'snack' to primary school children three days per week through the school year (9 months). The term 'snack' is deliberately used so that there is no impression that the food is a meal that replaces food children would receive at home thus ensuring, as much as possible, that the snack received is additional and not substitutional. Children are also given deworming medication twice per year.

Funds, based on a per-snack, per-child, per-day amount are sent from the national level directly to the local level. Only the school principal may withdraw funds from the bank, and only with a snack menu plan co-signed by the heads of the local women's and parent's associations. The menu plans are prepared at the community level with technical advice from Ministry of Health personnel. It is stipulated that menus must use locally produced foods and that the snack must contain a minimum of 300 calories and 5g of protein. The compulsory use of locally produced foods is key to ensuring PMT-AS funding is



Hypothetical relation between PMT-AS and village economy

directed into, and kept within, the local economy. Hence, PMT-AS provides incentives for intensified local production as well as for home garden produce and school gardens. Through this mechanism, PMT-AS is expected to contribute to national poverty eradication programmes (see diagram above).

The process for food purchase and preparation is not strictly defined, but training and guidelines have been provided suggesting that the local women's association (PKK) and the school parents association (BP3) develop a system acceptable and appropriate to that community. Observations in the field have shown a wide range of practices involving between 1-15 women - some villages with a core group that does all the work, others with teams that work on a rotating basis. Support and guidance are expected from the village leader, local Ministry of Health and Education officials and school officials.

A programme for the future and in a crisis

It is intended that the PMT-AS school feeding programme will be a long-term government initiative in Indonesia. Funded entirely by government resources, the recognition of its importance for the long-term future of Indonesia is signified by the fact that funding support has been maintained in spite of the economic crisis that has recently affected Indonesia.

In the life of such a programme it is still early days. The government plans to start comprehensive monitoring and evaluation activities in the coming year – year 3 – of implementation. The results of these activities will be used to modify and enhance implementation processes and related training activities and guidelines. Moreover, these results should start to assess programme impacts so that the value of this programme can be analysed, appreciated and shared with other nutrition, health and education policy makers and programme planners around the world.

Lisa Studdert is a doctoral student at Cornell University, Ithaca, New York, USA, carrying out research in Indonesia in 1998 on the PMT-AS programme. Tel (c/o UNICEF, Jakarta): 62 21 570 5816 Fax: 62 21 571 1326 Email: lisa@cim.com.au or ljs10@cornell.edu Dr Soekirman is Professor of Nutrition at the Agriculture University, Bogor, Indonesia. Tel: 62 21 7987 993 Fax: 62 21 7987 130 Email: skirman@rad.net.id

ADDRESSING MICRONUTRIENT DEFICIENCIES IN PRIMARY SCHOOL CHILDREN WITH FORTIFIED BISCUITS

by Lize van Stuijvenberg and Spinnie Benadé

Early in 1995, after having been approached by the community leaders of a rural village in KwaZulu-Natal, South Africa, the South African Medical Research Council undertook a cross-sectional nutritional survey in that community. The results showed deficiencies of iron, iodine and vitamin A; the prevalence of vitamin A and iodine deficiencies exceeded the level regarded by the WHO as a public health problem. These deficiencies were also present among the children attending the local primary school, despite the fact that a school feeding scheme, whereby the children received a cooked meal five days each week, had been in operation for a period of two years prior to the survey. 16% of the children were stunted and 2% were underweight.

An intervention study, in collaboration with the local community leaders and the food industry, was then undertaken to determine whether the micronutrient deficiencies present in the school children could be alleviated through food fortification. A shortbread type of biscuit was identified as a suitable vehicle for fortification. A similar biscuit is sold by the shops in the area and is very popular amongst the school children. The biscuit was fortified with β-carotene, iodine and iron (50% of the RDA), while a cold drink served as a carrier for vitamin C which was necessary to enhance the absorption of the iron. Two hundred and fifty-two 6-11-year-old children were randomly allocated to a group that received a fortified biscuit and cold drink, or to a group that received

an unfortified biscuit and cold drink. The biscuits and cold drinks were distributed daily during the school week, during the first two hours of the school day, for a period of 12 months. No intervention took place during school holidays or on public holidays. Distribution and consumption took place under close supervision and compliance was recorded daily. To exclude parasitic infestations as a confounding factor, the children of both groups were dewormed.

The 12-month intervention resulted in a significant improvement in blood levels of vitamin A, ferritin, iron, haemoglobin, haematocrit and in urinary iodine levels in the group who received the fortified biscuits compared to the unfortified group. The greatest improvement in vitamin A and ferritin status was seen in children with low values at the start of the study, while the intervention had little effect on those with adequate status: i.e., those that needed it most benefited the most from the intervention. The prevalence of low serum vitamin A levels (<20 µg/dl) dropped from 39% to 12%, of low serum ferritin levels (<20 µg/l) from 28% to 14%, and of anaemia (<120 g/l) from 30% to 16%. There were no significant reductions in the group receiving the unfortified biscuit. The prevalence of low urinary iodine levels (<10µg/dl) in the fortified group decreased from 98% to 30% after 6 months, and to 5% after 12 months. In the unfortified group the prevalence decreased from 96% to 90% and 34% after 6 months and 12 months, respectively. The iodisation of salt became compulsory in South Africa during the second half of our study, thus contributing to the improvement in iodine status in both the fortified and unfortified groups. There was no reduction in the prevalence of goitre, which was 21% at the baseline assessment; a 12-month period may, however, have been too short to reverse an already enlarged thyroid. The biscuit was well accepted and 74% of the children indicated that they would prefer more than the three biscuits they were receiving. The price of three biscuits is US$0.05 per child per day and provides 191kcal. The cost of fortification itself is US$0.86 per child per year.

A danger of school feeding is that parents may reduce the food provided for children at home. Using a biscuit as a vehicle for fortification eliminates this problem, because it is seen as a snack rather than a meal and therefore unlikely to replace meals given to the child at home. In this study the biscuit intervention had no effect on the number of children who ate breakfast before coming to school, nor on the number of children bringing food to school. Additional advantages of using a biscuit are that it needs no preparation, is easy to distribute and has a long shelf life. It is also easy to monitor and therefore less open to misuse or corruption.

Dealing with the hidden hunger of micronutrient deficiencies through food fortification is regarded as a short- to medium-term solution to address an immediate need. Longer-term solutions will include nutrition education in schools and communities with regard to the need for diverse diets. Should a fortified biscuit be implemented in school feeding, it is recommended that it be accompanied by a relevant nutritional message which would put the fortified biscuit in the diet into perspective.

Using a micronutrient fortified biscuit and cold drink in school feeding is feasible, effective and practical, and can seriously be considered for addressing micronutrient deficiencies in school children. The role of nutrition education as a long-term solution should, however, not be overlooked.

The biscuit is now commercially available and is actively marketed at the primary school level by the food industry, using the scientific results to promote its use in school feeding programmes throughout South Africa. Once in place, an effectiveness study will be carried out.

Lize van Stuijvenberg, Senior Scientist, P.O. Box 19070, Tygerberg, 7505, South Africa. Tel: 27 21 9380911 x 264 Fax: 27 21 9380321 Email: lvanstui@eagle.mrc.ac.za AJS Benadé is Programme leader of the Nutritional Intervention Programme, Medical Research Council, Cape Town, South Africa. Mailing address: Medical Research Council, PO Box 19070, Tygerberg 7505, South Africa. Tel: 021 938 0283 Fax: 021 938 0321 Email: sbenade@eagle.mrc.ac.za The information contained in this article is also available as a technical report and a policy brief issued by the MRC. Both are available free of charge on request from Dr Benadé.

SCHOOL FEEDING PROGRAMMES: LESSONS FROM KENYA
by Ruth Oniang'o and Agnes Kimokoti

The National School Milk Programme launched by Presidential Decree in 1978, was a move to contribute to better health and nutritional status of school children. The costs of running this programme, however, have become unaffordable by the government, and as such, the operational targets of the programme can no longer be met. A second school feeding programme aimed at improving both nutritional and educational outcomes began in WFP-assisted areas where schools not only fed children, but also promoted nutrition education. This is now a nation-wide programme, although the phasing out of support by WFP means that its future is uncertain. In both of these cases, financial support seems to be the major constraint. There is a need to look into alternative mechanisms and more cost-effective strategies of supporting child nutrition.

Issues for consideration

Some issues to be borne in mind when considering school feeding programme design and implementation in Kenya include the following:

◊ Kenya has had a tradition of providing school lunches, either through government or community mechanisms. Parents play a key role in school feeding. Where they can, parents support a scheme that provides a hot meal for their children. In such cases, vendors and hawkers are discouraged because of food safety and quality concerns. In arid and semi-arid areas, where families have few resources, parents make only a modest contribution. Government- arid WFP-supported schemes have targeted such areas with the aim of encouraging school enrolment and attendance. It is these areas where the majority of the population is illiterate and the enrolment is fragile so that incentives are required to motivate school enrolment and retention.

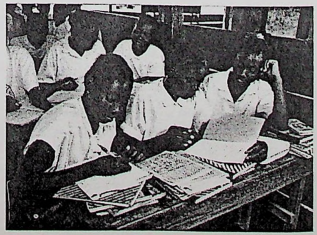
◊ Some parents are able to afford to give their children a packed lunch or money to buy food. However, it has been observed that when children are given money, they buy snack foods of low nutritional quality, or spend their money on something else entirely. With a growing drug problem among Kenyan youth, parents are hesitant to give food money to their children for fear that this will be spent on drugs.

◊ The Nutrition and Health Unit has developed recommendations relating to school feeding. The Unit advocates the carrying of packed lunch to school by every child and discourages parents as much as possible from giving their children money. This applies especially to children who commute daily to school. The Nutrition and Health Unit is also encouraging schools to establish their own school gardens. This would go a long way towards minimisation of expenses of buying food, for both schools and parents.

◊ Apart from giving the actual food, the Unit is also concerned with providing nutrition education and sensitising the public to proper nutrition and feeding habits, diet diversification and food quality and safety. This is done deliberately through the school curriculum, posters and during parent-teacher meetings. According to the head of the Unit, considerable success has been achieved in this area.

◊ In urban and peri-urban slum areas, NGOs are involved with provision of food for school children. However, there is a need for the government to coordinate all school feeding activities. Continuous monitoring is also necessary in order to formulate a programme that is beneficial to children, manageable by the schools and affordable by the parents.

Ruth Oniang'o is an AGN Member and Professor of Food Science and Nutrition at the Jomo Kenyatta University, College of Agriculture and Technology, P.O. Box 62000, Nairobi, Kenya. Tel: 254 151 22646/9 Fax: 254 2 583294 Email: oniango@iconnect.co.ke Agnes Kimokoti is a Senior Lecturer at the University of Nairobi, Faculty of Education, P.O. Box 30197, Nairobi, Kenya.



Courtesy of UNHCR (23092/10.1993/L.Taylor)

MALNUTRITION AMONG SCHOOL CHILDREN IN INDUSTRIALISED COUNTRIES

by Andrew Tomkins

Poor nutrition in school children seriously compromises their health and learning capacity and sets up a disastrous trend towards damaging dietary patterns which affect the prevalence of disease in adults. There is disturbing evidence that the nutritional status among school children is deteriorating. In previous generations, anaemia, rickets and poor growth were associated with low socio-economic status. However, current radical changes in lifestyle among both poorer and better-off strata in industrialised countnes, mean that personal preference about foods, fashion, physical activity levels and the media are now driving the nutritional patterns of school children more than the availability of food itself.

Traditional nutritional programmes focus on the provision of an adequate diet so that children can maintain a good level of health and benefit from the opportunities to learn at school. However, health and nutrition of school children are also of critical importance for determining the prevalence of adult diseases such as ischaemic heart disease, hypertension, certain types of cancer and diabetes. Failure to address the nutrition of school children probably explains why so many programmes aimed at preventing adult disease have had very limited impact.

This article concentrates on the nutritional problems facing industrialised countries, such as those in Europe and North America, but there are many communities in other continents where the nutritional status of children in better-off families is more akin to the industrialised nations, than to malnutrition syndromes of anaemia, hunger and stunting. Current epidemics of premature mortality among adults in less developed countries also have important origins in schoolchild nutrition.

Nutritional problems of school children

Obesity. There is a steadily increasing epidemic of obesity among school-age children. Age-adjusted body mass index (BMI: weight divided by height squared) centiles are now available on the basis of which around 15% of UK children have a BMI of over 25. This figure has increased steadily over the last 2 decades. Using linked longitudinal data, up to 60% of obese children remain obese when they are restudied in their early 30s. Obesity in children is associated with a decreased willingness to become involved in physical activities and sports, leading to a much lower level of fitness. Obesity in children is also a major risk factor for adult disease.

Hypertension. Several longitudinal studies show an increase in levels of blood pressure among older children leading to hypertension in adulthood. While there are few immediately visible problems as a result of increasing blood pressure in adolescents, it is of concern that as such trends continue into adult life, they will increase the risk of heart attacks and strokes.

Eating disorders. While overweight is a major problem among school children, there is an increasing prevalence of anorexia nervosa and bulimia, especially among girls. The widespread, current social vogue, driven by the media and advertising agencies, which dictates that it is more beautiful to be thin, is a key factor driving the eating patterns of school children. This has devastating impacts on mental and physical health, school performance and family relationships.

Dental disease. Despite the enormous publicity and health promotion about the effect of confectionery on dental caries, dentists still find poor levels of dental health among many school-age children.

Anaemia is still a problem, especially in countries such as the UK where certain ethnic groups, such as Asians, may be disadvantaged and have dietary patterns which increase the risk of iron deficiency.

Antioxidant deficiency. Many adult diseases such as coronary heart disease and some forms of cancer are the result of the interaction between toxic agents, which generate free radical release, and lack of antioxidants which prevent disease by scavenging the free radicals. Toxic agents include excessive fat intake and cigarettes. There is a disturbing deficiency of certain antioxidants such as vitamin C because of rather low levels of fruit intake by many school children. Soft drinks and confectionery make up an increasing proportion of children's diets.

Hunger. Children who do not eat before coming to school do not perform so well at school. Increasingly, children 'fend for themselves' and many leave home without breakfast.

Changing lifestyles and dietary patterns

Major societal change has occurred such that 'family meals', when parents and children sit down together to eat and talk, are much less common than in previous decades. Children are often given money to buy food

during the day and even when they do eat at home, there are increasing trends towards use of convenience pre-prepared foods rather than traditional meals. The 'eat and go' culture and decreasing levels of social interaction between parents and children mean that children 'choose' rather than 'are told' what to eat.

Convenience foods frequently have high levels of dietary fat; many surveys show that school children eat over one third of their energy as fat. Children tend to have high sodium intakes as a result of the spices and sauces which are an integral part of many fast foods and snacks.

Physical exercise and fitness among children is decreasing. As a result of increasing community violence, danger and parental fear, children are more frequently taken to school by car or bus rather than walking or cycling. Many schools have sold playing fields in recent years in order to provide income to pay teachers and have reduced staff salaries for supervision of physical activities such as team games and individual exercise. Provision for physical activity in inner cities is a special problem. Recent studies show that children take very little exercise which is vigorous enough to increase heart rate significantly.

Increased consumption of toxic agents such as cigarettes, alcohol and drugs all put a stress on the antioxidant capacity on the body to overcome their degenerative effect. Advertising aimed at school children is now a major focus of the food industry. While most governments prohibit cigarette advertising aimed at the young, no government has any policy aimed at reducing the consumption of certain foods by school children.

Action for nutritional improvement

There are several ways of improving nutrition of school children. Children themselves should be the focus. Few people, other than the marketing units of the major confectionery and snack food industry, have really addressed their needs or wishes. Health promotion which starts with children's own perceptions and enables them to look at their wishes for health and feeling "good" both now and in the future are essential. Participatory approaches are likely to be more acceptable and effective rather than lectures which are considered "boring".

Parents need guidance. With the decreasing tendency of many parents/carers to provide cooked meals for children, and in certain circumstances, a low level of knowledge of how to prepare even a basic meal, there is a need to improve parenting as a focal point for improving the family dietary intake.

Schools have a great potential. Nutrition and health issues should be incorporated into the curriculum from an early stage, with boys learning just as much about food, its values and preparation, as girls. Self-learning activities, such as 'Child-to-Child' approaches are effective at stimulating 'learning by doing'. In disadvantaged areas, where many children come to school without breakfast, concerned school authorities can start 'breakfast clubs' where children can begin the day with a better nutritional state. Suitable foods include nutrient-dense porridges, suitably enriched or fortified biscuits or locally prepared nutrient rich-snacks.

School governors or councils have responsibility for monitoring academic standards in schools. They can also ensure adequate quality of nutrition within the curriculum and catering services. Only food of appropriate nutritional standards should be provided by school catering agencies. School governors also have the ability to limit the promotion and advertising of less nutritionally valuable foods obtainable by automatic vending machines which provide snacks for cash.

Community councils have statutory powers to licence fast food vendors who target their sales towards school children. They also have opportunities to provide local events which promote healthy diets and physical activity.

The media and food industry have enormous responsibility. The fashion industry has a responsibility for promoting beauty as something other than thinness. The food industry has a responsibility for promoting foods which can contribute to a better dietary intake.

Social services identify children from poor families who need particular income support and subsidise school meals for certain children. Despite their efforts, recent studies in the UK show that poor families still find it difficult to buy enough of certain foods such as fruit, even though energy intakes may be so great that their children are overweight.

Transport policies are crucial. Both city and rural councils need to develop a physical activity policy, especially within an overall transport policy such that children are able to cycle and walk to school safely and find safe places to take vigorous exercise.

Government policies. Improving nutrition of school children cannot be achieved by a government policy from one ministry alone. It needs concerted, focused work between ministries of health, agriculture, education, sports and social welfare. Governments need to liase with local community voluntary groups such as in the

Health Cities Project of WHO and in the Health Action Zones now starting in the UK. If Governments recognised that such policies do not just address issues of childhood, but are crucial for longer term issues of adult health and national development they would take school child nutrition much more seriously.

Nutrition Professionals. It is the task and challenge for nutrition professionals to inform and stimulate action by government and community alike. With increasing independence, it is increasingly children, rather than their parents, who decide what to eat. The challenge for any policy maker or programme manager is to understand their needs and wishes and promote dietary intakes that will provide better health for themselves, both now and in their adult years.

Andrew Tomkins is Director of the Centre for International Child Health, Institute of Child Health, University College London, 30 Guilford Street, London WC1N 1EH, UK. Tel: 44 171 242 9789 Fax: 44 171 404 2062 Email: a.tomkins@ich.ucl.ac.uk

TRENDS IN THE INTAKE OF READY-TO-EAT FOOD[1] AMONG URBAN SCHOOL CHILDREN IN NEPAL

by Indira Sharma

In 1996, a cross-sectional study was conducted in an urban Nepalese school to assess the food behaviour of school-aged children in relation to ready-to-eat food (REF) intake, its impact on nutritional status and nutritional composition of meals eaten. 610 school children aged between 9-11 years from middle income families were included in the study. Consumption of seven widely available REFs - namely biscuits, bread, noodles, snack packets, potato chips, low cost doughnuts and dalmoth (a snack prepared from beans) – was assessed. Demographic and socio-economic data were collected and a questionnaire was developed to gather information on food choices and preferences.

The frequency and amount of REF intake was recorded for each child over a period of one week. Results showed that children consumed at least one or two items of REF every day. The average frequency of REF intake was 1.9 times per day, and the amount consumed was 125g per day. This provided 439 (+/-127 SD) calories on average per day – approximately 20% of the total energy requirement of children in Nepal. When classified according to the level of REF consumption, the majority of children (59.6%) had moderate consumption (300-500 calories), 27.7% had high consumption (>500 calories) and 12.7% had low consumption (<300 calories).

Compared with traditional foods, REFs were preferred by the majority of school children (68.7%). Taste preference, convenience and affordability were the foremost criteria in choosing REFs. In the majority of cases, parents were responsible for introducing REFs into their children's diets. The role of advertising in influencing children's choices was also considered relevant by 80% of children. Among the many socio-economic factors, per capita income and mother's education level was found to be positively associated with REF consumption.

A subsequent, in-depth study conducted on a representative sub-sample of school children drawn from the low-, moderate- and high-consuming groups compared the nutritional status of the children in the three groups. There were no significant inter-group differences in height, weight, or in the energy and protein density of meals eaten by the children. The intake of pulses, green leafy vegetables, fruits and milk was, however, found to significantly decrease with increasing REF consumption.

Taste preferences for new food products are slowly changing children's food habits from eating conventional foods to preferring modern convenience foods. Presently, this change in eating behaviour is seen mainly in snacking patterns, however this may further extend to main meals. Thus, the results obtained from this study indicate changing food habits with an increase in REF intake by (middle-income) school children in Nepal. Is it expected that this trend will further accelerate in the future because of ongoing technological developments in the food industry - encouraged by government policies - leading to an increased rate of REF production. Furthermore, per capita income and women's education level are also expected to increase.

Considering these points, it is advisable to take timely precautions for the prevention of the deleterious effects stemming from the intake of industrially processed ready-

[1] Ready-to-eat foods are defined in this article as 'industrially produced processed food characterised by food additives, low fibre, high salt and sugar containing foods that are expensive compared with home-made traditional foods'.

to-eat foods which are deficient in micronutrients such as calcium, iron, and vitamins A, B and C. The loss of various nutrients during processing suggests a possibility of their fortification with different nutrients. Caution must be taken however regarding the addition of harmful food additives, especially artificial colours and flavours. Labelling in all manufactured foods should be made mandatory. Nutrition education for mothers should include the adverse effects of food containing high levels of sodium, fat, sugar, food additives and low levels of fibre, and the improvement of children's diets by compensating the deficient components with other rich sources. Finally, the importance of balanced diet with special emphasis on the formation of good food habits should form an integral part of nutrition education for school children in Nepal.

Indira Sharma, Tribhuvan University, Padma Kanya Campus, Bagbazar, Kathmandu, Nepal. Tel: 977 1 414482 Fax: 977 1 418907 Email: sushil@mos.com.np The full research article describing these studies was published in the journal of "Asian Regional Association for Home economics" 1996. Vol. 3 pp 22-27 (Editor Dr. Soojae Moon. Dept of Food and Nutrition, Yonsel University, Seoul, Korea).

CDC'S GUIDELINES FOR SCHOOL HEALTH PROGRAMS TO PROMOTE LIFELONG HEALTHY EATING

The key to promoting health in children of school-age is education, and the best opportunities for positively influencing the health of this age group are found in the school (*World Health Report, 1998, p85*). Most young people in the United States make poor eating choices that put them at risk for health problems. For example, over 84% of young people in the US eat too much fat; 51% eat less than one serving of fruit a day; and 8% of high school girls take laxatives or vomit to lose weight or prevent weight gain. The consequences of unhealthy eating include an increased risk of obesity (the percentage of young people who are overweight in the US has more than doubled in the past 30 years), lower intellectual performance, ill health and premature death in adulthood. On the other hand, the benefits of healthy eating patterns in childhood include promotion of optimal health, growth and intellectual development, the prevention of iron deficiency anaemia, obesity, eating disorders and dental carries, and the prevention of long-term problems such as coronary heart disease. Establishing healthy eating habits at a young age is therefore critical, and schools can help young people improve their eating habits by implementing effective policies and educational programmes.

The Division of Adolescent and School Health of the US Centers for Disease Control and Prevention, has developed a series of guidelines, one of which is the *Guidelines for School Health Programs to Promote Lifelong Healthy Eating.* These guidelines identify the most effective policies and programmes that schools can implement in order to promote healthy eating choices. Seven recommendations are included in the guidelines. These include the development of a school policy on nutrition, the implementation of nutrition education, the integration of school food services and nutrition education, suitable staff training, family and community involvement and programme evaluation.

These guidelines are available on the Internet at http://www.cdc.gov/nccdphp/dash. The document 'CDC's Guidelines for School Health Programs to promote lifelong healthy eating – at-a-glance' is available from CDC, National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health, ATTN, Resource room, 4770 Buford Highway, Mailstop K-32, Atlanta, GA 30341-3724. Tel: 1 770 488 3168.

Source: CDC. Guidelines for School Health Programs to promote lifelong healthy eating. MMWR 1996; 45 (No.RR-9), and brochure 'CDC's Guidelines for School Health Programs to promote lifelong healthy eating – at-a-glance'.

Agir à l'école. Pour de meilleurs résultats scolaires par l'amélioration de la santé et de la nutrition dans les pays non industrialisés (Banque Mondiale, 1998)

par Joy Miller del Rosso et Tonia Marek

A partir d'exemples concrets, cette publication montre qu'une santé et une nutrition déficientes limitent l'acquisition du savoir par les élèves et réduisent les taux d'inscription et de fréquentation scolaires.

Plusieurs interventions d'un coût modique et d'une haute efficacité, déjà réalisées ou à entreprendre par les Etats afin d'améliorer la santé et la nutrition des populations scolaires, y sont exposées.

L'ouvrage récapitule comment ces améliorations peuvent se traduire par un renforcement des capacités individuelles grace à une incidence bénéfique sur les taux de

scolarisation, l'assiduité, les performances scolaires, la productivité économique et sur la santé des futures générations.

On distingue cinq châpitres: "*Les enfants d'age scolaire: une population à risque*"; "*Situation couteuse, remèdes peu couteux*"; "*Accroissement de la productivité et amélioration de la santé communautaire*"; "*Agir*"; "*Leçons à retenir*". Deux annexes complètent l'ouvrage: "*Informations nécessaires pour une analyse de la situation des enfants d'age scolaire en nutrition et santé*", et une liste par pays de projets financés par la Banque Mondiale et liés à la nutrition et à la santé de la population d'age scolaire.

Class Action. Improving School Performance in the Developing World through Better Health and Nutrition (World Bank, 1996)

by Joy Miller del Rosso and Tonia Marek

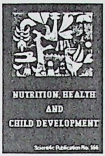
This publication shows concrete evidence that with poor nutrition and ill health, the learning capacity of children, and school enrolment and attendance rates are reduced.

A discussion on a variety of low-cost and highly efficient actions that governments have taken and can take to improve the health and nutrition of school age children is provided. The book summarises how improvements in these areas will lead to gains in human capital development through its beneficial effects on school enrolment, attendance, and performance, economic productivity, and the health of future generations.

60pp. US $10. English and French versions are available from The World Bank, P.O. Box 960, Herndon, VA 20172-0960, U.S.A. Tel: 703 661 1580 Fax: 703 661 1501 Email: books@worldbank.org World Bank publications can also be ordered via the World Bank website at http://www.worldbank.org/html/extpb/ordform/ordform2.htm

Nutrition, Health and Child Development (1998)

In the countries of Latin America and the Caribbean infant mortality rates have been steadily decreasing over the past few decades, with more children surviving past infancy than ever before. As more and more children live to school age, the quality of life and concerns for achieving optimal physical and psychological potential and to benefit fully from education become paramount. A child



who has developed to the peak of his or her potential will be happier and learn better, and will ultimately grow up to become a more fully engaged, productive citizen.

This publication, arising from a workshop jointly organised by the Tropical Metabolism Research Unit (TMRU) of the University of the West Indies, and PAHO in 1995 in Jamaica, examines how and to what extent nutrition, health, and stimulation can affect children's cognitive and social development and their ability to learn in schools. By examining recent research, the authors explore such topics as undernutrition, iron and iodine deficiencies, neonatal feeding, short-term food deprivation, parasitic infections, and psychosocial deprivation. They also review results from early childhood interventions, including nutritional supplementation and psychological stimulation, as well as interventions in later childhood, including school feeding and deworming programmes.

Although no formal consensus statement of the workshop was issued, the technical editor, Sally Grantham-McGregor, summarises the main findings of the workshop in an appendix. With respect to school-age children, these include the following:

- ◊ There is now reasonably strong evidence to support a detrimental effect of undernutrition on school-age children's development.
- ◊ The effects of iodine deficiency on the cognitive development of school-aged children is equivocal and more data is needed.
- ◊ High risk school-aged children benefit from iron supplementation and school feeding programmes.
- ◊ New data are emerging on the interactions between different nutritional and health conditions, such as undernutrition and missing breakfast, or undernutrition and parasitic infections.
- ◊ Improving children's health and nutrition while they attend highly inadequate schools is unlikely to improve their achievement levels, thus, health and nutrition interventions for school-aged children should be integrated into educational improvement programmes.

268 pp. US $36 (US$26 in developing countries). A joint publication by the Pan American Health Organization, the Tropical Metabolism Research Unit of the University of the West Indies and the World Bank. Scientific Publication No.566. Copies of this book can be ordered from PAHO Sales and Distribution Center, P.O. Box 27, Annapolis Junction, MD 20701-0027, USA. Tel: 1 301 617 7806 Fax: 1 301 206 9789 Email: paho@pmds.com or via the PAHO website at http://www.paho.org

A SUMMARY OF SCN WORKING GROUP DISCUSSIONS, OSLO 1998

On the occasion of the SCN's 25th Session in Oslo, Norway (26 March - 2 April, 1998), eight working groups met to discuss scientific, policy and programmatic developments, and to develop priorities and recommendations for action. Presented here are summaries of the discussions and decisions taken during these meetings. Full reports of each of the working group meetings are available on request from the SCN Secretariat, c/o World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 0456 Fax: 41 22 798 8891 Email: accscn@who.ch

Nutrition, Ethics and Human Rights

There is a growing interest in a human rights approach to food and nutrition among SCN members, attributed in part to the UN reform process to incorporate human rights approaches in all programme activities. This move away from a basic needs approach means that people can not only express their needs for, but also claim their rights to adequate food and nutrition.

The working group discussions were guided by a document prepared by WANAHR[1] entitled '*The Promotion and Protection of the Human Right to Food and Nutrition by ACC/SCN Members*', which identifies challenges and opportunities for the SCN in defining, adopting and monitoring a human rights approach to food and nutrition. Prominent among these is the need to develop an IEC (information-education-communication) strategy on the right to food and nutrition in close collaboration with the UN High Commissioner for Human Rights (UNHCHR).

One of the main recommendations of this working group was that the Symposium at the 26th Session of the ACC/SCN in 1999[2] have the theme '*The Substance and Politics of a Human Rights Approach to Food and Nutrition Policies and Programming*'. This recommendation was approved by the SCN.

Iodine Deficiency Disorders (IDD)

The remarkable success by countries and the international community in eliminating IDD has been greatly helped by commitment and prioritisation at all levels. However, in some countries, interest is declining and sustainability is emerging as a major concern. In response, the working group drew up 10 key requirements for sustainability of programmes and urges the ACC to maintain its commitment to the elimination of IDD.

The working group also discussed the need to improve coordination of databases, the relative merits of different kits to measure iodine in salt and urine, and the issue of IDD elimination as a human right.

Household Food Security

The working group heard a number of presentations on different agencies' approaches to household food security as an integrated part of a larger livelihood security approach. These included a presentation of CARE's Household Livelihood Security approach to assessment, action and monitoring, and a presentation by FAO of the document '*Household Food Security and Nutrition: Approaches and Experiences of FAO*'.

The working group proposed that a workshop on promoting household food security in Africa be organised during 1998, and that agencies prepare brief summaries of highlights in the household food security area, focusing on one or two countries with successful programmes as examples. The working group is currently addressing the problems of targeting household food security interventions, and the operational methods required to target such interventions.

Breastfeeding and Complementary Feeding

Seven issues were discussed by the working group: maternity legislation, the care approach, complementary feeding, Code implementation, the Baby-Friendly Hospital Initiative, the economic value of breastfeeding, and HIV and infant feeding in the context of vertical transmission. For the latter, the urgent need for detailed practical guidance to manage the distribution of breastmilk substitutes for use by infants of HIV-positive mothers was stressed. This was subsequently addressed at a WHO-UNAIDS-UNICEF technical consultation on HIV and infant feeding (Geneva, 20-22 April 1998 – page 63).

The 1942 ILO Maternity Protection Convention No.103, which includes the right to maternity leave, cash benefits and medical benefits, is currently being revised and will be presented by the ILO in the year 2000 for consideration. The working group reaffirmed that UNICEF and WHO will work with ILO to ensure the protection of breastfeeding rights of working women. Further information is available through the new WABA webpage on

[1]World Alliance for Nutrition and Human Rights [2]The 26th Session of the SCN will be held at the office of the UNHCHR in Geneva, Switzerland, April 1999.

Chairs and Rapporteurs for SCN Working Groups, 1998

Working Group	*Chair(s)*	*Rapporteur(s)*
Nutrition, Ethics and Human Rights	Urban Jonsson (UNICEF)	Wenche Barth Eide & Uwe Kracht (WANAHR)
Iodine Deficiency Disorders	Graeme Clugston (WHO)	François Delange (ICCIDD)
Household Food Security	Bill Clay (FAO)	Lawrence Haddad (IFPRI)
Breastfeeding and Complementary Feeding	Lida Lhoiska (UNICEF)	Felicity Savage (WHO)
Nutrition of School Age Children	Judith McGuire (World Bank)	Andrew Hall (FCD)
Nutrition of Refugees and Displaced People	Rita Bhatia (UNHCR) & Anne Callanan (WFP)	Judith Appleton (OXFAM-GB)
Iron Deficiency Control	Nevin Scrimshaw (UNU)	Gary Gleason (INF), Rainer Gross (GTZ), Fernando Viteri (UNU) & Ray Yip (UNICEF)
Vitamin A Deficiency	Joanne Csete (UNICEF)	Martin Bloem (HKI)

breastfeeding rights of women at http://www.elogica.com.br/waba/working.htm

Nutrition of School-Age Children (see page 3)

Recent data suggest that nutritional problems in school age children may be greater and more widespread than previously thought. There are a number of activities aimed at improving the nutritional status of school-aged children, including school feeding programmes, school health and nutrition programmes (micronutrient provision, deworming, nutrition eduction and first aid), HIV prevention programmes, and water and sanitation projects.

The working group made three main recommendations. Firstly, more data on the nutritional status of schoolchildren are needed; secondly, the reference values on growth and anaemia need to be reviewed; and thirdly, there is a need to identify examples of good practices and success stories.

Nutrition of Refugees and Displaced People

The Oxfam report '*Acceptability and Use of Cereal-Based Foods in Refugee Camps*' (see page 39) was presented. It was agreed that as a follow-up, plans to hold a meeting to discuss levels of micronutrient fortification in blended foods will be explored.

Panel discussions on 'How Food Aid Works' reflected perspectives and constraints for providing food aid by ICRC, WFP, USAID and CIDA. The working group agreed to continue discussions on appropriate indicators for assessment of needs and impacts, and to better understand the processes of emergency food aid provision.

Iron Deficiency Control

Iron deficiency and iron deficiency anaemia has consequences for cognition, resistance to infection, physical performance, metabolic impairments, morbidity and mortality. The working group recommended that governments, agencies and NGOs use an integrated strategy to reduce iron deficiency in combination with other micronutrient deficiencies (e.g., vitamin A deficiency), based on a life cycle approach and focusing mainly on preventive measures. An integrated strategy should include a combination of dietary approaches, fortification of appropriate foods and supplementation of the most vulnerable groups. It was stressed that the focus of supplementation during pregnancy should be expanded to include young children (because of its impact on cognitive development) and non-pregnant women (so that women enter pregnancy with sufficient iron stores).

It was also recommended that iron deficiency prevention programmes be linked with related health programmes such as breastfeeding promotion, prevention of other nutritional deficiencies, reproductive health and measures to control infectious diseases – especially malaria and intestinal helminth infections.

Vitamin A Deficiency

The number of young children with sub-clinical vitamin A deficiency has been estimated by WHO/UNICEF and reported in the WHO/UNICEF MDIS report (1995). However, the working group expressed caution in citing the figure because of methodological difficulties, and recommended that WHO and UNICEF use a new method to update the prevalence and numbers.

The discussions of the working group covered a number of issues, including a presentation of the Bangladesh national vitamin A deficiency survey (in which access to home gardens was shown to play a role in addition to supplementation in reducing vitamin A deficiency), a presentation of the Nepal study on supplementation during pregnancy and maternal mortality (see *SCN News No.15 p27*) and a discussion of the near-crisis in Guatemala whereby the government considered revoking a law to fortify sugar with vitamin A.

A new initiative (the Global Vitamin A Initiative, supported by UNICEF, USAID, MI and CIDA) to accelerate progress towards the elimination of vitamin A deficiency as a public health problem was also presented to the working group.

ABSTRACTS FROM THE SYMPOSIUM

CHALLENGES FOR THE 21ST CENTURY: A GENDER PERSPECTIVE ON NUTRITION THROUGH THE LIFE CYCLE

The Symposium on Challenges for the 21st Century: 'A Gender Perspective on Nutrition through the Life Cycle' *took place on 30-31 March 1998 during the SCN's 25th Session in Oslo, Norway. Following the opening address by Richard Jolly, SCN Chairman, the Minister of International Development and Human Rights in Norway, Hilde Johnson, welcomed participants to Norway. We were delighted that Dr Gro Harlem Brundtland presented the keynote address on* 'Food, Nutrition and Health in a Global Perspective'.

The Symposium was chaired by Kaare Norum, Director and Professor at the Institute for Nutrition Research, Oslo, Norway. Presented here are the abstracts of the presentations, including the abstract of the 1998 Abraham Horwitz Lecture, 'Breastfeeding: From Biology to Policy' *by Isatou Semega-Janneh.*

The report of the proceedings of the Symposium are expected to be published in October and will be available from the SCN Secretariat, c/o World Health Organization, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 0456 Fax: 41 22 798 8891 Email: accscn@who.ch Details of all SCN publications are regularly updated on our website: http://www.unsystem.org/accscn/

THE GLOBAL NUTRITION CHALLENGE IN THE MILLENNIUM: PRESENTATION OF THE MAIN REPORT

by Philip James

(Commission Chair and Panel of Commission Members)
Rowett Research Institute, Scotland

Following the ACC/SCN meeting in Kathmandu in 1997, a Commission was established to consider the need for new initiatives, particularly in relation to the persistent burden of childhood protein-energy malnutrition. The contributions of UN and other international agencies to this endeavour were seen as the crucial components of any new plan. A reassessment of global trends in health has revealed that a range of issues needs to be tackled in a new coordinated way if the plea for the human right to health is to be converted into action. A preliminary perspective will be presented.

NUTRITION CHALLENGES AND GENDER IN ASIA

by Suttilak Smitasiri

Institute of Nutrition, Mahidol University, Thailand

Though science has increased knowledge leading to the improvement of nutrition in the past fifty years, recent reports indicate that malnutrition is still a contributory factor to half of the deaths of our children today. In Asia, during this same period, there have been many successful nutrition interventions which have demonstrably changed nutrition situations. Prevalence and numbers of malnutrition in the populations in general, are going down but progress among countries and different areas within countries are often uneven. South Asia, for example, still has the world's highest prevalence of childhood malnutrition and some countries in South East Asia still have widespread problems. Moreover, the recent Asian economic crisis will undoubtedly challenge all nutrition workers as to how to improve or maintain nutrition situations in the region.

Thailand is an Asian country which has made good progress nutritionally in the past twenty years. In this paper, the author attributes Thailand's success to good strategic thinking of leaders in the field of nutrition and development, a determined commitment of several sectors, good participatory action plans, systematic monitoring and most importantly, an effective social mobilisation process at all levels. Essential elements in the Thai holistic nutritional development process which led to rapid progress are discussed. The issue of gender in the development process is critical to the success of empowering women, men, families and communities in taking positive actions towards nutritional change. A gender issue in the Thai context is discussed and synthesised. Lastly, some remedial suggestions are made which might be helpful to other countries, particularly those in South Asia.

ACHIEVING THE 2020 VISION, WITH SPECIAL REFERENCE TO GENDER ISSUES

by Per Pinstrup-Andersen
International Food Policy Research Institute

Achieving good nutrition for all is within reach. However, while business as usual is likely to reduce the number of malnourished people, a different approach is required to achieve universal food security and good nutrition. The 2020 Vision for Food, Agriculture, and the Environment is a world where every person has access to sufficient food to sustain a healthy and productive life, where malnutrition is absent, and where food originates from efficient, effective, and low-cost food systems that are compatible with sustainable use of natural resources.

The action needed to achieve the 2020 Vision falls into six priority areas discussed in the paper. Such action will require new or strengthened partnerships between individuals, households, farmers, local communities, the private sector, NGOs, national governments, and the international community. It will require a change in behaviour, priorities and policies. And it will require strengthened cooperation between industrial and developing countries, as well as among developing countries. Failure to take action will lead to persisting hunger and poverty, continuing degradation of natural resources, increasing conflicts over scarce resources, and widening gaps between the rich and poor.

GENDER AND NUTRITION IN THE GLOBAL BURDEN OF DISEASE, 1990 - 2020

by Alan Lopez
World Health Organization. Geneva. Switzerland

Reliable information on the causes of disease and injury in populations, and how these patterns of ill-health are changing, is a critical input into the formulation and evaluation of health policies and programmes, and for the determination of priorities for health research and action. Such assessments must take into account not only causes of death, but also the impact of non-fatal outcomes and the comparative importance of major health hazards or risk factors.

The Global Burden of Disease Study, which commenced in 1992, is perhaps the first comprehensive assessment of global health conditions, providing quantitative estimates of premature death and disability from over 100 diseases and injuries, and 10 major risk factors, for 8 geographical regions of the world, by age and sex. Contributions from death, disability and risk factors have been assessed using a time-based metric of future potential years of life lost or lived with a disability, namely Disability-Adjusted Life Years, or DALYs.

In 1990, about 1.3 billion DALYs were lost as a result of new cases of disease and injury in that year, almost 90% of which occurred in developing regions. Of the global total, about 52% of DALYs lost in 1990 arose from male mortality and morbidity, compared with 48% among females. The pattern of DALYs lost varied quite markedly between the sexes. For example, at ages 15-44 years, the leading causes of DALYs lost for women (worldwide)

were depression, tuberculosis, anaemia, suicide, bipolar disorder and obstructed labour whereas for men the leading causes were road traffic accidents, depression, alcohol use, homicide, tuberculosis and war.

Of the 10 major risk factors evaluated, malnutrition was by far the leading contributor to DALYs worldwide, causing an estimated 16% of the global burden of disease in 1990 (18% in developing regions), with the contributions to disease burden being particularly evident in Sub-Saharan Africa (33%) and India (22%).

Projections of the burden of disease were made based on scenarios according to the degree of optimism or pessimism about changes in the variables used to project health status. The baseline assumptions suggest that by 2020, ischaemic heart disease will be the leading cause of DALYs worldwide (rising from 5th place in 1990), followed by depression (4th), road traffic accidents (9th), stroke (6th), chronic obstructive pulmonary disease (12th) and lower respiratory infections (1st). On current trends, tobacco is expected to be the leading underlying cause of death and disability worldwide in 2020, causing more deaths (8-9 million) than AIDS, tuberculosis and complications of childbirth combined.

ABRAHAM HORWITZ LECTURE

BREASTFEEDING: FROM BIOLOGY TO POLICY

by Isatou Semega-Janneh

Department of State for Health, Social Welfare & Women's Affairs, The Gambia

The biological benefits of breastmilk and breastfeeding for mothers and infants in both developing and industrialised countries are well documented. Recent research findings have demonstrated physiological, immunological, psychological and economic factors in favour of exclusive breastfeeding for up to 6 months. Global trends, however, show that exclusive breastfeeding is practiced by a minority of mothers only. This may be attributed to a combination of cultural, social, economic and political factors.

This paper discusses the importance of providing local communities with adequate information about the advantages of breastmilk and exclusive breastfeeding and the equally important need for public support through government commitment and encouragement. The example given is that of the *Baby Friendly Community Initiative* (BFCI), implemented by the Ministry of Health in 12 communities in The Gambia. It shows how communities equipped with enough information can be motivated into action to promote breastfeeding. It also shows the critical role of government encouragement and support and how positive results from field trials can be subsequently translated into national policy.

In the BFCI, community members, both men and women, were trained and certified as *Village Support Groups on Infant Feeding*. Innovative ways of disseminating information were used by them to educate mothers and fathers on maternal and infant nutrition, environmental sanitation and personal hygiene. Evaluation of the intervention has demonstrated that while exclusive breastfeeding was initially practiced by none, all mothers now do so and the term as transiated into the local Mandinka language - *Susudiri Timaringo* - is a password in all the communities. The Ministry of Health has now launched exclusive breastfeeding as a policy objective and will gradually enable the project to go from pilot to national scale.

International commitment to breastfeeding is well recognised in the form of declarations, strategies and global initiatives. The paper, however, calls for more aggressive ways for SCN member agencies, through their specialised areas of work, to further stimulate national and local governments to view breastmilk as a critical natural food resource that must be optimally utilised in the best interest of the child, family and society.

Policy options would include public and community support to pregnant and lactating mothers and also adequate nutrition, care and advice. Legal protection in the form of regulated maternity leave for women in the formal sector should be strengthened while solutions must be sought for the majority of women working in the informal sectors.

Finally, the potential impact of HIV/AIDS on the safety of breastmilk and breastfeeding must be reviewed including solutions that do not jeopardise breastfeeding of infants everywhere.

NEWS AND VIEWS

Urban Malnutrition: a Rising Policy Problem

Over the period 2000-2025, the rural population of the developing world is projected to increase from 2.95 billion to 3.03 billion. Over the same period, the urban population of the developing world is projected to double - from 2.02 billion to 4.03 billion (United Nations Centre for Human Settlements, UNHCS, 1996).

While we can be sure that the number of people living in urban areas in the developing world will increase rapidly in the next 25 years, we do not know how many of them will be poor and undernourished. Furthermore, we do not know whether the absolute number of urban poor and undernourished will increase more quickly than the rural number. In other words,

- ◊ will there be a shift of poverty and undernutrition from rural to urban areas?
- ◊ are the opportunities for (and constraints to) income generation, food security and improved nutrition different for those living in urban areas compared with those living in rural areas?
- ◊ what do the answers to these questions imply for policy research and for policymaking in urban areas?

Research at the Food Consumption and Nutrition Division of the International Food Policy Research Institute (IFPRI) has begun to provide some answers to these questions. Newly assembled data suggest that the absolute number of poor and undernourished in urban areas is increasing and is accounting for a growing share of overall poverty and malnutrition.

Data to analyse trends in rural/urban comparisons of poverty and child malnutrition, are extremely scarce. IFPRI sought assistance from colleagues at the World Bank and WHO and gained access to poverty and malnutrition data, disaggregated into rural and urban areas, for a number of countries over at least two points in time. The data show that for 9 out of 14 countries, the absolute number of underweight[1] children in urban areas is increasing. These 9 countries constitute a large percentage of the developing world given that they include China, Nigeria, Egypt, and the Philippines.

For the majority of the countries studied:

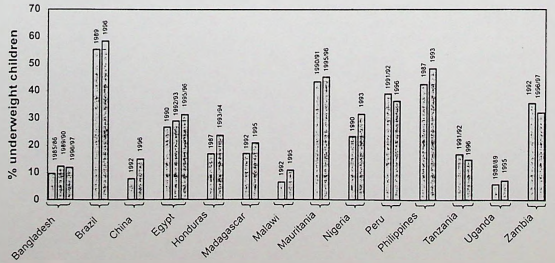
- ◊ the number of urban poor is increasing;
- ◊ the share of the urban poor in overall poverty is increasing;
- ◊ the share of urban preschoolers in overall numbers of underweight preschoolers is increasing, and
- ◊ the number of underweight preschoolers in urban areas is increasing (see graph below).

The locus of poverty and undernutrition appears to be changing from rural to urban areas

Why is more research needed on urban poverty and undernutrition?

Despite this upward trend in the numbers, there is surprisingly little research on urban poverty, food insecurity and malnutrition. The available research is often fragmented by issue or by discipline. Moreover, while many of the studies within cities utilise and generate rich case-study data, these studies are frequently limited in terms of the general conclusions that they can draw about other areas of the city or the city as a whole. The dynamics of urban poverty and the links to rural poverty also have been under-researched. Finally, community, NGO, and municipal and national government responses to urban

Percent of all Underweight Children that Reside in Urban Areas



[1] Underweight is defined as weight-for-age <-2SD below the NCHS reference median value

poverty and malnutrition have not been systematically documented and evaluated with a resulting set of best practices.

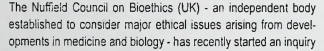
The authors argue that this closing of the rural-urban gap is a sufficient basis to call for more research on urban poverty, food and nutrition issues. The demand for urban food and nutrition policy research is rapidly outstripping the existing stock. Further research in this area is likely to have large payoffs in terms of assessment, analysis and action.

Based on a forthcoming IFPRI Discussion Paper (1998), '*Growing Urban Poverty and Undernutrition and the Urban Facts of Life: Implications for Research and Policy*' by Lawrence Haddad, Marie Ruel and James Garrett. Copies of discussion papers can be obtained from FCND, IFPRI, 2033 K Street, N.W., Washington, D.C. 20006, USA. Tel: 1 202 862 5600 Fax: 1 202 467 4439 Email: ifpri@cgnet.com This note was prepared by Bonnie McClafferty at the FCND, IFPRI. See also page 54 for further details about IFPRI's recent activities in nutrition.

Data Sources: WHO Global Database on Child Growth and Malnutrition, (WHO 1997, see page 68); UN Population Divisions Urban and Rural Areas by sex and age: The 1992 Revision, UN 1993, and World Urbanization Prospects: The 1994 Revision (1995).

Genetically-Modified Crops: the Social and Ethical Issues

The Nuffield Council on Bioethics (UK) - an independent body established to consider major ethical issues arising from developments in medicine and biology - has recently started an inquiry into the ethical issues raised by genetically modified crops. A Working Party has been established to discuss this issue and a report will be published early in 1999.



What are genetically modified crops?

In contrast to traditionally bred varieties, genetically-modified plants have foreign or synthetic DNA inserted directly into their cells to confer desirable characteristics such as disease resistance or improvement of storage or processing characteristics. This method of genetic improvement has obvious benefits for agriculture. The private sector has invested heavily in this technology, and most scientists, who have spent years developing and perfecting the techniques involved, believe that such crops are safe to grow and eat.

Genetically modified soya, maize and cotton are increasingly grown in the United States, and genetically modified crops are already entering the human food supply in parts of Europe. In some areas of the world, however, these crops are being grown in the absence of a free press and with little public awareness of science.

In 1997 approximately 30 million acres worldwide were planted with genetically modified crops

Environmental and safety concerns

There are major concerns about the environmental impact and safety of genetically modified crops. One of the main environmental concerns is the effect that the introduced genes will have once they are released into the environment. No one knows the long-term consequences of interbreeding between genetically modified crops and wild species.

Nutritionally, there are questions as to whether the introduction of a new gene could disturb metabolic pathways within the plant such that the proportions of fats, carbohydrates and other constituents are altered. Specifically, there is concern that the introduction of a new gene may increase the production of toxins in the plant, or indeed, be itself toxic.

There is also debate over the possible transfer of antibiotic-resistance genes to the gut of livestock fed with genetically modified maize, and the possibility of eventual transfer to humans.

Finally, there is the issue of consumer choice. Consumers have a right to know what they are eating and drinking. As US growers do not segregate genetically modified soya from traditionally-bred soya, countries importing US soya are unable to track which products are derived from genetically modified crops. Within the UK, a general aim of regulations has been that people should have a choice about whether to consume genetically modified foods. Given the difficulties of separating genetically modified foods, however, labelling has become a major issue in Europe.

Implications for developing countries

Genetically modified crops may potentially offer substantial benefits to developing countries, such as increasing yields and improving food consumption. However, it is likely that technology will continue to be directed towards the needs of rich countries, and it is unclear whether developing countries will have access to these new technologies. There is also the danger that new genetically modified products will undermine the market for commodities from developing countries. The United Nations Environmental Protection agency (UNEP) has adopted non-binding guidelines for the management of the release of genetically modified organisms[1]. However, many developing countries cannot afford to implement what some see as essential safeguards when genetically modified crops enter the environment or food chain. Some have argued that lower safety standards are justified.

[1] Tzotzos, G.T. *Genetically Modified Organisms. A Guide to Biosafety.* Wallingford, UNIDO, UNEP, CAB International, 1995. Copies will soon be available to order from the UNEP website at http://www.unep.org

As part of the inquiry, the Nuffield Council on Bioethics is inviting comments on the development of genetically modified crops and the implications for consumers, the environment and the current regulatory framework. The Council would also like to hear views on the way in which ethical issues are being approached, now and in the future.

Please send your comments to: Dr Sandy Thomas, Secretary to the Working Party on the Genetic Modification of Crops, Nuffield Council on Bioethics, 28 Bedford Square, London WC1B 3EG, UK. Tel: 44 171 631 0566 Fax: 44 171 323 4877 Email: ncob@cableinet.co.uk by **August 31st 1998**. As the Council may publish some of the views expressed, please make it clear if you wish your response to be treated in confidence. Further information can be found in the consultation document *'Genetically Modified Crops: the Social and Ethical Issues'*, available on the web at http://www.shef.ac.uk/~doe/ or from the Nuffield Council on Bioethics.

Source: The Nuffield Council on Bioethics consultation document *'Genetically Modified Crops: the Social and Ethical Issues'*, April 1998.

Human Rights and Nutrition in the SCN

The 25th Session of the ACC-SCN saw a breakthrough in the recognition of linkages between nutrition as a development goal and nutrition as a human right. Over the last two SCN sessions - Ghana (1996) and Kathmandu (1997) - there has been increasing recognition of the international human rights system as a hitherto unexplored opportunity for strengthening nutrition analysis and advocacy, and for strengthening action towards sustainable access for all to adequate food and nutritional well-being.

A human rights approach can embrace broad nutrition policy issues and give added support to ongoing and future nutrition-relevant programmes. The advantages of using the human rights system of internationally agreed legally-based norms, institutions and procedures to strengthen the cause of ending hunger and malnutrition, is becoming better understood by the nutrition community.

There is also a growing recognition that the nutrition community itself can, through the SCN mechanism, play an important role in strengthening the work of the United Nations in promoting economic, social and cultural rights and in particular, the right to food and nutrition. The contributions by SCN participants include the provision of data, the documentation of experiences from efforts that do or do not work, and the dissemination of a comprehensive understanding of the linkages between nutrition goals and other development goals. This would improve the content of the obligatory periodic reports by member states (that have ratified the human rights conventions relevant to food and nutrition), and enhance the analysis by expert treaty bodies, notably the Committee on Economic, Social and Cultural Rights (CESCR) which has a Secretariat at the UNHCHR office in Geneva.

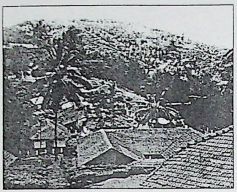
The momentum for a new global drive for nutrition has perhaps never been greater, underpinned as it is by the message from the UN Secretary-General Mr. Kofi Annan in his proposal for UN reform launched in 1997, that human rights shall resume a central place throughout the work of all United Nations agencies, programmes and funds. Also, the celebration of the 50th anniversary of the Universal Declaration on Human Rights this year has put into focus the human rights movement and its linkages to peace and economic and social development as the two other fundamentals of the UN Charter.

Specifically, the offer by the UN High Commissioner for Human Rights to host the 26th ACC-SCN Session in Geneva on April 12-15 1999, is a sign that nutrition may in the future figure much more centrally on the UN agenda at large. It is now up to the SCN and its participants to become better informed about the human rights system and the challenges it offers to the UN, to member countries, and to civil society in partnership for a move that *may* make a difference. The 26th SCN Session in 1999 will provide an opportunity for advancing understanding through its symposium *"The substance and politics of a human rights approach to food and nutrition policies and programming"*, which will take place on April 12, 1999.

By Wenche Barth Eide (Institute for Nutrition Research / School of Nutrition, University of Oslo, P.O. Box 1046 Blindern, 0316 Oslo, Norway. Tel: 47 22 85 1375 Fax: 47 22 85 1376 Email: w.b.eide@basalmed.uio.no) and Uwe Kracht (World Alliance for Nutrition and Human Rights (WANAHR), Viale delle Medaglie d'Oro 415, 00136, Rome, Italy. Tel/Fax: 39 06 35 40 9595 Email: kracht@flashnet.it), rapporteurs for the SCN Working Group on Nutrition, Ethics and Human Rights. See also page 24. The background document provided by this Working Group *"The Promotion and Protection of the Human Right to Food and Nutrition by ACC-SCN Member Agencies: Obligations and Opportunities"*, is available by email from Wenche Barth Eide (address above).

A Multinutrient Package for Tea Plantation Workers for Better Health, Productivity and Profitability

Results from a study to evaluate the effects of micronutrient supplementation on tea plantation workers and their families in India have demonstrated a significant, positive impact on the workers' health and productivity. Initiated in 1996, the study was conducted in the plantation district of Chikmagalur, Karnataka State, South India – a district with endemic iodine deficiency disorders (IDD), and high prevalences of iron deficiency anaemia and vitamin A deficiency (VAD). The overall objective of the project was to intervene for nine months with a multinutrient package of supplemental iron (240mg ferrous sulphate twice a week), vitamin A (1600 IU once a week) and iodised salt (30ppm for daily cooking in the household), and to evaluate the effects of this intervention on the health, productivity and profitability of the workforce and their families.



A tea plantation, India. (T. Gopaldas)

The workers were responsible for dosing themselves and their family members. A simple IEC (information – education – communication) sheet on the dosing regimen and benefits was developed in the local Kannada language and was distributed to the workforce at frequent intervals throughout the intervention period.

Significant improvements in the health of the workforce and their dependents were observed: haemoglobin levels increased (from 108g/l to 121g/l in females and from 116g/l to 140g/l in males); clinical signs of iron deficiency, VAD and IDD were significantly reduced (49%→11%, 19%→14% and 17% →7%, respectively); and common health problems and hospital referrals decreased. Above all, the intervention created a feeling of being cared for, and the majority of the workforce reported that they 'felt better', 'ate more' and 'felt less tired'. Marked improvements in worker productivity were also observed with an increase in the average amount of tea plucked (and hence increased income) over the intervention period. The total number of pluckers employed decreased over the intervention period. The analysis of profitability showed that the total cost of the micronutrient package (Rs 43,050, or Rs 61.5 (about US$1.5) per worker + family per annum) was recovered in the cost of labour saved (Rs 111,800).

India is the largest producer of tea in the world, accounting for nearly 30% of the global production of tea. The tea industry in India is unique in that it employs 40-50% women workers. The workforce live on the plantations and their health and welfare are the general responsibility of the estate's management. This project, funded by OMNI-ILSI, was jointly planned and implemented by Tara Consultancy Services and the management of the tea estate, and used the plantation's own infrastructure and on-going management information systems. This approach, together with a simple intervention and the empowerment of the workers to take care of themselves and their families, has ensured the continuation (and funding) of the intervention by the management after the project ended in early 1998.

Based on the report '*A Multinutrient Package for Tea Plantation Workers for Better Health, Productivity and Profitability*', by Tara Gopaldas and Sunder Gujral. Tara Consultancy Services, Bangalore, India, 1998. For further information and a copy of the report, please contact Professor Tara Gopaldas, Director, Tara Consultancy Services, "Saraswati", 124/B, Varthur road, Nagavarapalya, Bangalore – 560 093, India. Tel: 91 80 5242999 Fax: 91 80 5288098.

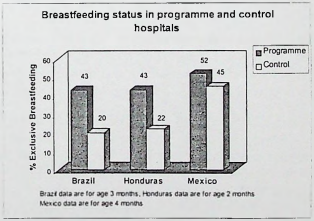
Breastfeeding Promotion: A Cost Effective Intervention

Investing in breastfeeding promotion is among the most cost-effective interventions for child survival, equal to conventional practices such as immunisations and vitamin A supplementation, and surpassing oral rehydration therapy. This is the main conclusion from the Breastfeeding Cost-Effectiveness Study, conducted in Brazil, Honduras, and Mexico, initiated in 1992.

The aim of the study was to provide comparative data on the cost-effectiveness of breastfeeding promotion. To determine the impact of the breastfeeding promotion programmes, prevalences and rates of exclusive breastfeeding were compared for two groups of women:

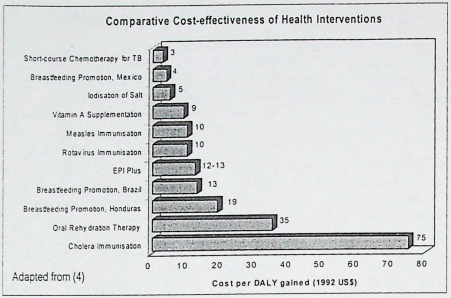
1. those who delivered at a hospital with a breastfeeding promotion programme;
2. those who delivered at a nearby hospital without such a programme.

The programme involved 17 specific breastfeeding promotion activities during hospitalisation for childbirth. Results showed a significant impact on breastfeeding (see graph below and references 1 and 2).



To determine costs, each hospital programme was described in terms of activities undertaken for breastfeeding promotion. The nature and level of resources (personnel, facilities and materials) associated with each activity were then determined and the direct institutional costs and savings of breastfeeding promotion for one year were determined. Programme maintenance costs of recurrent activities were itemised. All resources were identified and valued in terms of their economic or opportunity costs. A discount rate of 3% was used to calculate the annual value for capital goods. From the profile of costs developed, the difference in incremental costs between breastfeeding promotion at the programme and control hospitals, incremental savings per birth, and net incremental costs per birth was obtained.

Cost-effectiveness was calculated by determining the reduction in risk of diarrhoea and acute respiratory infection (ARI) from hospital differences in the prevalence of exclusive and partial breastfeeding. Mortality effects of differences in these breast-



Adapted from (4)

feeding practices were derived by using relative risks for mortality for diarrhoea and ARI previously reported (3). Demographic and Health Survey data were used to make assumptions about baseline prevalences of diarrhoea and ARI in infants less than six months of age, and hence the number of diarrhoeal and ARI deaths averted.

Although the Mexico programme appears to be the most cost-effective (graph above), its cost-effectiveness stems largely from capitalising on the savings from less use of infant formula, which was not the case in Brazil and Honduras. Given the low rate of coverage and the extremely short duration of exclusive breastfeeding, Mexico is an example of a programme in which objectives of coverage and effects are not being met and for which additional investments are needed.

The range of cost-effectiveness estimates obtained in this analysis provides an indication of expected values in different programme and policy contexts (graph above). When compared to the interventions to control diarrhoea, breastfeeding promotion in all three countries compared favorably with rotavirus and measles immunisation. When breastfeeding promotion includes a shift from formula to almost no formula feeding, as in the case of Mexico, its cost-effectiveness is comparable to other health interventions, including iodisation of salt ($5 per DALY gained), vitamin A supplementation ($9), or short course chemotherapy for tuberculosis ($3). However, even after savings that result from the elimination of formula have been fully exploited and no longer can be used to offset other costs, as in the case of Brazil and Honduras, breastfeeding promotion still remains a highly attractive intervention, similar to the Expanded Programme on Immunisation Plus and vitamin A supplementation.

Eliminating formula feeding and instituting 'rooming-in' have been appealing options for policy makers eager to realise their savings potential. However, limiting breastfeeding promotion activities to these changes without the next step of establishing comprehensive support and educational activities for mothers is to miss out on an extremely cost-effective health investment. As the results from this study show, hospital-based breastfeeding promotion results in dramatic improvements in the duration of exclusive breastfeeding and is also one of the most cost-effective interventions available to improve infant and child health.

References:

1. Perez-Escamilla R, Lutter CK, Segall AM, Rivera A, Trevino-Siller S, Sanghvi T. (1995) Exclusive breastfeeding duration is associated with attitudinal, socioeconomic and biocultural determinants in three Latin American countries. J Nutr, 125 2972-2984.

2. Lutter CK, Perez-Escamilla R, Segall A, Sanghvi T, Teruya K, Wickham C. (1997) The effectiveness of a hospital-based breastfeeding promotion programme to promote exclusive breastfeeding among low-income women in Brazil. Am J Public Health, 87(4) 659-663.

3. Victora CG, Vaughan JP, Lombardi C, Fuchs SMC, Gigante LP, Smith PG, Nobre LC, Teixeira AMB, Moreira LB, Barros FC. (1987) Evidence for protection by breast-feeding against infant deaths from infectious diseases in Brazil. The Lancet ii 319-321.

4. Horton S, Sanghvi T, Phillips M, Fiedler J, Perez-Escamilla R, Lutter C, Rivera A and Segall-Correa A. (1996) Breastfeeding and priority setting in health. Health Policy and Planning 11(2) 156-168.

By Chessa Lutter, Regional Advisor, Food and Nutrition Program, Pan American Health Organization, 525 Twenty-third Street, N.W., Washington, D.C. 20037-2895, USA. Tel: 1 202 974 3871 Fax: 1 202 974 3682 Email: lutterch@paho.org This study was supported by the US Agency for International Development under the Latin American and Caribbean/Health and Nutrition Sustainability Project contract to University Research Corporation (LAC-0657-C-00-0051) and subcontract to International Science and Technology Institute (90/01/3700). The study director was Dr. Tina Sanghvi.

Breastfeeding Promotion: The Haitian Experience

As the 1991-94 political crisis wore on in Haiti, women were forced to spend more time away from home in an effort to provide for their family's survival. As a result, exclusive breastfeeding for three months plummeted from 13% in 1987 to 3% in 1995 (1, 2).

In response, the breastfeeding promotion programme started in 1994 with the introduction of the Baby Friendly Hospital Initiative. This was followed by a one-year national breastfeeding promotion campaign, launched in 1995 by the Minister of Health. A coordination committee oversaw the activities which included:

◊ wide partnership with churches, NGOs, the Haitian Medical Association, local cooperatives, and youth organisations;

- ◊ promotion by traditional birth attendants, priests, voodoo priests, youth, community workers, and health workers;
- ◊ testimonies on the values of breastfeeding by mothers who had successfully breastfed exclusively for six months;
- ◊ mass media support in the form of promotional materials, radio broadcasting, audiotapes with the programme jingle and breastfeeding messages played in local taxis, and promotional activities in local markets.

The campaign became a national event that drew the attention of the press and national authorities. Momentum peaked in 1996 when both the President and the Prime Minister participated in several events to celebrate the World Breastfeeding Week.

The breastfeeding promotion programme was one of the most successful and visible social development programmes implemented in Haiti during these difficult times. Key messages on breastfeeding had reached nearly every village. Moreover, various intervention areas throughout the country reported dramatic increases in the rate of exclusive breastfeeding for six months from 0% to more than 50%, while cases of severe diarrhoea and malnutrition declined. Factors responsible for the success of the programme are summarised in Box 1 below. There were problems however, and a number of lessons were learned (Box 2, above right).

Box 1: Success factors

- ◊ Adoption of a community-based strategy which fostered wide mobilisation and participation.
- ◊ Testimonies of healthy babies as a result of exclusive breastfeeding.
- ◊ Ease with which breastfeeding promotion integrates into cultural ceremonies because of its association with new life, health, happiness and love.
- ◊ Economic hardships, which facilitated the communication of messages on the economic value of breastfeeding.

The programme was engineered by a small number of highly motivated organisers (despite efforts to engage as many people in the process as possible), and most key players have now moved on. It has now lost momentum, although behavioural changes have been sustainable. In addition, many institutions and NGOs have integrated breastfeeding promotion into their regular activities. However, the goodwill among policy-makers and decision-makers is fading in the absence of a constant reminder. This is of particular concern because legislation on the marketing of breastmilk substitutes has not been adopted in Haiti, and the protection of breastfeeding in the work place (including markets) needs to be emphasised and promoted.

The biggest weakness in the programme is that it has not secured national support for promotion, protection and support of breastfeeding. Unfortunately, this is not unique to the breastfeeding programme as virtually all sectors in the country suffer from lack of national interest.

Box 2: Lessons learned

- ◊ Breastfeeding promotion can play an important role in crisis management. The political crisis in Haiti provoked large-scale migration within the country, disruption of many social mechanisms, breakdown of public health services, and a sharp deterioration of the health situation. Promotion of and support for exclusive breastfeeding for six months provided parents with better skills to avert the threat of disease and ensure survival of their young infants.
- ◊ The importance of community empowerment ensured that communication efforts led to sustainable behaviour change, which goes beyond the life of the programme.
- ◊ A chain reaction can be generated by mobilising successful mothers to share their experiences with others.
- ◊ Involving fathers and male leaders in the process of building a breastfeeding movement is important. Their proven enthusiasm and involvement in providing support for breastfeeding gave the impression that their indifference to child care is as much born out of ignorance and lack of capacity as it is a 'macho' behaviour.

References

1. Cayemittes M, Chahnazarian A. Survie et santé de l'enfant en Haïti (EMMUS-I). Port-au-Prince, Institut Haïtien de l'Enfance, 1989.
2. Cayemittes M, Rival A, Barrère B, Lerebours G, Amédée Gédéon M. Enquête mortalité, morbidité et utilisation des services (EMMUS-II) Haïti 1994/95. Port-au-Prince, Institut Haïtien de l'Enfance; Calverton, Macro International, Inc., 1995.

By Menno Mulder-Sibanda and Flora S. Sibanda-Mulder, c/o UNICEF/ WCARO, B.P. 443, Abidjan 04, Côte d'Ivoire. Tel. 225 42 32 27 Fax. 225 21 05 79 Email: mmsfssm@globeaccess.net

The national breastfeeding promotion campaign year ended with a mural painting competition in the Port-au-Prince metropolitan area. The winning murals were compiled in a 1997 calendar that was developed to sensitise and inform the public on the Code on the Marketing of Breast Milk Substitutes. This picture shows one of the winning murals.

News from the World Alliance for Breastfeeding Action

The World Alliance for Breastfeeding Action (WABA) arose out of the 1990 Innocenti Declaration. It is a conglomerate network, consisting of large and small networks, interested individual organizations and interested individuals. WABA has a very flat structure, but as a democratic entity, still has to organise responsibilities. WABA therefore has a Steering Committee; a small, hard-working Secretariat in Penang led by its most able Director; an International Advisory Council; Regional Focal Points; and eight Task Forces.

The Alliance makes maximum use of electronic media. Much of WABA's global interaction goes via cyberspace, although being electronically literate is no prerequisite for joining the Alliance. True to its grassroots responsibilities, WABA will always find a way of getting messages across, be it by hand or foot, mouth, pigeon or snail mail!

Breastfeeding: the best investment

This year, WABA has chosen '*Breastfeeding: the Best Investment*' as the theme for the World Breastfeeding Week (August 1-7, 1998). A number of economic studies reviewed in WABA's action folder for the 1998 World Breastfeeding Week, provide powerful arguments for advocacy efforts with governments, health care institutions, employers, funding agencies and others. For example, in Iran an increase in exclusive breastfeeding from 10% in 1991 to 53% in 1996, saved US$50 million on the cost of importing of breastmilk substitutes.

This year's World Breastfeeding Week materials from WABA provide all the information needed to calculate some of the economic losses that artificial feeding implies. The information also emphasises that breastfeeding is worth more than its cost savings. Advocacy should begin on the basis that breastfeeding is a woman's right; advocacy messages can then go on to show that efforts to protect, support and promote breastfeeding will yield significantly reduced costs for health care and for infant foods. These savings may help to reduce foreign exchange spending.

Breastfeeding, women and work: from human rights to creative solutions

WABA has just concluded its annual Steering Committee (SC) meeting, which was held in Quezon City, the Philippines. Prior to the meeting, a workshop entitled 'Breastfeeding, women and work: from human rights to creative solutions' was held (sponsored by SIDA). Numerous ideas were presented and discussed for creative solutions to the difficult situation breastfeeding mothers find themselves in when they have to combine 'mother work and other work'.

ILO is updating its Conventions concerning maternity protection provisions – a subject that will be on their annual meeting agenda in June, 1999. There is a looming threat that the WTO's rules will override national legislation on worker's rights issues. This might be countereacted if maternity protection at work is recognised as 'core labour standards' of special importance, and which will continue to be under the protection and jurisdiction of ILO in the future.

World Breastfeeding Week, 1-7 August 1998, will have the theme 'Breastfeeding: the Best Investment'.

The workshop finally adopted a "Quezon City Declaration" which summarises the concerns of the WABA partners and asks for continued vigilance as well as sharing of positive experience.

HIV and breastfeeding

At the June meeting in the Philippines, the WABA Steering Committee issued a position statement on HIV and breastfeeding. In brief, the WABA SC is concerned that the full economic and health consequences of the recent WHO/UNAIDS/UNICEF policy on HIV and infant feeding have not been adequately analysed (see page 63). Alternatives to infant formula such as expressed and heat-treated human milk are listed in the policy guides, but their use has not been adequately studied and is not explained in the same detail as is infant formula use.

WABA emphasises that the single most important condition that must apply if infant formula is used systematically in high HIV-prevalence areas is that only generic labelling of tins of formulae be permitted. Finally, WABA recommends that the health workers who live with the counselling problems on a day-to-day basis be heard and that they be given resources to study their own situation and propose appropriate remedies.

By Elisabet Helsing, co-chair, Steering Committee, WABA. The World Breastfeeding Week action folder, and other WABA information is available from the WABA Secretariat, P.O. Box 1200, 10850 Penang, Malaysia. Fax: 60 4 657 26 55 Email: secr@waba.po.my Further information about the 1998 World Breastfeeding Week, other WABA activities and more action ideas are available on the WABA website at http://www.elogica.com.br/waba/ The coordinator of the World Breastfeeding Week, Denise Arcoverde from Brazil, is also responsible for bringing the Alliance into the electronic age, and can answer questions on this (origem@elogica.com.br).

In Praise of Nevin
A message from Richard Jolly, on behalf of the SCN

A symposium, followed by a gala banquet, was held on June 26th 1998 at MIT Laboratory of Human Nutrition, in honour of the enduring and broad ranging contributions made by Nevin Scrimshaw during his distinguished career. The event was held during Nevin's 80th year. Richard Jolly, Chairman of the SCN, relayed the following message to Nevin during this important event.

We thank you Nevin, for your leadership and inspiration from the very beginnings of the ACC/SCN, throughout its life and to the SCN's latest meeting a few months ago in Oslo. Way back in 1955 you helped bring to birth the Protein Advisory Group, to provide the advice UNICEF needed for its child-focused programmes. Seven or eight years before that you had inspired Hans Singer to write the first UN publication on economic development and children, drawing on your early research on nutrition and cognitive development in infants and young children.

All this stretches to 50 years – yet you remain ever young in your vitality, enthusiasm and freshness of mind. So many of the good things of the SCN have grown from your own leadership and commitment: you organised in the UNU the first SCN meeting on nutrition and economic adjustment policy, you have been the force behind the working group on iron deficiency, endlessly pressing for practical actions to tackle the most widespread of all micronutrient deficiencies. You have been by far the most dedicated supporter of all the SCN's work and activities – at once forthright and practical, upright and professional and always wonderfully generous and creative. You have made these contributions both in your own name but always carrying with you the strong support of the UNU.

"Human progress is neither automatic nor inevitable. Even a superficial look at history reveals that no social advance rolls on the wheels of inevitability. Every step towards the goals of justice requires sacrifice, suffering and the tireless exertions and passionate concern of dedicated individuals." So said Martin Luther King, of the giants who give leadership and of the ordinary citizens who together become the force of social movements and human progress.

We thank you, Nevin, for being one of these individuals – one of the giants of nutrition as well as a committed citizen of humanity – who has helped and succeeded to bring real and widespread advance in nutrition in so many countries over the last half century. We thank you for your wisdom and vision – and for your boundless energy and impact in carrying vision into practical action. We look forward to many further occasions of working with you and being inspired by your words, research, writings and ideas.

NUTRITION IN EMERGENCIES

Health Intelligence Network for Advanced Contingency Planning (HINAP)

"....The Goma refugee problem pointed out that epidemiological, nutritional, environmental, economic, and social information required to effectively mobilise resources was not available in a timely fashion..." (Professor Nancy Mock, Tulane University In: *'Public health crisis prevention, mitigation and recovery: Linking relief and development'*, March, 1996).

The Rwanda crisis of 1994, resulting in an estimated 50,000 deaths from cholera amongst refugees in Goma, and the subsequent repatriation of over one million refugees back to Rwanda in 1997, clearly demonstrated the need for advance health information and risk mapping for effective contingency planning. Deaths from preventable diseases would be avoided if vital health data were available in advance.

WHO intends to provide such vital health data proactively for decision making and planning purposes through development of the *Health Intelligence Network for Advanced Contingency Planning* or HINAP. An abundance of valuable information already exists but implementing agencies such as IOM, ICRC, UNHCR and NGOs such as MSF are obliged to contact various sources (e.g., different programmes and offices of WHO) for advance planning purposes. This is not only inconvenient, but may be impossible under emergency circumstances.

A core team at WHO in Geneva is working to develop an information management system for those involved in complex humanitarian emergencies with sudden population displacements. The project's major objective will be to consolidate, filter, organise and redistribute background information and existing data to the right people at the right time in an easy-to-

PUBLICATION LIST - JULY 1998

UNITED NATIONS

ADMINISTRATIVE COMMITTEE ON COORDINATION

SUB-COMMITTEE ON NUTRITION

Secretariat: ACC/SCN, c/o World Health Organization
20, Avenue Appia, CH-1211 Geneva 27, Switzerland
Tel: 41-22 791 0456 Fax: 41-22 798 88 91 Email: accscn@who.ch
Web: http://www.unsystem.org/accscn/

REPORTS ON THE WORLD NUTRITION SITUATION

Third Report on the World Nutrition Situation, December 1997

Update on the Nutrition Situation 1996, November 1996

Update on the Nutrition Situation, November 1994

Second Report on the World Nutrition Situation, Volume II, Country Data, March 1993

Second Report on the World Nutrition Situation, Volume I, Global and Regional Results, *October 1992*

Supplement on Methods and Statistics to the First Report on the World Nutrition Situation, *December 1988*

First Report on the World Nutrition Situation, *November 1987*

ACC/SCN STATE-OF-THE-ART SERIES (SOA) NUTRITION POLICY DISCUSSION PAPERS

Nutrition and Poverty, by S. Gillespie, N. Hasan, S. Osmani, U. Jonsson, R. Islam, D. Chirmulay, V.Vyas & R. Gross. November 1997 (SOA No.16)

How Nutrition Improves Report based on ACC/SCN Workshop held on 25-27 September 1993 at the 15th IUNS International Congress on Nutrition, Adelaide, Australia by S. Gillespie, J. Mason, R. Martorell. (SOA No. 15)

Controlling Vitamin A Deficiency Report based on ACC/SCN Consultative Group Meeting held in Ottawa July 1993. Prepared by Gillespie and Mason, January 1994. (SOA No.14)

Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries, by G.H. Beaton, R. Martorell, K.J. Aronson, B. Edmonston, G. McCabe, A.C. Ross, B. Harvey. December 1993. (SOA No.13)

Nutritional Issues in Food Aid Report of symposium on "Nutritional Issues in Food Aid" held at the 19th Session of the ACC/SCN in Rome, February 1992. Includes papers on the support of public works by food aid as a nutrition intervention, which age groups should be targeted for supplementary feeding, effects of supplementary feeding in the growth of children with infection, experiences of feeding programmes, and protecting refugees' nutrition with food aid. August 1993. (SOA No.12)

Nutrition and Population Links - Breastfeeding, Family Planning and Child Health. Papers from the ACC/SCN 18th Session Symposium, held at UNFPA, New York, February 1991. Papers include "Nutrition and Family Planning Linkages: What More Can be Done?" by Sandra Huffman, "Reproductive Stress and Women's Nutrition by Reynaldo Martorell and Kathleen Merchant, "Breastfeeding, Fertility and Population Growth" by Roger Short, "Nutrition and its Influence on the Mother-Child Dyad" by Prema Ramachandran, and with final comments by Miriam Labbok, Barry Edmonston, and Beverly Winikoff. (SOA No. 11)

Nutrition-Relevant Actions - Some Experiences from the Eighties and Lessons for the Nineties Book developed from the original background paper for the ACC/SCN ad hoc group meeting held in London in November 1990. Proposes a framework for the analysis of policies and programmes affecting nutrition, before reviewing experiences during the 1980s in several countries, and moving on to consider options for improving nutrition in the 1990s. Complements and expands on Supplement to SCN News No.7. Prepared by Stuart Gillespie and John Mason, October 1991. (SOA No. 10)

Controlling Iron Deficiency Report of ACC/SCN workshop held in Trinity College, Dublin, June 1990. Focuses on iron supplementation and practical means of improving large-scale programmes. Also introduces fortification and diet change. Gives information from six large-scale programmes. Prepared and edited by Gillespie, John Kevany, and John Mason, February 1991. (SOA No. 9)

Managing Successful Nutrition Programmes Report of ACC/SCN workshop held at IUNS meeting in Korea, August 1989. Includes reports on 16 large-scale nutrition programmes, and summary of discussions on targeting, staff issues, community participation, management information systems, sustainability and replicability. Edited by Joan Jennings, Stuart Gillespie, John Mason, Mahshid Lotfi and Tom Scialfa, October 1990. (SOA No. 8)

Appropriate Uses of Child Anthropometry Report based on workshop held by ACC/SCN, June 1989. Basic concepts, uses for screening, growth monitoring, population assessment, and surveillance. Prepared and edited by G. Beaton, A. Kelly, J. Kevany, R. Martorell, and J. Mason, December 1990. *(SOA No. 7)*

Women and Nutrition Background, and papers presented at SCN Symposium, held at UNICEF, New York, February 1989. Papers include "Beating the Zero Sum Game" by McGuire and Popkin, "Reflections from India and Pakistan" by Chatterjee and Lambert, "Grameen Bank Experience" by Quanine, "Improving the Nutrition of Women in Tanzania" by Kisanga, "Nutrition Security System at Household Level" by Bajaj, "Issues in Need of a Global Focus" by Ghassemi, October 1990. *(SOA No. 6)*

Malnutrition and Infection - A Review, by A. Tomkins and F. Watson, October 1989, *reprinted June 1993 (SOA No. 5)*

Women's Role in Food Chain Activities and their Implications for Nutrition, by Gerd Holmboe-Ottesen, Ophelia Mascarenhas and Margareta Wandel, May 1989. *(SOA No. 4)*

The Prevention and Control of Iodine Deficiency Disorders, by Basil S. Hetzel, March 1988, *reprinted June 1993. (SOA No. 3)*

Delivery of Oral Doses of Vitamin A to Prevent Vitamin A Deficiency and Nutritional Blindness, by Keith P. West Jr and Alfred Sommer, June 1987, *reprinted June 1993. (SOA No. 2)*

SCN NEWS - A periodic review of developments in international nutrition compiled from information available to the ACC/SCN, published twice yearly. Contains features, news and views, programme news, and reviews of publications (Free of charge).

No.16, *July 1998* - features: Nutrition of the School-aged Child; A summary of Working Group discussions, Oslo 1998; Abstracts from the Symposium on Challenges for Challenges for the 21st Century: a Gender Perspective on Nutrition through the Life Cycle

No.15, *December 1997* - features: Effective Programmes in Africa for Improving Nutrition; the 10th Annual Matin J. Forman Lecture: How are we doing in International Nutrition?

No.14, July 1997 – features: The Nutrition Challenge in the 21st Century: What Role for the United Nations? Meeting the Nutrition Challenge: A Call to Arms; Update on the Nutrition Situation, 1996; Poor Nutrition and Chronic Disease Part II; Effective Programmes in Africa for Improving Nutrition.

No. 13, late 1995 – features: Interview with Dr A. Horwitz, SCN Chair, 1986-1995; Behavioural Change and Nutrition Programmes; and Poor Nutrition and Chronic Disease Part I.

No. 12, early 1995 – features: The Role of Care in Nutrition – A Neglected Essential Ingredient; Summary of findings from the recently published ACC/SCN "Update on the Nutrition Situation, 1994"; Specific Deficiencies Versus Growth Failure: Type I and Type II Nutrients; and Enrichment of Food Staples Through Plant Breeding. A New Strategy for Fighting Micronutrient Malnutrition.

No.11, mid 1994 -- features focussing on Maternal and Child Nutrition: Adolescent Growth; Prepregnancy Nutritional Status and its Impact on Birthweight; Maternal Nutrition During Pregnancy as it Affects Infant Growth, Development and Health; The Consequences of Iron Deficiency and Anaemia in Pregnancy on Maternal Health, the Foetus and the Infant; Impact of Maternal Infection on Foetal Growth and Nutrition; Maternal Micronutrient Malnutrition: Effects on Breast Milk and Infant Nutrition, and Priorities for Intervention; Vitamin A Deficiency in the Mother-Infant Dyad; Maternal Protein-Energy Malnutrition and Breastfeeding; and Maternal Nutritional Depletion.

No.10, late 1993 -- features: Nutrition and Food Aid, Nutrition and Human Rights, The Nutrition Transition.

No.9, mid 1993 -- Focus on Micronutrients. Features: Addressing Micronutrient Malnutrition, Micronutrient Deficiency -- The Global Situation, Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries, Zinc Deficiency -- Is It Widespread but Under-Recognized?

No.8, late 1992 -- features: Highlights of the World Nutrition Situation, Food Prices and Nutrition, Food Security and Nutrition 1971-91 -- Lessons Learned and Future Priorities, Long-Term Effects of Improved Childhood Nutrition.

No.7, mid 1991 -- features: Refugees' Nutrition Crisis, Breastfeeding, Birth Spacing and Nutrition, Community-Based Development -- From a Programme Towards a Movement, Micronutrient Intakes, Incomes and Prices. Supplement: Some Options for Improving Nutrition in the 1990s -- Reviews experience of policies and programmes, and grouping nutrition issues, leads to identifying options as building blocks for future action.

No.6, late 1990 -- features: Preventing Anaemia, Policies to Improve Nutrition -- What Was Done in the 80s, Weaning Foods -- New Uses of Traditional Methods. (*out of print*).

No.5, early 1990 -- features: Nutrition and School Performance, Uses of Anthropometry, Malnutrition and Infection (Part II), Flows of External Resources for Nutrition.

No.4, late 1989 -- features: Update on the Nutrition Situation, Women and Nutrition, Malnutrition and Infection (Part I), Targeted Food Subsidies. (*out of print*).

No.3, early 1989 -- features: Does Cash Cropping Affect Nutrition?, Nutrition in Times of Disaster.

Nos.1 and 2, March 1988 -- features: Vitamin A Deficiency, Urbanization, World Nutrition Situation, Economic adjustment (*limited number of copies remain available*).

COUNTRY CASE STUDIES

Brazil: The improvement in Child Nutritional Status in Brazil: How Did it Occur? by R. F. Iunes & C. A. Monteiro. September 1993.

Egypt: Review of Trends, Policies and Programmes Affecting Nutrition and Health in Egypt (1970-1990), by H. Nassar, W. Moussa, A. Kamel & A. Miniawi. January 1992.

India: Nutrition in India, by V. Reddy, M. Shekar, P. Rao & S. Gillespie. December 1992.

Indonesia: Economic Growth, Equity and Nutritional improvement in Indonesia, by I. T. Soekirman, G. S. Idrus Jus'at & F. Jalal. December 1992.

Tanzania: Nutrition-Relevant Actions in Tanzania, by F. P. Kavishe. April 1993.

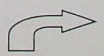
Thailand: Nutrition and Health in Thailand: Trends and Actions, by Y. Kachondham, P. Winichagoon & K. Tontisirin. December 1992.

Zimbabwe: Nutrition-Relevant Actions in Zimbabwe, by J. Tagwireyi, T. Jayne & N. Lenneiye. December 1992.

REFUGEE NUTRITION INFORMATION SYSTEM

Report on the nutrition situation of refugee and displaced populations.
Published every three months with an interim electronic mail update.

PUBLICATIONS ORDER FORM IS OVERLEAF



UNITED NATIONS

ADMINISTRATIVE COMMITTEE ON COORDINATION

SUB-COMMITTEE ON NUTRITION

PUBLICATIONS ORDER FORM

My full postal address is: Name:
PLEASE PRINT CLEARLY Address:

Please send me the following **ACC/SCN reports and nutrition policy discussion papers:**

- [_] *First Report on the World Nutrition Situation* (1987)*
- [_] *Supplement on Methods and Statistics to the First Report on the World Nutrition Situation* (1987)*
- [_] *Second Report on the World Nutrition Situation, Volume I, Global and Regional Results* (October 1992)*
- [_] *Second Report on the World Nutrition Situation, Volume II, Country Data* (March 1993)*
- [_] *Update on the Nutrition Situation* (November 1994)*
- [_] *Update on the Nutrition Situation, 1996: Summary of Results for the Third Report on the World Nutrition Situation* (Late 1996)
- [_] *Third Report on the World Nutrition Situation* (December 1997)*
- [_] SOA No.2 *Vitamin A* (1987) (Reprinted 1993)*
- [_] SOA No.3 *Iodine* (1988) (Reprinted 1993)*
- [_] SOA No.4 *Women's Role in the Food Chain* (1990)*
- [_] SOA No.5 *Malnutrition and Infection* (1990)**
- [_] SOA No.6 *Women and Nutrition* (1990)**
- [_] SOA No.7 *Appropriate Uses of Child Anthropometry* (1990)*
- [_] SOA No.8 *Managing Successful Nutrition Programmes* (1991)**
- [_] SOA No.9 *Controlling Iron Deficiency* (1991)**
- [_] SOA No.10 *Nutrition-Relevant Actions -- Some Experiences from the Eighties and Lessons for the Nineties* (1991)**
- [_] SOA No.11 *Nutrition and Population Links -- Breastfeeding, Family Planning and Child Health* (1992)*
- [_] SOA No.12 *Nutritional Issues in Food Aid* (1993)*
- [_] SOA No.13 *Effectiveness of Vitamin A Supplementation in the Control of Young Child Morbidity and Mortality in Developing Countries* (1993)**
- [_] SOA No.14 *Controlling Vitamin A Deficiency* (1994)**
- [_] SOA No. 15 *How Nutrition Improves* (1996)**
- [_] SOA No. 16 *Nutrition and Poverty* (1997)*

Please send me the following **Country Case Studies**

- [_] *Brazil*, September 1993
- [_] *Egypt*, January 1992
- [_] *India*, December 1992
- [_] *Indonesia*, December 1992
- [_] *Tanzania*, April 1993
- [_] *Thailand*, December 1992
- [_] *Zimbabwe*, December 1992

Please send me the following **Back numbers of** *SCN NEWS* [*Unfortunately, No. 4, 6 and 12 are out of print*]

- [_] No. 1 and 2, March 1988
- [_] No. 3, early 1989
- [_] No. 5, early 1990
- [_] No. 7, mid 1991
- [_] No. 8, late 1992
- [_] No. 9, mid 1993
- [_] No. 10, late 1993
- [_] No. 11, mid 1994
- [_] No. 13, late 1995
- [_] No. 14, July 1997

- [_] **Please check this box if you would like to be placed on the mailing list for** *SCN NEWS*
- [_] **Please check this box if you would like to be placed on the mailing list for Refugee Nutrition Information System**

Checking a box [_] means you will automatically receive this/these document(s) when available if you are requesting from outside Australia, Europe, Japan, New Zealand, North America. However, if requesting from within Australia, Europe, Japan, New Zealand, North America, checking this box means you undertake to remit US$10/15 to the ACC/SCN upon receipt of each publication.*

PLEASE SEND THIS ORDER FORM TO:
ACC/SCN, c/o World Health Organization, 20, Avenue Appia, 1211 Geneva 27, Switzerland
Tel: 41 22 791 0456 Fax: 41 22 798 8891 EMail: accscn@who.ch
Or use the order form on our website at http://www.unsystem.org/accscn/

use format (e.g., World Wide Web, regular hard copy bulletins, CD-ROM, email, faxback, etc.).

HINAP will focus on country situations where latent or low-level tensions have not yet attracted significant attention but could escalate. It could assist decision-making in order to spur preventative measures where possible, and contingency planning where necessary. Examples of information that could be collected for countries of origin and countries of asylum include:

- ◊ health data such as epidemic risks, incidence and prevalence of communicable diseases and vaccination coverage, nutritional status and country health profiles;
- ◊ basic ethnographic data on populations at risk of displacement;
- ◊ capabilities of in-country NGOs and UN Agencies;
- ◊ description of the country's disaster plan, if any;
- ◊ level of health professional training in the country of origin which may help in recruiting and training of refugee health workers;
- ◊ logistics information such as warehouse capacity, price and availability of fuel, air and road access and telecommunications capacity;
- ◊ local and regional laboratory capabilities;
- ◊ in-country production capacity for and/or availability of drugs, jerry cans, cooking kits and other needed items.

Some initial HINAP data is expected to become available on the Web in late 1998. The address will be http://www.who.ch/eha/

This project is supported by the US State Department's Bureau for Population, Refugees and Migration (BPRM), the British Department for International Development (DFID) and the US Centers for Disease Control and Prevention (CDC). For further information, please contact: Eric K. Noji, M.D., M.P.H., Senior Medical Officer and HINAP Coordinator, Division of Emergency & Humanitarian Action, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2705/2754 Fax: 41 22 791 4844 Email: nojie@who.ch

New UNICEF / WFP MOU

A new memorandum of understanding (MOU) between UNICEF and WFP was signed in February 1998. The MOU details the working arrangements between the two organisations with respect to joint activities in emergency and rehabilitation operations. The MOU applies where WFP and UNICEF have agreed to work as partners in situations caused by natural or man-made disasters where people remain in their country of origin, and includes internally displaced people.

In these situations, WFP and UNICEF provide a comprehensive range of services to safeguard the health and nutrition of the affected population, with an emphasis on the most vulnerable groups. This joint approach is designed to make optimal use of each agency's strengths. The cooperation will maximise the efficiency of the agencies while avoiding duplication of efforts.

Some of the objectives of the WFP/UNICEF collaboration are to prevent famine-related deaths and malnutrition - including micronutrient malnutrition - and to restore or provide access to health services, water supplies, sanitation and other basic services for families, with particular attention to unaccompanied children. This collaboration is also intended to improve the condition of women, on the premise that strengthening opportunities for women is a major factor in overcoming hunger and poverty.

Specifically, WFP is responsible for assessing overall food needs and logistics and will mobilise and provide non-food items necessary for the transport, storage and distribution of food commodities. UNICEF will be responsible for mobilising and providing non-food items (e.g., food cooking equipment, emergency shelter material, soap). Food commodities will be appropriately fortified, and UNICEF will be responsible for covering any unmet micronutrient needs through supplement distribution or the provision of vitamin and mineral mixes.

UNICEF, in consultation with WFP will also identify requirements for strengthening caring capacity, access to safe water, sanitation, health services, and education. Both organisations will promote, protect and support breastfeeding practices in emergencies.

For copies of the WFP/UNICEF MOU please contact Diana Populin at WFP.Tel: 396 6513-2214 Fax: 396 6513-2817 Email: populin@wfp.org

IDPs and the Human Rights Commission

At the 54th Session of the Commission on Human Rights (Geneva, 16 March - 24 April 1998), the report *'Further Promotion and Encouragement of Human Rights and Fundamental Freedoms, Including the Programme and Methods of Work of the Commission: Human Rights, Mass Exoduses and Displaced Persons'* was presented. The addendum to this report, *'Guiding Principles on Internal Displacement'*, addresses the specific needs of internally displaced people (IDPs)[1] worldwide by identifying rights and guarantees relevant to their protection. The Principles reflect and are consistent with human rights law, and are intended to be a persuasive statement that should provide not only practical guidance, but also an instrument for public policy education and consciousness-raising.

Specific reference to food and nutrition is made in principles 7, 10 and 18. Principle 7 sets out one of the guarantees to be met when authorities undertake displacement after having ensured

[1]Internally displaced people are defined, for the purposes of these Guiding Principles as 'persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural disasters, and who have not crossed an internationally recognised State border.' (para 2, Guiding Principles *E/CN.2/1998/53/Add.2*).

that no alternative courses of action exist. This is to ensure "that such displacements are effected in satisfactory conditions of safety, nutrition, health and hygiene, and that members of the same family are not separated." (E/CN.4/1998/53/Add.2). Principle 10 discusses the elimination of starvation as a method of combat. Principle 18 specifies that all IDPs have the right to an adequate standard of living which, at a minimum, means safe access to:

- ◊ essential food and potable water;
- ◊ basic shelter and housing;
- ◊ appropriate clothing;
- ◊ essential medical services and sanitation.

Regarding humanitarian assistance, Principles 24-26 stipulate that all humanitarian assistance be carried out in accordance with the principles of impartiality and without discrimination. The primary responsibility for providing assistance rests with the national authorities - international organisations and others can offer their services in support of IDPs. Assistance will not be diverted, in particular for military or political reasons, and persons engaged in humanitarian assistance shall be respected and protected from attack or other acts of violence.

Source: '*Further Promotion and Encouragement of Human Rights and Fundamental Freedoms, Including the Programme and Methods of Work of the Commission: Human Rights, Mass Exoduses and Displaced Persons*', Report of the Representative of the Secretary-General, Mr Francis Deng, submitted pursuant to Commission on Human Rights resolution 1997/39, and Addendum, '*Guiding Principles on Internal Displacment*'. (E/CN.4/1998/53, E/CN.2/1998/53/Add.2, Resolution 1998/50). Both documents are available on the UNHCHR website at http://www.unhchr.ch/html/menu4/chrrep/98chr53.htm and http://www.unhchr.ch/html/menu4/chrrep/98chr53a2.htm, respectively, or from High Commissioner for Human Rights/Centre for Human Rights, Palais des Nations 8-14, Avenue de la Paix 1211, Geneva 10, Switzerland. Or, High Commissioner for Human Rights/Centre for Human Rights, United Nations New York, NY 10017, USA.

USAID's Results Review and Resource Request (R4) process

As part of USAID's[1] management-for-results efforts, the Food For Peace/Emergency Division (FFP/ER) is monitoring progress in achieving its objective of meeting the critical food needs of targeted groups in emergencies. This is done through its Results Review and Resource Request (R4) process which assesses factors affecting programme performance and summarises progress made during the fiscal year. Thirty-five programmes implemented by the WFP, private voluntary organisations and government agencies in 24 countries, primarily in Africa, were included in the review process in 1997.

Most programmes assessed (76%) in the 1997 review were responding to complex emergencies, and undertook such activities as general free food distribution or targeted feeding of the most vulnerable groups, supplementary and therapeutic feeding, food-for-work/agriculture, rehabilitation and monitoring. It is estimated that emergency food aid reached more than 11.5 million beneficiaries during the reporting period (data was not available from four programmes). Efforts are underway to coordinate more closely with the ACC/SCN on monitoring nutritional status of beneficiaries through the Refugee Nutrition Information System.

The assessment found that significant progress was made through new programme approaches in 1997. FFP/ER introduced innovative measures to meet the challenge of timely food aid delivery within the context of an established system which normally take 120-150 days. These include the use of USDA procurements to ensure the arrival of food grains within two months of the start of the procurement process, and the prepositioning of $5 million worth of commodities at US ports for immediate loading in case of a sudden-onset emergency. This has been used successfully to meet El-Niño emergency food aid needs in Sudan, Somalia and Central America. Other measures are a two-year planning for long-term or complex emergencies with funding requirements reviewed annually against needs. This will enable implementing partners to better address 'transition' and longer-term issues like rehabilitation, improving the programme planning and approval process by introducing a proposal guideline and checklist, and a new standardised grant document.

Accomplishments and lessons learned are illustrated by country case studies and data on various performance indicators. Expected "results" of the R4 process include:

- ◊ improved targeting of food aid to the most vulnerable populations;
- ◊ delivery of food aid target groups on schedule;
- ◊ improved planning and implementation from relief activities to development, including specific attention to avoid the negative impacts of food aid in programme design and implementation ('do no harm');
- ◊ strengthened capabilities of cooperating sponsors and host country entities to manage emergency food aid.

For further information on USAID's Food for Peace Emergency Programs, please contact: David Garms, Emergency Division, Office of Food for Peace, USAID, 1300 Pennsylvania Avenue, Washington DC 20523, USA. Tel: 1 202-712-5834 Fax: 1 202-216-3039 Email: dgarms@usaid.gov

[1]USAID's Office of Food for Peace, Emergency Division (FFP/ER), administers the U.S.Government's P.L. 480 Title II emergency food aid. Title II development activities related to food security with a primary focus on household nutrition and agricultural productivity are undertaken by the Development Division.

Vitamin C Fortification of Food Aid Commodities: Final Report (1997)
Institute of Medicine

Over the last five years, there has been considerable interest in micronutrient fortification of rations provided in international food relief programmes. In 1995, a pilot programme was initiated by USAID to increase the vitamin C content of corn-soy

blend (CSB) and wheat-soy blend (WSB) from 40mg/100g to 90-100mg/100g (see also *SCN News No.15 p36-7*).

This new report reviews and evaluates the pilot programme, determines the cost-effectiveness of scaling up vitamin C fortification, makes recommendations concerning the advisability of increasing vitamin C fortification and discusses alternative mechanisms for providing vitamin C to refugee populations at risk for vitamin C deficiency.

Scurvy outbreaks have been reported among refugee populations who are wholly dependent on emergency relief rations. With the exception of a mild recurring scurvy outbreak among Bhutanese refugees in Nepal, all other outbreaks in the past two decades have been among refugee camps in the Greater Horn of Africa (Ethiopia, Kenya, Somalia and Sudan). As only about 7% of all US-supplied fortified blended foods is designated for use in these countries, the Committee concluded that the costs of increasing vitamin C levels in all (100%) US-supplied fortified blended foods could not be justified, and suggested alternative approaches for the prevention of scurvy. These include providing vitamin C-containing foods (such as locally available fruits or vegetables, or tomato paste) as part of the emergency ration package, increasing access to local markets, and local fortification of commodities in the country or region where the emergency is occurring. Specifically, the report recommends that:

- ◊ the level of vitamin C fortification of US-supplied blended food aid commodities should not be increased;
- ◊ health surveillance systems in refugee camps should be strengthened to monitor populations at risk of scurvy;
- ◊ populations at risk should be targeted with appropriate vitamin C interventions;
- ◊ the uniformity of the vitamin and mineral fortificant throughout the blended foods should be improved.

100pp. US $15 (in the US); US $18 (international). Copies are available from the National Academy Press, 2101 Constitution Avenue, N.W., Box 285, Washington, DC 20055, USA. There is a 20% discount when placing orders through the National Academy Press Web online bookstore (http://www.nap.edu). The report is also available to download free of charge from the same website.

Acceptability and use of Cereal-based Foods in Refugee Camps (1998)

An Oxfam Working Paper by Catherine Mears with Helen Young

Episodes of scurvy, pellagra, and beriberi among refugees during the 1980s were a startling reminder of the inadequacies and failures of the international humanitarian response. Fortification of the cereal staple and the provision of a fortified blended food are key strategies identified for prevention of micronutrient malnutrition in refugee settings. This report publishes the findings of a study, conducted by OXFAM-GB and funded by MI through CIDA, and UNHCR, to investigate the use and acceptability of fortified blended foods, and the feasibility of cereal fortification at the local level in three refugee situations (Nepal, Ethiopia and Tanzania).

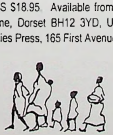
The report was presented and discussed at the meeting of the SCN Working Group on the Nutrition of Refugees and Displaced People during the ACC/SCN's 25th Session in Oslo, 1998. The following is taken from the Working Group report[1].

The nutritional situation and nutritional content of the rations for each of the three sites are included in the report to give background and context. Summaries of preferences at each site between items provided in the ration are described. In addition, preferences among ration and non-ration food items are included. Differences in preferences were found to be related to differences in age of the consumer, potential for sale, familiarity of food type, cooking time required, cooking methods and type of meal. The study also conducted a preliminary assessment of the opportunities for fortification of cereals at different levels (household, camp, regional, national).

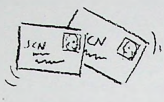
The main findings of the report are as follows.

- ◊ Regional-level fortification of cereals would require adequate milling capacity close to the population, a medium- to long-term commitment to this by donors, and considerable technical and management expertise.
- ◊ Camp-level fortification of cereals would be most appropriate where the distributed staple grain is acceptable and consumed in milled form rather than as whole grain.
- ◊ Household-level fortification of cereals during pounding or grinding did not appear to be feasible. However, a fortification powder (premix) could be added to family meals during cooking.
- ◊ The evidence suggested that selecting a food vehicle for fortification should be context-specific. Factors that need to be assessed include: familiarity and food, resale and cultural value.
- ◊ No evidence emerged of rejection on cultural grounds of any of the blended foods investigated. In general, where blended foods were familiar, they were accepted, however unfamiliarity did not indicate low acceptability. The report highlights some technical and operational issues of quality control and timely supply of local products.

135pp. UK12.95; US $18.95. Available from Oxfam, c/o BEBC, PO Box 1496, Parkstone, Dorset BH12 3YD, UK or in the USA, from Oxfam, c/o Humanities Press, 165 First Avenue, Atlantic Highlands, NJ 07716-1289.



[1] A full report of the Working Group meeting (see also page 25) is available from the SCN Secretariat, c/o WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 0456 Fax: 41 22 798 8891 Email: accscn@who.ch



LETTERS TO THE EDITOR

This section aims to encourage positive discussion and debate about current issues in the field of international nutrition, including reponses to articles published in SCN News. Your letters and comments would be most welcome.

Dear Editor,

We have read with interest the edited version published in *SCN News No.15* of the Forman Memorial Lecture on '*How are we doing in international nutrition*' which was delivered by F. James Levinson at the recent IVACG Meeting in Cairo. Mr. Levinson based his lecture on a questionnaire sent to persons he selected. None of these questionnaires were apparently sent to anyone at FAO or WHO, despite our work to provide member countries worldwide with authoritative normative information and policy guidance needed for better nutrition, food, agriculture and health programmes and our daily work with involved government agencies, the international community, academia, NGOs and others involved in nutrition improvement activities.

Although his lecture is concerned with international nutrition, Mr. Levinson does not mention the FAO/WHO sponsored December 1992 International Conference on Nutrition (ICN). The ICN was attended by over 2,000 persons interested in nutrition with delegations from 159 countries and was the first and only international and inter-governmental conference on nutrition. The ICN took a broad approach to nutritional improvement and its recommendations call for action in a coordinated and cooperative manner by all concerned. In addition, the ICN recommendations were fully endorsed and incorporated into the 1996 World Food Summit Declaration and Plan of Action.

FAO and WHO have worked closely together, and with other interested international organisations at the global, regional and national level to prepare and implement ICN mandated national plans of action for nutrition. These ICN follow-up activities have elevated nutrition to a much higher priority in many countries. This has attracted significant levels of government and other resources for preparing and implementing effective policies, programmes and activities devoted to better food supplies, household food security, improved health care and education, poverty alleviation and improved overall development. In fact, in FAO Governing Body meetings, the member governments of FAO have regularly given strong support to our nutrition-related activities, particularly in regard to our ICN follow-up work. In addition, FAO has over many years played a major role in promoting better agriculture, food supplies, gender equality in agriculture, environmental protection and rational use of resources, improved access to good quality and safe food, and better overall development and improved incomes and employment. This FAO work is essential to the programmes of all countries in attacking the basic causes of hunger and malnutrition.

Mr Levinson's paper includes a ranking of a list of entities working in nutrition on the basis of his questionnaire. The list in itself is curious since it omits several ACC/SCN members with broad or specific interests in nutrition, such as UNESCO, IFAD, IAEA, UNHCR, the World Food Programme, UNFPA and UNDP. Although FAO has been working on international nutrition and nutrition improvement for more than 50 years, we note that we have finished last in the questionnaire results which indicates somewhat of a bias among those polled and a definite failure to appreciate the critical nature of access to adequate supplies of good quality and safe food as the first and foremost requisite for good nutrition.

Certainly the ICN brought the topic of improved nutrition and reduction of malnutrition to centre stage and prepared a very clear plan of action showing all the things that need to be done. The heads of state and government and high level ministers from 180 countries who attended the World Food Summit renewed the commitment of all countries to ICN goals and emphasised the need for access by all to adequate supplies of good quality and safe foods as essential to assuring food security and eliminating hunger and malnutrition. All involved in international nutrition should do their best to implement all of its recommendations and work together on the basis of our different mandates to cooperatively address all of the ICN concerns. While there was little appreciation of FAO work over the years by those polled, we at FAO will continue our efforts to implement the ICN recommendations to improve the nutritional status of all, and to continue to do our best to actively cooperate with all.

By John R. Lupien, Director, Food and Nutrition Division, FAO. Via delle Terme di Caracalla, 00100 Rome, Italy. Tel: 396 5705 3330 Fax: 396 5705 4593 Email: john.lupien@fao.org

A Reaction to James Levinson's 10th Annual Martin Forman Memorial Lecture (SCN News No.15), presented in the form of a letter to the student 'Erica'

Dear Erica,

You probably did not expect that a concerned question of yours to Professor Jim Levinson would propel you to some notoriety. Your question allowed Dr Levinson to go into some depth on something that has worried us for many years, namely *how we are doing in international nutrition*. Reading his response to you, I found much that I could identify with. But I also found things for which I have a slightly different view and that would help you even better judge what you are planning to get involved in your future career. That is why I am writing you this sequel letter.

Judging the most important advances in nutrition in the last 10 years, the survey respondents chose *advances in reverting micronutrient deficiencies*. This came as no surprise. Most nutritionists still like 'silver bullet' fixes, primarily because they move within the technical realm. But, at its roots, PEM is more of a political problem, it is the biological translation of a social disease.

Of the four next choices for important advances that were chosen, I can agree with two: *greater community involvement in programmes* (not so much projects), and *increased attention to care practices addressing women and children*. But for the other two, I have slightly different interpretations: it is not that we now have a 'better' understanding of the causes of malnutrition; we have rather reached a point in which we have convinced more people about the 'correct' conceptual framework of the causality of malnutrition, one that considers the latter an outcome of those different levels of causality. Further, I take exception to the suggestion that having achieved better designs and management of nutrition interventions in the last 10 years, this has led us to significantly better resolve the problems of PEM - design and management are not the main constraints our nutrition interventions have had in the last 10 years. The main top-to-bottom, often palliative thrust of them has been (and still is) the main constraint. We have not started addressing all underlying and basic causes of malnutrition yet I was definitely surprised, Erica, to read the next major advance chosen by respondents: *'greater sensitivity to the importance of nutrition counselling'*; this just shows the ethnocentric bias of the respondents.....as if 'counselling' would solve the problems of poverty and inequity...

The same bias can be found when respondents chose reduced funding as the major problem or constraint to achieving better results in the battle against PEM. If additional funding is used for the wrong priorities and interventions, we might as well not have it! As pertains to available funding going more for field operations than for research, this is a shift that may be pointing to the fact that we do know what to do, we just have to apply it rationally and courageously, even against the opposition of the powers that be.

I propose that we - once and for all - have the courage to *separate PEM from micronutrients interventions as two completely different entities, two different universes and two totally different challenges*. Only then will we avoid nutritionists running away from the more difficult choices and challenges in the battle against (the real) malnutrition.

I am sorry, Erica, to disagree not only with the respondents, but also with Dr Levinson on the centrality of the issue of *interagency infighting*. It exists, and it is a disappointment, granted. But it is not the main obstacle to a faster progress. The issue of a *lack of commitment by governments to meaningful nutrition interventions* was chosen as another major obstacle. But this argument has been made too often, always keeping it as a blanket statement, almost as a slogan. It is time we must analyse this in more depth; only then will we learn how to tackle it better. The frequent *absence of project evaluation*, also cited as a constraint, I am convinced is on purpose; this allows agencies to continue pouring money into actions that do not much alter the balance of power at the base of the disempowerment that breeds malnutrition. Further, I do agree that *bureaucratic problems* in getting things done are a great burden.

Jim Levinson concludes from these responses above something that I cannot agree with. He says that this shows that 'the major negative factors faced in international nutrition are *not* ...structural... constraints, but rather problems that the nutrition community... can...control'. I could not disagree more. The major negative factors I think are indeed structural and related to the basic causes of malnutrition. Most is ultimately a matter of empowerment. In the years to come, it will take a more sustained (and sustainable) bottom-up activism to revert malnutrition on the scale that is needed.

The respondents were also asked to rank international agencies in terms of how they had served the field of international nutrition. Low rankings received by agencies we thought major nutrition actors do not necessarily reflect them having lost their funding or commitment to international nutrition; it rather reflects that they probably embraced the wrong approaches to solve malnutrition in the last 10 years (perhaps those that were too sectoral?). Lower current funding, in my view, reflects nothing more than one more swing of the pendulum that has affected international nutrition funding following the fashion swings in the thinking of the international community. (Or is it that we have little to show for the increased funding we enjoyed in the last few years...?).

The politics of it all is at the very centre of international nutrition. With this fait accompli, it should be clear that you cannot escape the responsibility of taking a political stand on nutrition yourself. This will help you to question your own current education, as well as all that you see out there in the job market that is waiting for you shortly.

Dr Levinson is right, Erica, when he tells you that the current state of affairs in international nutrition 'will pose increasing

frustrations' and challenges for you and your generation. My doubts though come from looking at how politically uninterested your generation of students in America and Western Europe has become. If you are one of them, don't worry, you will not face increasing frustrations and malnutrition will continue to plague this world in the years to come.

In closing, Erica, Jim Levinson conveys to you his confidence and optimism that our work has the ability to make a difference. The question is which difference. It is not a matter of an increasing number of activities in international nutrition taking place in developing countries; it is a matter of what kind or type of activities. Issues of inequity are at the base of the problems at hand, and if nutrition is used as a port of entry to revert such inequity I would share his optimism. But we need your upcoming generation, Erica, to get the job done.

By Claudio Schuftan, MD. IPO Box 369, Hanoi, Vietnam. Tel/ Fax: 84 4 8260780 Email: aviva@netnam.org.vn

A response by Jim Levinson...

Dear Editor,

I am delighted that my Forman Lecture has generated so much discussion. In my invitation to deliver the Lecture I was asked by Dr. Horwitz to be 'original, stimulating and even provocative'. One measure of success on the last of these was the comment made by one listener who came up to me after the Lecture and said jocularly, "I hope you have tenure!"

As mentioned in the Lecture, I grew up with the greatest respect for both FAO and WHO, and continue to believe that both provide important services. I utilise many of them myself on a regular basis. As indicated, I am genuinely saddened to see that these UN technical agencies do not elicit the same level of confidence, at least within the nutrition community that they once did. Rather than responding defensively, I would hope that these organisations would view the Lecture as an invitation to recapture that confidence.

I should correct a few factual errors in the letters. First, re John Lupien's comment about the questionnaire, it was, in fact, sent to a considerable number of FAO and WHO officials, John included. Many of these persons have acknowledged to me personally both that they received it, and that they completed and returned it. Additionally, rather than ignoring the FAO/WHO sponsored International Conference on Nutrition (ICN), I specifically included it together with the development of country plans of action on a list from which respondents were invited to select the four most important advances in international nutrition over the past 10 years. Nineteen percent of respondents included the ICN and country plans as one of their choices in the 'most important advances' category.

But, let me be clear. The data I presented in the lecture was a summation of responses from a large number of individuals around the world. A 50% response rate is remarkably high for an internationally mailed questionnaire of this sort. I was able to assure that the information was accurately analysed and tabulated. To say that the material is 'inaccurate' is only to question the judgements of the respondents.

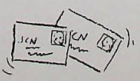
John Lupien may be correct in chiding me for excluding from the organisation/agency rankings a number of other UN organisations which do have some nutrition involvement. The desire here was only to make the questionnaire manageable - as it was, there were 16 organisations or groups or organisations to rank. I took my cues on which to include from several international colleagues and two major international figures, one each from Africa and Asia.

I won't try to respond to all of Claudio Schuftan's interesting remarks, but will comment briefly on a few. First, I think Claudio is correct about underlying structural and political problems which deserve more attention from the development community as a whole. Second, I'm in complete agreement with Claudio's contention with respect to the micronutrients/PEM imbalance. In fact, his letter to the SCN News, which he copied to me earlier, generated considerable correspondence and an eventual letter from the two of us and V. Ramalingaswami which will be published in *The Lancet* this summer.

Claudio and I may agree to disagree on the importance of the 'infighting' issue which was identified by respondents as such a major negative factor in international nutrition. But I should mention that, since presenting the Lecture, I've been absolutely swamped with messages from individuals around the world confirming the insidious effect that such infighting has had on our community. Several individuals even have asked that the issue be placed formally on the agenda of the SCN.

What pleases me most is that the Lecture and SCN's publication of it, have served the purpose of presenting these important issues to the nutrition community at large for our common consideration.

By Jim Levinson, Director, International Food and Nutrition Center, School of Nutrition Science and Policy, Tufts University, Medford MA. 02155, USA. Tel: 1 617 627 3223 x2284 Fax: 1 617 627 3887 Email: jlevinson@emerald.tufts.edu



Dear Editor,

Claudio Schuftan's review of Werner and Sanders' new book '*Questioning the Solution*' (*SCN News No.15 p58*) cannot go unchallenged. David Sanders kindly gave me a copy of the book on his recent visit to Darwin, so I certainly bear him no malice, but this book is too far from evidence-based medicine for my approval. Indeed, the science is used too selectively to justify a political perspective. Many important claims are made with no data to support them. In the end, it is political rhetoric instead of good medicine. This is especially disappointing as a sequel to '*Where there is no doctor*', which deserved its good reputation.

The basic argument is for salt-sugar solution (SSS) which can be made up at home instead of ORS in packets, which has been a recurring theme of public health debate, and I am not unsympathetic to that argument. But there have been so few sustainable SSS projects in which families have been shown to remember the formula of the safe solution when children have diarrhoea that this book's argument is unsustainable. ORS has been an important advance for health facilities, so it is a pity this book appears to discredit it without making a convincing case from an evidence perspective. However, it is true that the emphasis on oral rehydration ignored (until recently) the importance of persistent diarrhoea and malnutrition. I would favour home-based programmes under circumstances where health facilities were inadequate, but not as a universal programme for diarrhoea, and certainly not always instead of ORS in packets.

As a paediatrician treating children with diarrhoea, I am too aware of the need for potassium in rehydration solutions and the dangers of incorrect sodium concentrations in home-based solutions. Of course mistakes can be made with packets going into a glass of water instead of a litre, but health facilities need to use the best solution and that means with potassium. Of course, empowering people to manage their children's diarrhoea without the need for health workers is fine, but not in order to deny them optimal treatment which is still accessible to most populations even in very poor countries like Malawi and Zimbabwe (where I have worked). This book does not provide any evidence that home-based solutions are more accessible as a sustainable and effective intervention than ORS made widely available through all levels of health facilities. Successful home-based SSS projects have needed enormous educational and promotional activities, which are excellent but expensive and difficult to sustain.

Cereal-based ORS does seem to have marginal benefits in some of the studies, but not in all. However, the nutritional benefits do not seem to be greater than with early refeeding of malnourished children. The work of Nichols, Lunn, Pappenheimer, Wright and others (see references) on the intestinal mucosa now allow us for the first time to design appropriate diets for malnourished children during early rehabilitation which will be tolerated and lead to faster transition to a high energy rehabilitation diet and recovery. So it is improved diets rather than just cereal-based ORS which are needed.

I feel that Werner and Sander's arguments would have been better supported with more focus on issues such as abuse of medical treatment of diarrhoea (antidiarrhoeals or antibiotics), poor motivation and supervision of health workers, etc., but applied to ORS, I found it unconvincing because ORS has been one of the great successes of diarrhoeal management upon which we need to build.

References:

1. Morales E, Craig LD, MacLean WC, Jr. (1991) Dietary management of malnourished children with a new enteral feeding. J. Am. Diet. Assoc. 91(10) 1233-8.

2. Nichols BL, Dudley MA, Nichols VN, Putman M, Avery SE, Fraley JK, Quaroni A, Shiner M, Carrazza FR. (1997) Effects of malnutrition on expression and activity of lactase in children. Gastroenterology 112(3) 742-51.

3. Wright EM, Hirsch JR, Loo DD, Zampighi GA. (1997) Regulation of Na+/glucose cotransporters. J. Exp. Biol. 200(Pt 2) 287-93.

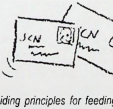
4. Pappenheimer JR, Karnovsky ML, Maggio JE. Absorption and excretion of undegradable peptides: role of lipid solubility and net charge (1997). J. Pharmacol. Exp. Ther. 280(1) 292-300.

5. Mazumder RN, Kabir I, Rahman MM, Khatun M, Mahalanabis D. (1996) Absorption of macronutrients from a calorie-dense diet in malnourished children during acute shigellosis. J. Pediatr. Gastroenterol. Nutr. 23(1) 24-8.

6. Northrop Clewes CA, Lunn PG, Downes RM. (1997) Lactose maldigestion in breast-feeding Gambian infants. J Pediatr Gastroenterol Nutr. 24(3) 257-63.

7. Brewster DR, Manary MJ, Graham SM. (1997) Case management of kwashiorkor: an intervention project at 7 Nutritional Rehabilitation Centres in Malawi. Eur J Clin Nutr 51 139-47.

By David Brewster, Head of Paediatrics & Clinical Dean, Northern Territory Clinical School, PO Box 41326, Casuarina, Darwin, Australia. Tel: 61 8 89228765 Fax: 61 8 89228286 Email: david.brewster@health.nt.gov.au



Corrigendum. *Guiding principles for feeding infants and young children during emergencies* (SCN News No.15 p. 37). *Copies of the final version of the Guiding Principles will be available for general distribution only later in 1998. In addition, our footnote at the bottom of the 2nd column should have read: Editor's note: World Health Assembly resolution WHA45.34 reaffirmed that during the first four to six months of life no food or liquid other than breastmilk, not even water, is required to meet the normal infant's nutritional requirements, and that from the age of about six months infants should begin to receive a variety of locally available and safely prepared foods rich in energy, in addition to breastmilk, to meet their changing nutritional requirements'. The complementary feeding portion of this resolution was reiterated in resolution WHA 47.5, which urged 'fostering appropriate complementary feeding practices from the age of about six months, emphasising continued breastfeeding and frequent feeding with safe and adequate amounts of local foods'. The scientific basis for these recommendations is the 1995 report of the WHO Expert Committee on 'Physical Status: the use and interpretation of anthropometry'.*

COURSES, MEETINGS AND ANNOUNCEMENTS

Dr Gro Harlem Brundtland Elected Director General of WHO

Source: WHO website http://www.who.ch/

Dr Gro Harlem Brundtland was elected to the post of Director-General of WHO at the 51st Session of the World Health Assembly (WHA), Geneva, 11-16 May 1998. This five-year term will start on July 21st 1998. In her speech to the WHA, Dr Brundtland immediately affirmed her conviction that societies can be changed and that poverty can be fought. "The challenge goes to all of us. WHO can and must change. It must become more effective, more accountable, more transparent and more receptive to a changing world."

Describing the priorities and reorganisation which she intends to start implementing "from the very first day", Dr Brundtland said that programmes and activities will be organised around key functions focusing on four areas of concern: communicable diseases, non-communicable diseases, building sustainable health systems and advocating health. Some activities will be organised into projects. Among the first priorities for such projects, she proposed to "Roll Back Malaria, by developing a new health sector-wide approach to combat the disease at global, regional and country levels." A second priority is tobacco: "We need to address a major cause of premature death which is dramatically increasing... Tobacco is a killer."

Dr Gro Harlem Bruntland concluded her speech by saying, "I envisage a world where solidarity binds the fortunate with those less favoured. Where our collective efforts will help roll back *all* the diseases of the poor. Where our collective efforts assure universal access to compassionate and competent health care. Bringing the world one step closer to that goal is our call for action."

In mid-June, a list of provisional organisational clusters (ten clusters in total) placed Food Safety and the Programme for Nutrition in the 'Health, Environmental and Sustainable Development' cluster, with Food Aid Programmes and the Division of Child Health and Development in the 'Health Care Delivery' cluster.

Sources: Transcript of Dr Brundtland's speech to the 51st WHA, 1998. WHO press release WHA/3.

DR GRO HARLEM BRUNDTLAND was born in Oslo, Norway. She studied medicine at the University of Oslo, from which she obtained her M.D. degree in 1963. She received a Masters degree in Pubic Health from Harvard University in 1965, following which she served for two years as medical officer at the Norwegian Directorate of Health, and for 6 years as Assistant Medical Director at the Oslo Board of Health, Department of School Services. In 1974, Dr Gro Harlem Brundtland was appointed Minister of Environment, a position she held for 5 years. Appointed Prime Minister for the first time in 1981, she held this position three times, and in total, was Head of Government for more than 10 years.

Among her numerous international positions, Dr Gro Harlem Brundtland chaired the World Commission on Environment and Development (starting in 1983), which coined the concept of 'sustainable development' and made recommendations leading to the Earth Summit in Rio de Janeiro in 1992.

Roger Shrimpton – New Chief of Nutrition, UNICEF

Roger Shrimpton was appointed Chief of Nutrition, Programme Division, UNICEF, New York on 29 December 1997, following the move of David Alnwick from Chief of Nutrition to Chief of Health *(see SCN News No 15 p38)*. Prior to his appointment, Roger served as Senior Programme Officer in Jakarta, Indonesia.

Roger joined UNICEF in 1984 as Nutrition Officer in Sao Luis, Maranho in the North-East of Brazil. He also served in the Brasilia office for two years, coordinating health and nutrition support to the North-East of Brazil. Following a two-year assignment as a Research Associate with Cornell University's Food and Nutritional Policy Programme, he returned to the Brasilia office in 1989 as Senior Project Officer. In 1991, Roger joined the Jakarta Indonesia office where he remained until his transfer to New York.

Milla McLachlan – Nutrition Advisor for the Human Development Network at the World Bank

Milla McLachlan was appointed nutrition advisor for the Human Development Network at the World Bank on June 8th 1998.

Prior to her appointment, Milla worked at the Development Bank of Southern Africa and was chairperson of the Nutrition Society of Southern Africa.

Milla has taught food and nutrition in Botswana, has lectured in food science and adult education at the University of Stellenbosch and was head of department at the University of Zululand. She has written many publications on nutrition, the most recent of which is '*Bold Choices: Making the South African Nutrition Strategy Work*', written with Pauline Kuzwayo.

Rafael Flores Ayala – New Research Fellow for the Fourth Report

The SCN and IFPRI are collaborating on the production of '*The World Nutrition Situation: Fourth Report*'. To this end, Rafael Flores Ayala has been appointed to conduct research, analyse and interpret global, regional and country trends in nutrition indicators, leading to the publication of the *Fourth Report* in December 1999. Rafael will work closely with the SCN Secretariat in Geneva and the Division of Food Consumption and Nutrition at IFPRI in Washington, USA.

Of Guatemalan origin, Rafael has worked at the Instituto de Nutrición de Centro América y Panamá (INCAP) for most of his career. At INCAP he initially worked as a statistician, becoming head of the Statistical Unit in 1982. In 1993 he was appointed head of the Transfer of Science and Technology Program, and two years later he became head of the Nutrition and Health Program. In 1989, Rafael obtained a doctorate in public health from the Department of Biostatistics, University of California at Los Angeles, USA.

Rafael has experience in technical cooperation activities throughout Central and South America. His main interests include the generational effects of malnutrition and the causal mechanism between malnutrition, infection and diet. Rafael will start work on the *Fourth Report* in August 1998.

Joaquin Cravioto - In Memoriam

Joaquin Cravioto, one of the hemisphere's pioneer paediatric nutritionists, died in Mexico City on April 9, 1998. Born in Mexico on September 12, 1933, his seminal observations of the relationship between growth retardation in rural Mexican children and impaired intersensory integration, while an investigator in the Children's Hospital of Mexico, provided the first convincing evidence that malnutrition influenced learning and behaviour. The findings, graphically presented in his famous lecture '*Children of the White Dust*,' stimulated the research that has now confirmed the relationship in dozens of studies from all parts of the world. Variations in growth among children in middle and upper income families bore no relationship to differences in intersensory integration.

Cravioto also described the relationship between marasmic-kwashiorkor and reduced cognitive performance. This work complemented the significant concurrent work of Fernando Mönckeberg in Chile showing a similar and lasting effect of marasmus in infancy. Cravioto was a charismatic teacher who inspired generations of paediatricians and nutritionists to understand and take into account the impact of malnutrition on the physical and mental growth of children.

From 1961 to 1966 he left Mexico to serve as Associate Director of the Institute of Nutrition of Central America and Panama (INCAP). While there he replicated his famous landmark study of undernutrition in children and demonstrated his outstanding influence on students as a leader of the summer course in Public Health Nutrition. He also had responsibility for INCAP's relationship with its member countries to assist them in the application it its research findings and formulation and implementation of national nutrition policies.

Upon returning to Mexico, he became the Director for the next 16 years of the National Programme for Integrated Family Development of the National Institute of Science and Technology and continued active field research. At the time of his death he was on the faculty of the National Institute of Human Communication of the Autonomous University of Mexico still conducting research on nutrition, growth, and development.

From 1966 to 1971, he was Director of Training in the Children's Hospital of Mexico. He also served for several years as Assistant Director of the Applied Nutrition Division of FAO in Rome. He was a visiting professor at Cornell University, Massachusetts Institute of Technology, and the University of Washington in the United States and universities in the United Kingdom and Sweden. He received honors and awards from many countries and was a member of 25 national and foreign scientific societies.

In addition to his wife Maria Cristina he is survived by a son, Alejandro, and daughter, Patricia, both of whom worked with him in his research, as well as three grandchildren. With his death the world has lost one of the last of the remarkable founders and leaders of modern paediatric nutrition.

By Nevin Scrimshaw, UNU.

The 8th European Nutrition Conference
Lillehammer, Norway, 17-19 June 1999

Organised by the Norwegian Nutrition Society (NNS), the Federation of European Nutrition Societies (FENS) and the European Academy of Nutritional Sciences (EANS), the 8th European Nutrition Conference will cover the following main topics (preliminary):

- ◊ nutrition and genetics;
- ◊ antioxidants and nonnutrients from fruits and vegetables;
- ◊ obesity in Europe;
- ◊ the nutrition of the foetus and the young child;
- ◊ dietary lipids and health;
- ◊ classical micronutrients;
- ◊ bone development and osteoporosis,
- ◊ food and nutrition policy;
- ◊ food safety and security.

The conference aims to provide a inspiring forum for interactive exchange by any group interested in food and nutrition: scientists, clinical nutritionalists, food technologists and producers, policy-makers, students, health workers, dietitians, home economists, public health nutritionalists and administrators and journalists.

For further scientific information, please contact Sigrid Berge, Norwegian Nutrition Society, Schweigaards gate 33B, N-0191 Oslo, Norway. Tel: 47 22 17 35 40. Fax: 47 22 17 35 38. Email: sigrid.berge@nilf.nlh.no The conference organiser is Trude Arnesen, P.O. Box 14, N-2601 Lillehammer, Norway. Tel: 47 61 25 17 05. Fax: 47 61 25 65 15. Email: lillarra@sn.no. Further information and requests for a second announcement leaflet are available on the Web at http://www.nutrition.uio.no/Nse/8thFENS_EANS/

Nutrition and Human Rights – the Rights Way to Approaching Nutrition Challenges in the Future?
A graduate/postgraduate course Institute for Nutrition Research/School of Nutrition, University of Oslo, Norway. 5 Oct – 3 Dec 1998

"Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care..." Article 25 of the Universal Declaration of Human Rights, adopted 50 years ago by the UN General Assembly.

On the 50th anniversary of the Universal Declaration of Human Rights, the Institute for Nutrition Research and School of Nutrition at the University of Oslo, Norway is for the second time offering a two month graduate/postgraduate credit course on Nutrition and Human Rights. The aims of the course are to:

- ◊ introduce participants to the evolution and practice of international human rights, especially economic, social and cultural rights;
- ◊ address human rights issues as they relate to food and nutrition;
- ◊ enable participants to recognise the possible advantages of a human rights approach to nutrition analysis, advocacy and action.

Topics addressed in the course will include:

- ◊ an overview of the international human rights normative system;
- ◊ the content and implementation of economic, social and cultural rights;
- ◊ human rights institutions, mechanisms and procedures for promoting and monitoring food and nutrition policies and programmes;
- ◊ human rights standards and recommendations by major UN development conferences;
- ◊ human rights data bases and information gathering;
- ◊ communication about the right to food and nutrition as human rights.

In addition to the course coordinators (Wenche Barth Eide and Siri Damman), guest lecturers from various institutions will lead the sessions, which may include a few intensive weekend seminars. The course will be participatory and interactive and a substantial amount of time will be required for individual reading.

To be admitted to the course, the student must have a first degree in human nutrition or equivalent documented knowledge, and a good oral and written working knowledge of English. Participation is limited. For further information and application forms, please contact Marius Bergh, Study Administrator, Institute for Nutrition Research / School of Nutrition, P.O. Box 1046, Blindern, 0316 Oslo, Norway. Tel: 47 22 85 13 42. Fax: 47 22 85 13 41. Email: marius.bergh@basalmed.uio.no or Siri Damman, course coordinator, Tel: 47 22 85 13 79. Email: siri.damman@basalmed.uio.no

International Conference on Infant and Pre-School Child Nutrition
Celebrating 50 years of the University of Ibadan 16-21 Nov 1988, Department of Human Nutrition, University of Ibadan, Nigeria

The overall purpose of this conference is to bring together internationally renowned scientists and practitioners to discuss current issues and future directions on infant and pre-school child nutrition. With an emphasis on Africa, young African scientists will be encouraged to participate more actively in the debate on appropriate strategies for reducing under five malnutrition and mortality. The conference will also review progress made by the State Parties in Africa to achieve the commitments made at the 1990 World Summit for Children and the 1992 ICN.

Topics covered will include:

- ◊ nutrition of the pre-term and term infant;

- exclusive breastfeeding and maternal care;
- nutritional requirements of infants in health and disease;
- nutritional implications of culture in infant feeding practices;
- complementary feeding, quality and safety;
- feeding the pre-school child.

The conference will consist of a series of plenary lectures, debates, symposia, workshops, oral and poster presentations in simultaneous english-french translation.

To obtain a copy of the conference booklet, giving full details of the programme, including application forms, registration forms and information about registration fees, travel and accommodation, please contact Professor Isaac O. Akinyele, Coordinator, International Conference on Infant Nutrition, Department of Human Nutrition, University of Ibadan, Ibadan, Nigeria. Tel: 234 2 810 5859 Fax: 234 2 810 5272 Email: laolu.akinyele@skannet.com.ng or for countries other than Nigeria, Dr Serge Treche, Directeur de Recherche, ORSTOM, Lab de Nutrition Tropicale, Centre ORSTOM, 911 Avenue Agropolis, BP 5045, F34 032, Montpellier, Cedex, France. Tel: 33 4 6741 6295 Fax: 33 4 6754 7800 Email: treche@mpl.orstom.fr

2nd International Course on Nutrition Surveillance / 2ème Cours International: Surveillance Nutritionnelle

October 19 to November 6, 1998

19 octobre - 6 novembre 1998, Montpellier, France

La surveillance nutritionnelle est un volet important des Plans d'action mis en oeuvre par plus de 108 pays, à ce jour, à la suite de la Conférence Internationale sur la Nutrition (Rome, 1992). Au Sommet Mondial de l'Alimentation, en novembre 1996, les Etats participants se sont également donné pour objectif d'établir des systèmes d'information sur l'insécurité et la vulnérabilité alimentaire. L'objectif du cours est de répondre à la demande d'information/formation pour appréhender au mieux les implications et les moyens de mise en oeuvre d'activités de surveillance nutritionnelle. Ce cours est destiné en priorité à des professionnels de la nutrition, de la santé publique, de l'agriculture, impliqués dans des pays en développement.

Renseignements: ORSTOM - LNT, B.P. 5045, F-34032 - Montpellier Cedex 01, France. P. Traissac, tel: 33 4 67 41 61 70 Télécopie: 33 4 67 54 78 00 Courrier électronique: traissac@mpl.orstom.fr

The purpose of nutrition surveillance is to provide regular, relevant and timely information for early warning of impending nutrition emergencies, for on-going programme management and for the development, implementation, monitoring and evaluation of policies and programmes. This three week course, taught in French, is aimed at people dealing with nutrition surveillance in developing countries. Specific topics include:

- the causal approach to nutrition problems;
- concepts and methods in nutrition surveillance;
- lessons from the past;
- identification of users;
- set up of nutrition surveillance activities;
- indicators and the choice of indicators;
- from data to information;
- presentation and communication of information;
- evaluation.

Active participation will be emphasised through individual and group work, including case studies, computer practicals and computer-assisted learning.

This course is is jointly organised by ORSTOM (the French Research Institute for Development through Cooperation. Nutrition Unit, WHO collaborating center for nutrition, Montpellier, France), IMT (Institute of Tropical Medicine, Nutrition Unit, Antwerp, Belgium) and the International Course in Food Science and Nutrition, University of Ghent, Belgium. For more information please contact Pierre Traissac, CISN, Montpellier 98, Laboratoire de Nutrition, Centre ORSTOM BP 5045, 34032 MONTPELLIER Cedex 01, France. Tel: 33 4 67 41 61 70 Fax: 33 4 67 54 78 00 Email: traissac@mpl.orstom.fr

IBFAN International Meeting on the Issue of Infant Feeding in Emergency and Relief Situations

Split, Croatia, 22-24 October 1998

This three day international meeting, facilitated by the International Baby Food Action Network (IBFAN), is targeted at NGOs working in humanitarian relief, funding agencies (governments, churches and others), UN agencies, recipient communities and other interested parties.

The major objective of the meeting is to ensure a consistent approach to infant feeding in emergencies globally. Specifically, the meeting aims to:

- raise the issues of infant feeding in emergencies higher up the agenda of all concerned organisations;
- raise awareness of key issues among international NGOs, humanitarian relief agencies and donor agencies;
- devise strategies to ensure that policies are transformed into action;
- form a working group to prepare a framework for future national meetings and for international consultation.

A number of issues will be addressed at the meeting, including:

- inappropriate donations of infant formula and baby food as aid;
- lack of awareness and implementation of existing guidelines;
- the impact of inappropriate infant feeding practices;
- lack of training of health and aid workers on infant feeding;
- training of trainers in the field;
- gaps in information and knowledge among NGOs and UN agencies working in emergencies.

For further information, please contact Margreet Houndijk, Wemos Foundation, P.O.Box 1693, 1000BR Amsterdam, The Netherlands. Tel. 31 20 420 22 22 Fax: 31 20 620 50 94 Email. wemos@tip.nl Web. http://www.wemos.nl/ or http://www.gn.apc.org/ibfan/

SEAMEO – TROPMED Short Courses

The SEAMEO–TROPMED Regional Center for Community Nutrition is a training and research centre for all South East Asian countries, located at the University of Indonesia. The SEAMEO-TROPMED Community Nutrition Training Programme consists of an MSc in nutrition (2 years), a Doctor of nutrition (3 years), a diploma programme in management of community nutrition (3 months) and a field research programme (6-8 months).

In addition, the SEAMEO-TROPMED Nutrition Training Programme offers several short courses on specific community nutrition topics aimed at improving the professional's knowledge and skills. For 1998-99, the following short courses are offered:

- ◊ Nutrition, aging and non communicable diseases (Aug/Sept 1998)
- ◊ Nutritional epidemiology (31 Aug – 18 Sept 1998)
- ◊ Micronutrients programme (1 Sept – 11 Sept 1998)
- ◊ ZOPP[1] and nutritional planning and management (21 Sept – 9 Oct 1998)
- ◊ Public health system and nutrition (12 Oct – 23 Oct 1998)
- ◊ Nutritional anthropology and communication planning for community nutrition programmes (23 Nov – 18 Dec 1998)
- ◊ Food safety and food control (4 Jan-15 Jan 1999)

For further information and to obtain application forms, please contact the Training Programme Coordinator, The SEAMEO-TROPMED Regional Center for Community Nutrition, University of Indonesia, 6, Salemba Raya, Jakarta 10430, Indonesia. Mailing address: P.O. Box 3852, Jakarta 10038, Indonesia. Tel: 62 21 330205 / 3913932-3 Fax: 62 21 3907695 / 3913933 Email: gizseame@indo.net.id or stropmed@rad.net.id

Obesity: a Global Challenge
A British Council International Seminar
11-17 October 1998, Aberdeen

Directed by Professor P. Trayhurn and Professor W.P.T. James, this seminar is intended to provide an overview of our current understanding of obesity – its prevalence, causes, consequences – and examine strategies for treatment.

The main topics will include:

- ◊ public health (international perspective, health consequences);
- ◊ body fat (distribution, body composition, endocrinology);
- ◊ energy balance (food intake, dietary surveys, energy expenditure);
- ◊ causes (genetics, neuroendocrinology of feeding and thermogenesis);
- ◊ treatment (dietary, exercise, behavioural, pharmacological etc.).

The programme will be of particular interest to physicians and other health professionals such as dietitians, government policy-makers, and all those who confront the health implications of obesity in society.

The residential, fully inclusive fee is UK £1,490. For further information and a full prospectus, please contact the Information Manager, International Seminars, The British Council, 1 Beaumont Place, Oxford OX1 2PJ, UK. Tel: 44 1865 316636 Fax: 44 1865 557368 / 516590 Email: international.seminars@britcoun.org Further information, including an application form, can also be found on the Web at http://www.britcoun.org/seminars/

The 16th Leeds Course in Clinical Nutrition
15-18 September 1998

This course is intended to provide a thorough grounding in all aspects of clinical nutrition and will appeal to clinicians, dietitians, hospital pharmacists, nursing staff, nutritionalists and others with interests in patient nutrition.

Lectures will include 'The effects of dietary changes in colonic diseases in Africa' by Dr A.R.P. Walker, Johannesburg; 'The psycho-biology of appetite' by Prof. J.E. Blundell, Leeds; 'Managing nutritional problems of patients with stroke' by Prof. K.W. Woodhouse, Cardiff; and 'Medical management of obesity' by Dr P. Kopelman, London. This year's mini-symposium is entitled 'Geographic trends in clinical nutrition'.

This course is approved for a total of 16 hours C.M.E. by the Royal Colleges of Physicians of London and Surgeons of England, and also has PGEA approval (17h A/B). Application forms and further information are available from Samantha Armitage, Course Secretary, Clinical Nutrition, School of Continuing Education, Continuing Education Building, Springfield Mount, Leeds LS2 9NG, UK. Tel: 44 113 233 3241 Fax: 44 113 233 3240 Email: s.armitage@leeds.ac.uk Web: http://www.leeds.ac.uk/aed/cehome/shortc/clinut.htm

The Doris Howes Calloway Endowed Fund in Human Nutrition

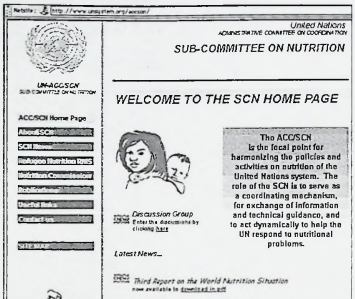
In recognition of Professor Doris Howes Calloway's scholarship, research, teaching, and contributions to the field of human nutrition throughout the world, the College of Natural Resources at UC Berkeley, California, USA, has recently established the *Doris Howes Calloway Endowed Fund in Human Nutrition*. Perhaps best known for her research on protein and energy requirements in a career spanning 50 years, her research agenda has included topics ranging from protein metabolic pathways and space research to the composition of indigenous diets and food and nutrition policy.

The Fund will be used to support continued research and teaching in human nutrition. For further information, including details of how to contribute to the Fund, please contact Rosemary Lucier, Director of College Relations, College of Natural Resources, University of California, Berkeley, USA. Tel: 1 510 643 8861 Email: lucier@nature.berkeley.edu

[1] Objective Oriented Program Planning (ZOPP – Ziel Orientierte Projekt Planning)

INFORMATION RESOURCES

Visit the ACC/SCN website at http://www.unsystem.org/accscn/



Launched in March 1998, the SCN website provides general information about the SCN, details of SCN publications including an online order form, RNIS and SCN News online, and useful links to other nutrition-related websites. The website is updated regularly. New items include:

Discussion group: Enter the discussions from the homepage. Participate via the website or by emailing accscn@who.ch

The Third Report on the World Nutrition Situation: Now available to view and download in portable document format.

Clinical Nutrition Update Service

The email-based Arbor Clinical Nutrition Updates are available free to nutritionalists, physicians and other health professionals. Some 4800 nutrition and health professionals in 90 countries worldwide receive the updates each week. As a subsidiary service to the Arbor Nutrition Guide on the Web (http://arbor-com.com/), the nutrition updates contain abstracts of current clinical nutrition research, comments on the research, and information on the best nutrition resources available on the Internet.

The editor-in-chief, Dr Tony Helman, is keen to reach a wider audience with the Clinical Nutrition Updates. If you would like to receive the updates on a regular basis, either fill in the form on the Arbor Nutrition Guide website or send an email to helmant@ozemail.com.au

New Vitamin A and Iron Email Discussion Groups

The International Vitamin A Consultative Group (IVACG) and the International Nutritional Anemia Consultative Group (INACG) have launched two new email discussion groups to promote networking and sharing of information and expertise related to vitamin A deficiency and nutritional anaemia, respectively. By subscribing to the lists, email messages can be sent to a group of participating subscribers who receive the message simultaneously within minutes. Postings to the two groups should reflect either vitamin A deficiency, or iron deficiency and iron deficiency anaemia, as well as strategies to control these public health problems.

The discussion group is a 'closed' list, i.e., the IVACG or INACG Secretariats monitor subscriptions to the list. To subscribe to one or both of the groups, send an email message to majordomo@lists.ilsi.org In the body of the message type either SUBSCRIBE VITAMINALIST then leave one space and type your email address (to subscribe to the vitamin A discussion group), or SUBSCRIBE IRON-LIST then leave one space and type your email address (to subscribe to the iron discussion group). It is not necessary to write in the subject line of the message.

ese listserves are a service provided by the IVACG and INACG retariats. The ILSI Research Foundation's Human Nutrition Institute serves as the IVACG and INACG Secretariats through Opportunities for Micronutrient Interventions (OMNI), a project of the global Bureau for Programs, Field Support and Research, USAID. For specific questions about the discussion groups, please contact Laurie Aomari or Maribel Flewitt, IVACG/INACG Secretariat, ILSI Human Nutrition Institute, 1126 Sixteenth St., N.W. Washington, D.C. 20036-4810. Tel: 1 202 659 9024 Fax: 1 202 659 3617 Email: omni@ilsi.org Web: http://www.ilsi.org/ivacg.html or http://www.ilsi.org/inacg.html

The Reproductive Health Library (RHL) – a New Electronic Journal by WHO

In March 1998, a new peer reviewed electronic journal; the Reproductive Health Library (RHL), was launched by WHO in England, China, Mexico, South Africa, Thailand, India and Uruguay. RHL contains:

- ◊ systematic reviews of clinical trials on priority reproductive health topics;
- ◊ expert commentaries on the relevance of the review findings for developing countries;
- ◊ practical advice on the management of reproductive health problems.

...continued on page 51

Low-Cost Newsletters and Journals for Nutritionists

The following list, compiled by the Nutrition Society UK, provides information on low-cost publications that give up-to-date information on human nutrition.

Breastfeeding Briefs from the International Baby Food Action Network / Geneva Infant Feeding Association, CP 157, 1211 Geneva 19, Switzerland. (breastfeeding)

Carotenoid News from Human Nutrition and Dietetics, M/C 517, University of Illinois at Chicago, 1919 W Taylor St, Chicago, IL60612, USA. (carotenoids)

Child Health Dialogue from Healthlink (formerly AHRTAG), 29-35 Farringdon Rd, London EC1M 3JB, UK. Email: info@healthlink.org.uk (control of child diseases particularly malnutrition, diarrhoea, malaria, measles and respiratory infections)

Community Eye Health from the International Centre for Eye Health, Institute of Ophthalmology, 27-29 Cayton St., London EC1V 9EJ, UK. (eye health, vitamin A deficiency)

Field Exchange from Emergency Nutrition Network, Dept Community Health & General Practice, 199 Pearse St, Trinity College, Dublin 2, Ireland. Email: foreilly@tcd.ie (nutrition in emergencies)

Food, Nutrition and Agriculture from Food Policy and Nutrition Division, Food and Agricultural Organization, 00100 Rome, Italy. (food, nutrition, food policy, food regulations)

IDD Newsletter from Dr J.T. Dunn, International Council for Control of Iodine Deficiency Disorders, Box 511, University of Virginia Medical Centre, Charlottesville, VA 22908, USA. Email: jtd@virginia.edu (iodine deficiency research, policies, country reports)

I/D/E/C/G Annual Report from Executive Secretary International Dietary Energy Consultancy Group, c/o Nestle Foundation, Box 581, 1001 Lausanne, Switzerland. (activities, publications and research on dietary energy)

IFPRI Report from International Food Policy Research Institute, 1776 Massachusetts Ave NW, Washington DC 20036, USA. ifpri@cgnet.com (food security, food policy, research)

Mothercare Matters from Mothercare Matters, John Snow Inc., 1616 N. Fort Myer Drive, 11th floor, Arlington, VA 22209, USA. (maternal and neonatal health/nutrition)

NFI Bulletin from Nutrition Foundation of India, 13-37 Gulmohar Park, New Delhi 110049, India. (nutrition research, programmes, India)

NU News on Health Care in Developing Countries from International Child Health Unit, University Hospital, S-751 85 Uppsala, Sweden. (health care, nutrition)

Nutrient News from National Institute of Nutrition, Tamaka, Hyderabad 500 007, India. (nutrition, India)

OMNI Update from OMNI Project, John Snow Inc., 1616 N Fort Myer Drive, Arlington, VA 22209, USA. Email: omni_project@jsi.com (micronutrients, USAID projects)

PAMM Newsletter from Program against Micronutrient Malnutrition, Dept. International Health, Rollins School of Public Health, Emory University, 1518 Clifton Rd, Atlanta, Georgia 30322, USA. Email: vanderha@sph.emory.edu (micronutrients, training)

RNIS (Refugee Nutrition Information System) from from ACC/Sub-Committee on Nutrition, c/o WHO, 1211 Geneva 27, Switzerland. Email: accscn@who.ch (nutrition of refugees and displaced people)

Safe Motherhood from Division of Family Health, World Health Organization, 1211 Geneva 27, Switzerland. Email: abouzah@who.ch (maternal health)

SCN News from ACC/SCN, c/o WHO, 1211 Geneva 27, Switzerland. Email: accscn@who.ch (nutrition, UN and other agencies)

Sight & Life Newsletter from Task Force SIGHT & LIFE, PO Box 2116, 4002 Basel, Switzerland. Email: martin.frigg@roche.com (xerophthalmia)

WHO Collaborating Centres for Nutrition Newsletter from Lifestyles & Health Unit, WHO/EURO. Scherfigsvej 8, 2100 Copenhagen, Denmark. Email:sal@who.dk (European nutrition)

Xerophthalmia Bulletin from Dr D.S. McLaren, International Centre for Eye Health, 27 Cayton St, London EC1V 9EJ, UK. (vitamin A, vitamin A deficiency)

This list of English-language publications was compiled by Ann Burgess at the Nutrition Society, 10 Cambridge Court, 210 Shepherds Bush, London W6 7NJ, UK. Most of the publications are free of charge to people working in low income countries, but it is advisable to check before ordering. If you know of other useful, low-cost nutrition publications, the Nutrition Society will be very happy to hear from you. Please write to the Publications Committee on the Nutrition Society at the address above, or email Ann Burgess at annburgess@sol.co.uk The Nutrition Society thanks everyone who has supplied information. Further information about the Nutrition Society can be found on their website at http://www.nutsoc.org.uk/

...continued from page 49

Included in the topics (27 reviews and 22 commentaries) covered in the first issue, are nutritional supplementation during pregnancy, and breastfeeding.

Primarily intended for use in developing countries, RHL aims to make available the most reliable and up-to-date medical information to health workers in order to promote evidence-based care in the area of reproductive health. Prior to the RHL, such information was typically scattered in numerous papers and journals, making it difficult for health practitioners to get a good overview of all the data available on a given subject. The systematic reviews included in the RHL are taken from the Cochrane Library[1] and are based on data from controlled clinical trials published in major medical journals worldwide.

RHL is provided on a 3.5 inch diskette and requires no special knowledge of computers to access and read. Subscription to RHL is free of charge for health workers in developing countries. Availability in developed countries will be restricted to scientists and institutions working closely with WHO or in developing countries. It is produced jointly by HRP (the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction) and RHT (WHO's Division on Reproductive Health), in association with the Cochrane Collaboration.

For further information, and to obtain a copy of RHL, please contact Jitendra Khanna, Special Programme of Research, Development and Research Training in Human Reproduction, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 3345 Fax: 41 22 791 4171 Email: khannaj@who.ch

Source: WHO Press Release, 4 March 1998.

ID21: a New Development Research Reporting Service

The ID21 (Information for Development in the 21st Century) development research reporting service provides access to the latest and best UK-based development research from academics, NGOs and consultants. This new online service contains hundreds of policy-relevant findings on critical global development issues. These include agriculture and rural livelihood issues, and food, water and environmental security issues. Backed by the UK Department for International Development, this Internet-based system links development research and researchers directly to policy makers and development practitioners around the world through a new website at http://www.id21.org/ Hosted by the Institute of Development Studies, the key feature of ID21 is a searchable online collection of short, one-page (500-word) digests of the latest social and economic research studies across 30 key topic fields.

[1] The Cochrane Library is a regularly updated electronic library designed to provide a scientific basis for informed healthcare decision making. It is available on disk and CD-ROM (email info@update.co.uk for more information). Details can be found on the web at http://hiru.mcmaster.ca/cochrane/

In conjunction with this, an email newsletter is also available called ID21NEWS which provides regular updates and summaries of the latest research finding that have been added to the ID21 collection. A system whereby each digest can be automatically requested via email is currently being developed. To subscribe to ID21NEWS, send a blank email message to: id21news@ids.ac.uk and in the subject field, write: subscribe id21news

The ID21 team would welcome any practical suggestions for making this online service more useful or accessible in the future. Please email Alistair Scott at id21@sussex.ac.uk

Nutrition Materials Available from TALC

The new Teaching-Aids at Low Cost (TALC) 1998 catalogue includes the following nutrition related materials.

Books

State of the World's Children (1998) UNICEF £2.50
Community Nutrition for Eastern Africa (1994) Burgess & others £7.00
Nutrition Handbook for Community Workers (1993) CFNI £5.20
Helping Mothers to Breastfeed (1992) Savage King (also in Spanish) £3.00
Nutrition for Developing Countries (1992) Savage King & Burgess £9.50
Protein Energy Malnutrition (1992) Waterlow £5.00

Slide sets

Each set contains 24 slides and a script. Prices are £5.50 for self mounting sets, £7 for mounted sets and £11 for sets in a folder:
Malnutrition in an Urban Environment - revised 1997
Undernutrition in Young Children: signs and causes - revised 1997
Complementary Foods and Energy - revised 1997
Breastfeeding (also in French) - 1990
Breastfeeding Problems (also in French) - revised 1993

Accessories

TALC Direct Recording Scale (plastic scale, wall chart and plasticised Child Health charts - also available in Arabic, French, Nepali, Portugese, Spanish and Zulu) £16.50
See How They Grow wall chart £0.60
Child Health charts (also available in above languages) £0.25
Weight for Height chart £5.25
Language stickers available in French, Portugese and Spanish £1.75
Insertion tape for measuring arm circumference (39cm) £0.25
Insertion tape for measuring head, chest and abdomen circumferences (100cm) £1.00

For further details, or to order any of the above items, please contact TALC, PO Box 49, St Albans, AL1 5TX, UK. Tel: 44 1727 853869 Fax: 44 1727 846852 Email: talcuk@btinternet.com All prices are in pounds sterling. Post and packing for books and accessories is 30% of total order surface (minimum £2.75) or 60% airmail (minimum £3.75). The price of slide sets includes surface postage. Payment by sterling cheque, Visa or MasterCard or International Money Order. Contact TALC for other methods of payment. All materials are available in English. Submitted by Ann Burgess Email: annburgess@sol.co.uk

PROGRAMME NEWS

AGENCIES REPORT ON THEIR ACTIVITIES IN NUTRITION

FAO

Preventing Micronutrient Deficiencies

The workshop on the 'Prevention and Control of Micronutrient Malnutrition through Food-based Approaches in SAARC Countries' was held in Dhaka, Bangladesh, from 17-20 November 1997. It was sponsored by FAO in collaboration with the Thrasher Research Fund (USA) and the Micronutrient Initiative and was organised by the Agricultural Research Council of Bangladesh. All SAARC countries - India, Pakistan, Bangladesh, Nepal, Sri Lanka, Bhutan and the Maldives - participated in the workshop. Renowned experts working in the SAARC and other Asian countries were invited to present papers and discuss various facets of food-based approaches for the control and prevention of micronutrient malnutrition.

The workshop reviewed the current status of the problems of micronutrient deficiencies in SAARC countries and discussed food-based approaches for their control including the role of fruit and vegetable gardening, small animal rearing and the aquaculture at household level, processing and preservation to improve food security and nutritional value, nutrition education for improving consumption and selection of micronutrient-rich foods, and food fortification for improving food quality and nutritional value.

The workshop participants agreed that food-based approaches are the preferred, most practical and sustainable strategy for the prevention of micronutrient malnutrition and for the control of mild micronutrient malnutrition in SAARC countries. They recommended that food-based actions should be an integral part of all action programmes, both short- and long-term. They advised that SAARC countries look at their farms and not at their pharmacies for the solution of these problems. A report containing the recommendations, conclusions and technical papers is available from the FAO Food and Nutrition Division (contact details below).

Expert Meeting on Risk Communication[1]

A Joint FAO/WHO Expert Consultation on the Application of Risk Communication to Food Standards and Safety Matters was held in Rome on 2-6 February 1998. The meeting was attended by 18 experts who identified strategies for crisis situations such as food-borne disease or illness outbreaks and for use in on-going risk communication activities. The experts recommended ways to overcome the barriers to effective risk communication and elaborated guiding principles for effective risk communication within the risk analysis framework.

The Consultation focused on two primary goals - the creation of more openness and transparency in the entire risk analysis process through the use of risk communication and the increased involvement of all interested parties (i.e., the government, industry, consumer organisations, etc.) in risk communication during the risk management process. The report of the consultation will be available later this year.

Comparative Analysis of Nutrition Interventions Workshop in Thailand

FAO, in collaboration with the Institute of Nutrition at Mahidol University, organised a workshop on Comparative Analysis of Nutrition Interventions, held in Bangkok, Thailand, 2-4 June 1998. The preparatory work and proceedings of the workshop has provided a major contribution towards the development of a manual on this subject. The manual will be based on lessons learned and wisdom accrued from comparative analyses of interventions, to identify what works and what does not. It is intended as a source of advice and inspiration for current and planned nutrition interventions by providing information on strategies, approaches and procedures that are known to have resulted in successful outcomes in past and ongoing interventions. The manual is intended to create an understanding of the need for ongoing monitoring to improve the cost-effectivenes and outcomes of nutrition interventions.

Development of a National Nutrition Training Programme for South Africa. A Technical Cooperation Project with the Government of South Africa

The Reconstruction and Development Programme of the Government of South Africa has developed an integrated nutrition strategy aimed at reducing hunger and malnutrition. To this end, FAO is working with the Government of South Africa to strengthen staff training programmes.

Specifically, FAO has helped the Government of South Africa to sensitise top policy-makers, mid-level administrators and programme managers to nutrition problems, their causes and potential solutions, and to increase national capacity to undertake community programmes through the training of resource persons and trainers of community nutrition workers. It is

[1] The Codex Alimentarius Commission has defined risk communication as: 'the interactive exchange of information and opinions concerning risk among risk assessors, risk managers, consumers and other interested parties.'

currently undertaking a needs assessment for the development of future university training/teaching programmes in human nutrition. The project is expected to be completed in August 1998.

Nutrition Education for School Children

A major component of FAO's normative work on nutrition involves nutrition education for the public. FAO encourages the development of practical and effective programmes of nutrition education in primary schools in developing countries. In co-operation with the School Nutrition Education Section of The Netherlands Nutrition Centre, The Hague, FAO is developing a planning guide for nutrition education in primary schools. The materials to be developed are partially based on the expressed needs of government school staff who have responded to a questionnaire inquiring on the current state and shortcomings of nutrition education in schools in English-speaking countries.

Currently, a planning guide for school inspectors and school supervisors is being prepared to allow them to initiate, support and guide nutrition education for schoolchildren in all schools in developing countries. A draft version of this planning guide will be reviewed and field tested in the beginning of 1999. Complementary documents, such as a teacher's guide and examples of good practice in nutrition education in primary schools in developing countries, will also be prepared. These documents will be particularly useful in schools which have adopted the WHO approach of Health-Promoting Schools (see page 8) but do not require that a school is member of the WHO programme. With a view to further enhance the benefits of the two programmes for the assisted countries, special efforts are being made to actively collaborate in the world-wide School Health Initiative, promoted by the WHO and its respective regional networks for Health-Promoting Schools. This collaboration will strengthen ongoing nutrition education through emphasising the food-based approach. This is hoped to have lasting positive effects on the food and nutrition situation of schoolchildren, their dietary attitudes, practices and choices.

World Food Summit follow-up: Nutrition Information Systems

To assess progress made in reaching the 1996 World Food Summit goals for reducing undernutrition, FAO is developing the Food Insecurity and Vulnerability Information and Mapping System (FIVIMS). This is part of the international effort to assess the nature, extent, magnitude and severity of malnutrition and to monitor trends over time.

FAO is requesting each country to provide the results of their most recent food and nutritional status surveys so that the database can be updated frequently. Many data collection activities have been undertaken in developing countries that need to be documented and catalogued at the international level. Identifying sources of such data with the help of governments and NGOs would prevent the neglect or even loss of this information and greatly increase the amount of material to be incorporated into FIVIMS.

FIVIMS will rely on a set of indicators to provide a comprehensive picture of the food and nutrition situation in a country. This will include food trade and production, market conditions, livelihood systems, social institutions, cultural attitudes, natural resources, health and sanitary conditions and feeding practices. Thus, FIVIMS can enable users to describe the food and nutrition situation, discern trends in the prevalence of undernutrition and provide an analysis of the major causal factors.

Within this framework, the Food and Nutrition Division is creating NUTRIDAT, a system to assemble and disseminate information about people who are underfed, undernourished or at-risk of becoming so. The database is currently located and maintained at the central level with copies of relevant country data being made available at the regional and sub-regional levels for trend analysis and policy work. FAO is collaborating with WHO and other agencies in sharing data for NUTRIDAT with a view to linking data from different agencies. Direct access to NUTRIDAT Central will be possible through the Internet and available on CD-ROM in 1999.

NUTRIDAT contains anthropometric information, and where available, consumption data at household level and food supply at national and sub-national level, as well as statistics on health and demography. The FAO database emphasises information on adults and school-age children.

In addition to NUTRIDAT, FAO's Nutrition Country Profiles provide concise analytical summaries of the food and nutrition situation in individual countries. This information is presented in the context of information and background statistics on food-related factors such as agricultural production, and other selected economic and demographic indicators. The information is presented in a disaggregated fashion; trends and sub-national differences are highlighed when available. The profiles include consistent and comparable statistical data that are presented in a combination of colourful graphical displays, tables and maps, each supported by a short explanatory text.

Nutrition mapping is an innovative component of the profiles that presents the data in a visible and eye-catching manner. The maps combine information such as anthropometric status, micronutrient deficiencies, and energy and nutrient consumption where available, with information about safe water supplies and education, to provide an immediate comprehensive picture of the geographical distribution of vulnerable groups at sub-national level. With this visual aid, the locations of populations with major nutritional problems are clear. The maps also highlight gaps in information alerting policy makers that additional data collection is necessary. Nutrition country profiles can be requested from Food and Nutrition Division.

Source: FAO Food and Nutrition Division, Via delle Terme de Caracalla, 00100 Rome, Italy. Fax: 396 5225 4593 Email: FoodQuality@FAO.org or Nutrition@FAO.org Web: http://www.fao.org/waicent/faoinfo/economic/esn/nutri.htm

IAEA

Among the most important events of 1997 for nutrition activities at the International Atomic Energy Agency (IAEA) were two major reviews. The first review focused mainly on the resources needed to ensure the sustainability of the health programme and on the identification of appropriate topics for coordinated research. The second review was concerned with thematic planning for future technical cooperation projects. Both reviews had very positive outcomes; consequently there is a significant expansion in IAEA's nutrition activities expected in the near future.

There are nine current and planned coordinated research projects (CRPs: see *SCN News No.15 p50*) involving applications of isotopes for which funding is available:

- ◊ 1995-9. Development and application of isotopic techniques in studies of vitamin A nutrition.
- ◊ 1995-9. Reference Asian Man (dietary intake and body composition for selected trace elements of relevance to radiological protection).
- ◊ 1996-2000. Isotopic evaluations of maternal and child nutrition to help prevent stunting.
- ◊ 1998-2001. Isotope-aided studies of nutrient interactions in developing country populations exposed to multiple nutritional deficiencies.
- ◊ 1998-2001. Isotopic evaluations in infant growth monitoring (in collaboration with WHO's Multicentre Growth Reference Study).
- ◊ 1998-2001. Application of nuclear techniques in the prevention of denerative diseases (obesity and non-insulin dependent diabetes) in ageing.
- ◊ 1999-2002. Development and validation of isotopic and complementary tools for nutritional assessment of iron status in developing country populations.
- ◊ 1999-2002. Development and validation of isotopic and complementary tools for nutritional assessment of zinc status in developing country populations.
- ◊ 2000-2003. Development and validation of isotopic and complementary tools for nutritional assessment of household food security in developing country populations.

Ongoing and planned technical cooperation projects have a common theme in trying to make practical use of nuclear and isotopic techniques to assess the impact of national nutrition programmes. Typical examples include studies of micronutrients (iron, zinc, vitamin A), breastmilk volume, energy expenditure and body composition. Individual technical cooperation projects have recently been carried out in Cameroon, Chile, Ethiopia, Peru, Sierra Leone and Sri Lanka, and new ones are currently being started in Chile, Ethiopia, Senegal and Venezuela. Larger-scale regional projects are in the planning stage in Latin America and East Asia. A new project is also expected to start soon in Indonesia, in collaboration with UNICEF, which will use isotope techniques in support of UNCEF's multi-country field trials of the efficacy of iron and zinc supplementation to reduce anaemia and growth faltering in infants. Other possibilities for joint projects are currently being explored with WFP, UNHCR and FAO.

For further information on any of these projects, please contact Robert Parr, Head, Section of Nutritional and Health-Related Environmental Studies, IAEA, P.O. Box 100, A-1400 Vienna, Austria. Tel: 43 1 2060 21657 Fax: 43 1 20607 Email: R.Parr@iaea.org

IFPRI

Urban Malnutrition

Preliminary results from work by Lawrence Haddad, Marie Ruel and James Garrett at IFPRI indicate that urban undernutrition is growing both in absolute terms and in terms of the share of overall undernutrition. Rural areas still contain the majority of undernourished children (except for Brazil), but the gap is closing rapidly. The authors conclude that there is a need for more research on identifying the main constraints to urban food security and good nutrition and on understanding the basis of effective community, programme and policy responses (see page 29).

Links between Women's Status and Child Nutrition

Preliminary results from work by Lisa Smith and Lawrence Haddad at Emory University and IFPRI indicate that women's status has a large positive and significant impact on child nutrition in the developing world. Utilising data from a wide range of carefully documented sources, a cross-section time-series data set was constructed with some 180 data points covering approximately 64 developing countries from 1970-1996. Country fixed-effects methods were employed to estimate the impact of per capita dietary energy supplies, female secondary school enrolments, access to clean water and the ratio of male to female life expectancy (the proxy measure of women's status relative to men) on low weight-for-age prevalence for children under five. Of the four factors, women's relative status has the largest elasticity with respect to child underweight prevalence[1]. The variable has a particularly strong effect for South Asia, a result in line with work suggesting that women's status is key to reducing child malnutrition there.

New Partnership with CARE International

IFPRI's multi-country programme on '*Urban Challenges to Food Security and Nutrition*' led by Marie Ruel and James Garrett has established a new partnership with CARE International in an effort to be more effective in linking research to programming in urban areas. Over the last six months, IFPRI

[1] Elasticity: the percentage change in one variable resulting from a one percent change in another variable.

and CARE have collaborated in carrying out urban livelihood assessments in Bangladesh, Tanzania, Togo and Ghana as part of the initial diagnostic phase in CARE's urban programme development. Honduras is next on the list. Additional collaborative work is planned to work jointly on follow-on phases such as project design, implementation, monitoring and evaluation.

For further information, please contact Bonnie McClafferty, Outreach, FCND, IFPRI, 1200 Seventeenth Street, NW, Washington D.C. 20036, USA. Fax: 202 467 4439 Email: b.mcclafferty@cgnet.com or ifpri@cgnet.com

UNICEF

UNICEF Meeting in Tanzania Develops Proposal for Community-based Programmes to Support IMCI

UNICEF and WHO are collaborating in the development and implementation of the Integrated Management of Childhood Illness (IMCI) programme (see *SCN News No.15 p56*). Collaboration to date has largely focused on the integration of management at the level of the health facility, for which WHO has taken the lead. In the last year, a community and household component of IMCI has been developed, including strategies for community-based nutrition activities. Many of the deaths associated with the five IMCI diseases (malnutrition, acute respiratory infections, diarrhoea, measles and malaria) need improved preventive measures at the community and household levels. UNICEF is leading the development of the IMCI components at these levels.

In late April, the UNICEF Eastern and Southern Africa Region Nutrition Network held a meeting in Morogoro, Tanzania that included planning for IMCI at the community level based in large part on existing experiences with community-based nutrition programmes. The meeting drew a total of 78 participants from 19 African countries. Participants included government representatives from health, nutrition and IMCI coordinating units; UNICEF staff in health, nutrition, water and sanitation, communication and evaluation; representatives of WHO, USAID, BASICS, AMREF[1], and a number of research institutions.

Among the community-based programmes described in detail at the meeting were the Madagascar Project NAC, the Kisarawe District (Tanzania) Child Survival, Protection and Development (CSPD) programme, the Zambia community breastfeeding promotion, community child heath projects coordinated by AMREF, and various community malaria and hygiene interventions. The meeting also provided an overview of IMCI, including the concept, components and strategies for the household and community component. There were sessions on communication and social mobilisation, monitoring and evaluation and a field visit to several sites of the Morogoro District CSPD programme.

[1] The African Medical Research Foundation – an NGO based in Nairobi with activities all over East Africa.

All countries represented at the meeting formulated plans for further development of the household and community component of IMCI and other community-based programmes.

Some of the main conclusions and findings from the meeting are as follows:

1. Better attention to documenting lessons learned

The various case studies showed that there is already a wealth of information on what works, yet systematic documentation of these community-based experiences and utilisation of this information to inform better programme design is lacking. A need was expressed for countries to undertake a more systematic review of community-based programmes. A more critical examination is required of the community processes to ascertain that repeated Triple A cycles are indeed taking place and that projects/programmes are not 'locked' into actions based on only the first round of assessment and analysis.

2. Scale of community-based programmes

The UNICEF Nutrition Strategy promotes community-based nutrition-oriented programmes as the best way to accelerate reduction of child malnutrition. Despite a lot of training and effort over the last decade to promote community-based programmes, there are still too few examples of programmes operating at a scale commensurate with a potential for a significant nutrition impact. UNICEF staff and other partners involved in these efforts need new kinds of training for this purpose.

3. Household and community component of IMCI

The meeting discussed at length the concept of IMCI and the opportunities it brings to promote improvement in nutrition and better management of childhood diseases through promotive, preventive and curative interventions. Renewed attempts to promote community-based nutrition programmes are necessary. Both through IMCI and independent of it, the pursuit of community-based nutrition programmes should be accelerated across the region. An agreement was reached on the need for individual countries to review what was already on the ground and develop further what may need to be done in order to strengthen or operationalise household and community-based programmes. The draft country proposals were a reflection of this, with several countries having proposed core nutrition-type community-based interventions including growth promotion,

breastfeeding, adequate complementary feeding and others proposing to build upon mother support groups, community malaria interventions, and water and sanitation groups.

4. Advocacy

There was optimism on strengthening community-based interventions but concern for how to get governments to give community-based interventions more importance. Renewed advocacy, making the case for the importance of nutrition to national development, is needed. The 1998 *State of the World's Children Report* on nutrition has put the case forward that nutrition is a lever that can accelerate and potentiate economic development. Good nutrition is also a right that governments have committed themselves to achieving by signing the Convention on the Rights of the Child.

5. Community level 'workers'

Action at community level relies on a cadre of community level 'mobilisers'". The necessary support to mobilisers from the next level in service delivery, especially from extension workers, was not always forthcoming. The question of appropriate ratios of mobilisers to facilitators requires further discussion. The issue of payment of community-based workers was an area of concern that needs to be analysed carefully in each country. In various countries, the decision to pay community workers had already been made and some had included such considerations in their local government and decentralisation initiatives. The issues around cost-effectiveness and sustainability need to be thought through for each country. Ways of sustaining the motivation of the community workers though non-monetary and in-kind support also need to be developed.

6. Gender issues in community-based programmes

Health and nutrition programmes have not yet adequately facilitated the process of drawing in men and fathers in programming for improved care at household level. It was proposed that careful attention be given to this in further development of household and community IMCI and community nutrition programmes.

7. Communication and social mobilisation

Many nutrition and health outcomes are determined by behaviours at houshold level. The focus of communication programmes seems to be on behaviour modification and not on informed choices. Implementation of communication strategies has to be well founded in the understanding of what motivates people to change and which behaviours are the most important for achieving improved health and nutrition outcomes. The UNICEF programme communication group at UNICEF headquarters is developing tools that will be made available to guide country offices in their communication strategies.

8. Technical support areas

Countries identified areas for which additional support is required to further action on community-based programmes. These include planning for communication and social mobilisation; proposal development; orientation and training for household and community IMCI; assessing care-seeking behaviours; and community monitoring and information systems.

9. Next steps

All participating countries developed draft plans for strengthening community-based programmes. These plans need to be further discussed at country level. The UNICEF offices in the phase one IMCI countries - Madagascar, Tanzania, Uganda, South Africa, and Malawi - will receive funds from USAID to help implement their plans.

A meeting report is available on request from Roger Shrimpton, UNICEF, Mail code TA-24A, 3 United Nations Plaza, New York, NY 10017, USA. Tel: 1 212 824 6368 Fax: 1 212 824 6465 Email: rshrimpton@unicef.org For further information, please contact Vincent Orinda at UNICEF Health Section (email: vorinda@unicef.org) or Jim Tulloch, CHD, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2532 Fax: 41 22 791 4853 Email: tullochj@who.ch

Evaluation of UNICEF Support for Universal Salt Iodisation in South Asia

UNICEF is undertaking an evaluation of its support to the universal salt iodisation (USI) effort in South Asia. Over the last few years, there has been a tremendous acceleration in progress towards USI in South Asia, resulting from concerted government intervention and support from agencies and donors. Progress has been so great that the type of assistance that can be usefully provided by agencies and donors is changing. This evaluation aims to take stock of the UNICEF contribution country-by-country over the last five years and to guide the process of planning for UNICEF's future support.

The evaluation will include:

- ◊ assessment of the current situation with regard to availability of iodised salt at the household level;
- ◊ measurement of the inputs and outputs of the UNICEF support programme;
- ◊ comparison of UNICEF USI inputs with those of other development agencies and government resources;
- ◊ measurement of the extent to which UNICEF's efforts have tried to stimulate demand and the extent to which they have been aimed at stimulating supply;
- ◊ assessment of the degree to which the private sector has supported the iodisation of salt; and
- ◊ examination of the quality of supply and legislation enforcement.

The evaluation is being coordinated by a steering committee chaired by the UNICEF Regional Monitoring and Evaluation Officer for South Asia. A questionnaire was sent to all UNICEF country offices in South Asia in late 1997 to collect data specifically for the evaluation. Findings will be analysed by an independent evaluator, discussed with the wider Nutrition Initiative in South Asia group (NISA) and reviewed by an external panel. The main output of the evaluation will be a 30-40 page report - stage one of which is expected to be finalised by September 1998.

Both WHO and ICCIDD will be asked to act as external reviewers of a draft report version of the evaluation. If they agree, their views will be annexed in the final version of the report.

The steering committee is actively seeking offers of persons wishing formally to review the evaluation. For further information, please contact Roger Pearson, Regional Monitoring and Evaluation Officer, UNICEF South Asia, P.O. Box 5815, Lekhnath Marg, Kathmandu, Nepal. Tel: 977 1 417 082 Fax: 977 1 419 479 Email: rpearson@uncrosa.mcs.com.np

The 1997 Afghanistan Multiple Indicator Baseline Survey

Afghanistan has been in a state of conflict for almost 20 years, leading to large-scale displacement and almost total collapse of the country's infrastructure. With an annual per capita income of approximately US $220 (in 1994), Afghanistan is consistently ranked among the poorest countries in the world. Access to populations within the country over the last two decades has been sporadic at best, and consequently the national situation in terms of health and sanitation has been unclear. In 1997, UNICEF undertook a multiple indicator survey in Afghanistan. Technical support was commissioned from CIETInternational[1]. This is the first national-level survey carried out in the country for 25 years, and gives baseline indicators for development and relief programmes including health, nutrition, education, food security, water and sanitation.

The survey included over 60,000 people from 96 sentinel communities representing the five operational regions of the country. Mortality rates were very high: maternal mortality rates were around 400 per 100 000, and infant mortality rates were 140-150 per 1000. Female literacy was extremely low: less than 5% of rural women, and around 10% of urban women aged 15-49 years old knew how to read and write. School attendance figures reflected this dismal situation, with only 7% of girls attending schools in rural areas. Despite the ban on female education, a tiny fraction of female children in Herat and Kandahar regions did attend school at the time of the survey. These informal schools were maintained underground by mothers who defied the law against female education.

The survey showed that nationally, 25% of children aged 6-35 months were wasted and 52% were stunted. Stunting rates were higher among boys than among girls throughout the country. Highest stunting rates were seen in Kandahar region, where 63% of boys and 59% of girls were stunted. These data indicate considerably higher levels of malnutrition than have previously been documented, making Afghanistan one of the worst affected countries in the world.

Vitamin A deficiency (assessed by self-reporting of night blindness), was reported in about 3% of the children (aged 12-23 months) surveyed in Jalalabad and Kandahar. Nationally, 12% of children had received a vitamin A capsule, with higher coverage of vitamin A distribution in Jalalabad and Kandahar. National goitre rates (assessed by self-reporting of visible goiter) were 7.5 cases per 1000 people.

Assessment of breastfeeding practices showed striking differences in reporting from (and opinions of) women and men. Women reported that only 25% of infants were exclusively breastfed to 4 months, whereas men tended to overestimate this figure.

For food security, 42% of households reported that they had sufficient food in the week prior to the survey, implying that 58% did not.

For further information, please contact Roger Pearson, Regional Monitoring and Evaluation Officer, UNICEF South Asia, P.O. Box 5815, Lekhnath Marg, Kathmandu, Nepal. Tel: 977 1 417 082 Fax: 977 1 419 479 Email: rpearson@uncrosa.mos.com.np

[1] An NGO registered in the USA dedicated to building the community voice into planning and better governance.

WHO

The Innocenti Declaration: Continuing towards its Targets

The *Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding*, adopted in 1990, includes a number of operational targets. It calls upon international organisations to draw up action strategies for protecting, promoting and supporting breastfeeding, including global monitoring and evaluation of their strategies.

To assist countries in their efforts to monitor and assess progress towards achieving the operational targets of the *Innocenti Declaration*, and to identify areas where more effort is needed, the Programme of Nutrition recently gathered information in this connection in four WHO Regions. Information has thus far been received from 57% (108) of WHO's 191 member states, many of which have made considerable progress towards achieving the operational targets of the Innocenti Declaration.

- *Breastfeeding committees:* Several countries have breastfeeding committees (58 % in the Africa Region (AFR), 22% in the Region of Americas (AMR), 65% in the Eastern Mediterranean Region (EMR), and 63% in the European Region (EUR)) and Baby-Friendly Hospital Initiative committees (74% in AFR, 80% in AMR, 53% in EMR, and 71% in EUR). These committees are composed of representatives from relevant government departments, NGOs, edu-

cational institutions, health professional associations and infant-food manufacturers.

- *National breastfeeding policy*: Sixty-eight percent (AFR), 72% (AMR), 82% (EMR), and 60% (EUR) of countries have formulated national breastfeeding policies, and 57% of countries have plans of action for implementing the BFHI.
- *Baby-Friendly Hospitals*: The 4 WHO Regions have 13,526 hospitals with maternity services. There were 2,430 hospitals designated as being baby-friendly at the end of 1997, compared with 943 hospitals at the end of 1995. 4,578 hospitals are targeted to become baby-friendly (1,554 hospitals in AFR, 1,294 in AMR, 950 in EMR, and 780 in EUR).
- *International Code of Marketing of Breast-milk Substitutes*: Many governments have taken responsibility for adopting, implementing and monitoring the Code (61% in AFR, 80% in AMR, 53% in EMR, and 49% in EUR). Some countries are in the preliminary stages of drafting national measures for this purpose, while still others have hardly begun.
- *Free and low-cost supplies of breastmilk substitutes*: The distribution of free and low-cost breastmilk substitutes has ended in 5,949 hospitals (1,967 in AFR, 995 in EMR, 1,468 in EUR and 1,519 in the AMR).
- *Maternity legislation*: Governments of WHO member states are using different means to protect, promote and support breastfeeding by enacting imaginative maternity protection legislation (87% in AFR, 100% in AMR, 94% in EMR and 89% in EUR) and by providing information on breastfeeding through the mass media, i.e., television and radio programmes, newspaper articles and breastfeeding weeks.

The WHO Programme of Nutrition has consolidated the survey results in '*The Innocenti Declaration: Progress and Achievements*', Parts I, II and III, published in the Weekly Epidemiological Record (73(5). 25-30, 1998; 73(13): 91-94, 1998 and 73(19). 139-144, 1998).

This exercise will be repeated every 3 years, and the information collected will be included in the reports by the WHO Director-General to the World Health Assembly. To facilitate this process, the Programme of Nutrition has added a module on Innocenti targets to the WHO Global Breastfeeding Data Bank, and these will be seen as part of the Nutrition Surveillance system.

For further information, please contact Randa Saadeh, WHO Programme of Nutrition. Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch

The Baby-Friendly Hospital Initiative (BFHI)

In assisting countries to maintain the credibility and sustainability of the BFHI, the Programme of Nutrition is continuing to develop re-assessment and monitoring tools based on the WHO/UNICEF BFHI Global Criteria. The monitoring tools are intended to aid data collection on key indicators related to BFHI and infant feeding practices. They have been field-tested in Poland and Bolivia, (Oman and Malaysia to follow) in close collaboration with Wellstart International (a WHO collaborating centre based in San Diego, California, USA), and UNICEF. The monitoring tools will be published at the end of 1998.

For further information, please contact Randa Saadeh, WHO Programme of Nutrition. Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch

'Promoting Breastfeeding in Health Facilities: a Short Course for Administrators and Policy-makers' by WHO / Wellstart International

This short course (WHO/NUT/96.3) which provides practical guidance on policy and administrative changes needed to promote breastfeeding in health facilities, is available in Arabic, English, French, Russian and Spanish, and will soon be available in Italian and Portuguese. It has thus far been given in Egypt, Ghana, Kenya, Lithuania, Malaysia, Saudi Arabia, Spain, Swaziland, the UK, Ukraine and the USA. The course has had a major impact on BFHI status and progress. For example, in Ukraine alone, the course has been given twenty times and has prompted the establishment of a national breastfeeding committee and development of a breastfeeding policy. In Brazil, it is planned to integrate the course into the overall national training plan for breastfeeding, and it is seen as a tool to sensitise decision-makers and obtain their commitment to becoming baby-friendly.

The course is currently being used as the main advocacy tool to target private and university hospitals.

For further information, please contact Randa Saadeh, WHO Programme of Nutrition. Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch

Joint WHO / Tufts Consultation on Nutrition Guidelines for Healthy Ageing

In view of the growing number and proportion of older members in populations of both developed and developing countries and the increase in diet- and lifestyles-related chronic noncommunicable debilitating diseases affecting the ageing population, WHO and the USDA Human Nutrition Research Center on Aging at Tufts University, Boston, USA, organised a joint Consultation on Nutrition Guidelines for Healthy Ageing from 26 to 29 May 1998. The specific objectives of the Consultation were:

- to review scientific and epidemiological evidence regarding the role of diet and other lifestyle factors, including physical activity, in health protection and promotion and noncommunicable diseases prevention in ageing populations; and
- to develop a report of a practical nature that will constitute an authoritative source of information for member country governments, nutritionists, medical practitioners, nurses, elderly care-providers, social workers and others.

The agenda of the Consultation included a wide spectrum of subjects related to nutrition and the functional and health status of ageing populations. These included assessment of nutritional status, nutrition and chronic diseases, water metabolism and dehydration, alterations in sensory systems, nutrition and immune function, nutrition behaviour and cognitive function, nutritional requirements and dietary guidelines. The Consultation also reviewed the demographic, epidemiological and social aspects of ageing with particular emphasis on a developing countries perspective and discussed the community support for improvement of nutrition, physical activity and behaviour (lifestyles) of ageing populations.

The report of the consultation will be published by the end of 1998. For further information, please contact R. Buzina, WHO Programme of Nutrition. Tel: 41 22 791 3316 Fax: 41 22 791 4156 Email: buzinar@who.ch

Joint Consultations between WHO and FAO

The FAO/WHO consultation process seeks to periodically bring together world experts on specific questions where areas of responsibility overlap. The consultations are expected to draw conclusions and make recommendations that provide the best and most scientifically sound advice and information possible for Member States.

Joint FAO/WHO Expert Consultation on Carbohydrates in Human Nutrition: The purpose of this Consultation was to review the full scope of carbohydrates in foods, including their role in human diet, the effects of processing on their digestibility, their use in manufactured foods, and their role in disease conditions (see *SCN News No.14 p34*). The report of the Joint FAO/WHO Consultation on Carbohydrates in Human Nutrition has just been published in the FAO Food and Nutrition Series (No. 66, 1998) and is available from FAO (Sales and Marketing Group, Food and Agriculture Organization, Viale delle Terme de Caracalla, 00100 Rome, Italy. Tel: 39 6 5705 5727 Fax: 39 6 5705 3152 Email: Publications-sales@fao.org).

Joint FAO/WHO Consultation on Vitamin and Mineral Requirements in Human Nutrition: This Consultation will take place from 21-30 September 1998 in Bangkok, Thailand (see *SCN News No.15 p48*)

WHO Global Database on Obesity and Body Mass Index (BMI) in Adults

This database was established in 1996 by the Programme of Nutrition, and is being steadily built up. The aim is to provide an up-to-date instrument—the only one of its kind—for establishing the magnitude and distribution of obesity and underweight in adult populations worldwide. Data show that many countries have problems of obesity and undernutrition, occurring side-by-side.

Currently, this database incorporates survey data from 91 countries. Population rates of BMI, or mean BMIs are classified according to the standard BMI cut-off points—i.e. 18.5, 17.0, and 16.0 for Grades 1, 2 and 3 undernutrition (thinness) in adults, and 25.0, 30.0, and 40.0 for overweight, obesity and severe obesity in adults. Some 61 countries (covering 70.4% of the adult population worldwide) have national mean BMI data, whilst 30 other countries have complete data sets including mean BMI and prevalences below and above the standard BMI cut-off points.

WHO welcomes new contributions to this database. For further information about how to contribute to the database, please contact Yun Ling at the WHO Programme of Nutrition. Tel. 41 22 791 3322 Fax: 41 22 791 4156 Email: lingy@who.ch

WHO Consultation on Behavioural Aspects of Preventing Obesity and its Associated Problems

A WHO Consultation to address behavioural aspects of obesity prevention and its associated problems is planned for 1-3 October 1998 in Tokyo, as part of WHO's efforts to develop global, regional and national strategies for preventing and managing the increasing global public health problem of obesity (see also page 71).

The Consultation aims to:

- ◊ review and analyse emerging trends of nutrition transition and behavioural factors contributing to the development of overweight and obesity;
- ◊ review various country experiences in promoting healthy diets and lifestyles with respect to obesity;
- ◊ develop guidelines for effective behaviour-related strategies to prevent and manage obesity as a public health problem;
- ◊ identify methodologies for implementing and monitoring behavioural strategies for controlling and reducing obesity.

Multisectoral strategies aimed at reducing obesity and its environmental determinants, and to improve knowledge about obesity, its prevention and management, will be developed. Methodologies will be identified for designing effective community-based nutrition programmes to promote the choice of appropriate diets and healthy lifestyles by individuals and families.

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

IDD, Vitamin A Deficiency and Anaemia

In the last fifteen years, WHO, UNICEF and ICCIDD have worked with governments to combat IDD by ensuring adequate iodine intake through consumption of iodised salt. As a result, the elimination of IDD as a public health problem by year 2000 is no longer an utopian view for a large number of countries. A

report on the progress achieved by countries to control IDD will be submitted to the next World Health Assembly in 1999. However, programme sustainability is still a critical concern (see also SCN working group discussions, page 24). In addressing this issue, WHO is currently assessing the quality of IDD monitoring, and the WHO/UNICEF/ICCIDD document on *'Indicators for assessing Iodine Deficiency Disorders and their Control through Salt Iodization'* (WHO/NUT/94.6, WHO Geneva, 1994) is being revised.

WHO, UNICEF and other organisations launched a 4-year project starting initially in Africa in 1998, to provide vitamin A supplements to pre-school children during immunisation contacts and to women at delivery.

In order to assist public health staff to design and implement programmes for control of iron deficiency and its consequences - especially anaemia – WHO, with UNICEF and UNU is about to publish *'Iron deficiency: Assessment prevention and control'* (WHO/NUT/98.6 WHO Geneva).

To assess the magnitude of micronutrient malnutrition, monitor the impact of programmes on populations, and assess the soundness of proposed strategies, WHO maintains the Micronutrient Deficiency Information System (MDIS) which includes three databases on iodine, vitamin A and iron. The iodine and vitamin A deficiency databases have already been published, and are currently being revised. The database on iron deficiency is still being developed.

WHO welcomes new contributions to all MDIS databases. For further information about how to contribute, please contact Bruno de Benoist, Programme of Nutrition, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 3412 Fax: 41 22 791 4156 Email: debenoistb@who.ch

Nutrition in Emergencies

The Programme of Nutrition is very frequently called upon by other UN organisations, humanitarian/relief NGOs, and member states to provide technical advice on management of nutritional emergencies, famine, or other disaster situations. The Programme of Nutrition provides technical inputs for strengthening capacities at national, subnational, and also international levels for the management of nutrition in emergencies. This is done through the production of guidelines, norms, criteria, methodologies and information on the monitoring/surveillance and management of nutrition in emergency settings, and through information dissemination and training.

Guiding principles for feeding infants and young children during emergencies, 1997 (see SCN News No.15 p37).

A three-part practical manual pack: This pack, due be published by the end of this year, is for field staff working at the operational level in emergencies and for programme managers. It includes methods to calculate group nutrition requirements, assess and monitor nutrition status, and also includes information on food distribution and selective feeding.

Specific nutritional deficiency outbreaks still occur in refugee populations, and in other severely deprived or famine-affected population groups. The Programme of Nutrition is currently writing guidelines on how to manage and prevent these deficiencies. The following three technical reviews will be published shortly:

- *Scurvy and its prevention and control in major emergencies.*
- *Thiamine deficiency and its prevention and control in major emergencies.*
- *Pellagra and its prevention and control in major emergencies.*

Joint WHO/UNHCR Initiative to Develop Guiding Principles for Caring for the Nutritionally Vulnerable during Emergencies

In an effort to implement the World Declaration and Plan of Action for Nutrition of the ICN, the WHO Programme of Nutrition has been examining aspects of care-related nutritional vulnerability and household food and nutrition insecurity to develop strategies for caring for the nutritionally vulnerable during emergencies.

In order to develop consolidated strategies for caring for the nutritionally vulnerable during emergencies, a joint WHO/UNHCR Technical Consultation on Caring for the Nutritionally Vulnerable during Emergencies was held in Rome, 24-27 February 1998, hosted by the National Institute of Nutrition.

Two background documents were prepared for the Consultation:

- *Caring for the Nutritionally Vulnerable during Emergencies: a Review and Implications for Policy.*
- *Caring for the Nutritionally Vulnerable during Emergencies* (an annotated bibliography).

Specific aims of the Consultation were to:

- examine care-related and behavioural aspects of nutritional vulnerability and household food insecurity during emergencies, and to possibly develop approaches for assessing and monitoring these aspects of nutritional vulnerability;
- develop strategies and guiding principles for promoting household food and nutrition security and caring for the nutritionally vulnerable during emergencies, to be used as the basis for developing policies and programmes as well as training modules to assist health personnel and others working in emergencies;
- identify research needed in the area of care, household food and nutrition security and emergencies.

The Consultation provided a forum for exchanging information and experiences of experts, country representatives, NGOs, bilateral and international agencies. It compiled information on nutritional vulnerability, determining factors and possible approaches for assessing care-related nutritional vulnerability during emergencies. The Consultation also developed generic

guiding principles for each vulnerable group, to be applied and incorporated into policies and programmes, and to serve as a basis for training modules to assist health personnel and others working in emergencies.

The generic guiding principles are being finalised by WHO in collaboration with UNHCR, UNICEF and various NGOs. The final document will also include simple tools for applying and implementing the guiding principles. A draft document will be ready to be circulated for expert peer review in late 1998.

For further information, and to request copies of the documents listed above, please contact Chizuru Nishida, WHO Programme of Nutrition. Tel: 41 22 791 3317 Fax: 41 22 791 4156 Email: nishidac@who.ch

For further information about any of activities of the Programme of Nutrition and requests for documents, please contact the WHO Programme on Nutrition, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 3326/3321 Fax: 41 22 791 4156 Email: clugstong@who.ch

Food Safety: GEMS / Food

The Global Environment Monitoring System / Food Contamination Monitoring and Assessment Programme (GEMS/Food), which now includes participating institutions from over 70 countries worldwide, collects and evaluates information on levels and trends of contaminants in food, their contribution to total human exposure and significance with regard to public health and trade. GEMS/Food continues to provide information from its database, held at the WHO Food Safety Unit, Geneva to various users, including the Codex Alimentarius Commission and its subsidiary bodies. The Programme is described in a new brochure (WHO/FSF/FOS/97.9) available from the WHO Food Safety Unit (contact details on next page).

During 1997, GEMS/Food conducted two Analytical Quality Assurance (AQA) studies. The first - on pesticide mixtures - was coordinated by the WHO Collaborating Centre for Pesticide Analysis and Training located at the GTZ Pesticide Service Project in Eschborn, Germany. A report of this study is now available from the WHO Food Safety Unit (contact details on next page). The second - on heavy metal analysis - was conducted in cooperation with the WHO Collaborating Centre for Food Contamination Monitoring at the Berlin Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin), Berlin, Germany and the report should be available from the Food Safety Unit shortly.

GEMS/Food has also recently issued a revised version of '*Guidelines for Predicting Dietary Intake of Pesticide Residues*' (WHO/FSF/FOS/97.7), which offers simple practical methods for assessing possible exposure to pesticides based on the best use of available information. In addition, GEMS/Food has published its estimates of per capita consumption of raw agricultural commodities and certain semi-processed commodities for five regional diets (WHO/FSF/FOS/98.3). Finally, a full report is now available on the joint FAO/WHO Consultation on Food Consumption and Exposure Assessment of Chemicals in Food, including food additives, contaminants, residues of pesticides and veterinary drugs and certain nutrients which was held 10-14 February 1997 in Geneva (WHO/FSF/FOS/97.5 – see *SCN News No.15 p55*).

Disinfection of Fruits and Vegetables

WHO, jointly with FAO and in collaboration with the National Sanitation Foundation International, USA, has prepared a document on current practices with regard to disinfection of fruits and vegetables. The document provides a review of the hazards associated with fruits and vegetables, and the efficacy of different disinfection methods on the hazards. The report will be available from the WHO Food Safety Unit (contact details on next page) in September 1998.

Food Safety for Nutritionists

A WHO/Industry Council for Development (ICD) Course on Food Safety for Nutritionists is organised annually in Indonesia as part of the MSc Programme carried out by the South Asian Ministers of Education Organization (SEAMEO) in collaboration with the German Technical Cooperation Agency (GTZ). The objectives of the training course are to promote understanding of food safety and to enable participants to effectively reduce or prevent foodborne diseases. The training course is open to all candidates desiring to be trained in food safety. A training package entitled '*Food Safety for Nutritionists*' is made available to the participants of the course, which consists of nine modules, lecture notes, set of overheads and student handouts. The course lasts for two to three weeks (see page 48 for more details).

Databank on Foodborne Disease Outbreaks

The Food Safety Unit, WHO is maintaining a global databank on food borne disease outbreaks published in the literature. The databank collects epidemiological data, including data on causative agents, number of people affected, signs and symptoms, food vehicle involved, place where the implicated vehicle was prepared and consumed, and factors contributing to the outbreak.

The databank has been developed to meet the increased demand for epidemiological information on foodborne disease. The objective is to compile epidemiological information necessary for a variety of purposes, for example, the application of Hazard Analysis and Critical Control Point (HACCP), risk assessment, health education in food safety, and understanding the role of food in the transmission of diseases.

For further information and to obtain copies of any of the documents mentioned above, please contact the Food Safety Unit, Programme of Food Safety and Food Aid, WHO, 20 Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2555 Fax: 41 22 791 4807 Email: foodsafety@who ch WHO Food Safety documents are also increasingly available on the web at http://www.who.ch/fsf/

Health for All in the 21st Century – the Nutrition Elements

Since 1978, when the policy on Health for All (HFA) was adopted at the Alma-Ata Conference, political, economic, environmental and social changes have occurred on an unprecedented scale. The need for a renewed vision and model of health to suit these new trends and their huge implications for health has resulted in an intensive worldwide consultation process led by WHO, aimed at formulating a new global health policy. A briefing document is available, together with the policy which has been endorsed by the World Health Assembly during its Session in May 1998.

In building on the strengths of the original policy, Health for All in the 21st Century sets out, for the first two decades of the 21st century, global priorities and targets which will create the conditions whereby people everywhere will have the opportunity to reach and maintain the highest attainable level of health throughout their lives. It gives added emphasis to 'health as a human right'; to gender sensitivity; and the paramount importance of addressing poverty and inequality as both root causes and results of ill health.

Ten new global targets have been set out to spur action and to define priorities for resource allocation (see Box). Achieving these targets will ensure that the overall goals of HFA are met.

How do nutrition concerns fit into the new HFA vision?

Nutrition is central to the first health target, where stunting rates will be used to assess equity within and between countries as a basis for promoting and monitoring equity in health. Stunting (defined as height-for-age more than two standard deviations below the reference value) has been recommended by WHO[1] as an ideal indicator for determining priorities for allocation of resources to improve equity in health care. It measures the cumulative deficient growth associated with long term factors such as chronic insufficient daily food intake, frequent infection, poor feeding practices and possibly the low socioeconomic status of households. The initial quantitative target utilised for equity is that by the year 2020, the percentage of children under 5y who are stunted should be less than 20% in all countries and in all specific subgroups within countries.

Nutrition is also specifically addressed elsewhere in the new HFA vision. In the second health target, a child mortality rate of less than 45 per 1000 live births has been set for the year 2020. In setting this target, the health community has undertaken to give priority to providing resources to the IMCI (integrated management of childhood illnesses), which aims to reduce the impact of the five major causes of death in children - one of which is malnutrition (*see SCN News No.15, p56*). More directly, the fourth health target specifies that by the year 2020, vitamin A and iodine deficiencies have been eliminated. By the same year, target 5 states that through intersectoral action, major progress will have been made in making safe food available to all.

Fulfilling the HFA vision

To achieve these targets, the document emphasises that committed action is needed. At the national level, governments will be responsible for creating an enabling environment for action in support of HFA. And it is the role of WHO, as the world's health advocate, to stimulate global action, provide global leadership for HFA and build strategic alliances with other UN agencies, the World Bank, NGOs, the private sector and other relevant partners in pursuit of HFA goals at all levels.

Box: Global Health Targets to 2020

1 Increase equity in health and use the health equity index of childhood stunting.
2 Improve survival and quality of life, indicated primarily by reductions in maternal and child mortality rates and increased life expectancy.
3 Reverse global trends for tuberculosis, HIV/AIDS, malaria, tobacco-related diseases and violence/trauma.
4 Eradicate and eliminate certain diseases (measles, lymphatic filariasis, Chagas disease, leprosy, trachoma and vitamin A and iodine deficiencies).
5 Improve access in all countries to safe drinking water, sanitation, food and shelter.
6 Promote healthy life styles and discourage health damaging ones in all countries.
7 Develop, implement and monitor national policies consistent with HFA.
8 Improve access everywhere to comprehensive high quality essential health care.
9 Establish and strengthen operational global and national health information and surveillance systems.
10 Develop and enhance health research programmes at global, regional and country levels.

[1] WHO Technical Report Series, No. 854, 1995.

For general information about Health in the 21st Century, please contact Dr Roberta Ritson, WHO, Division of Policy Programme and Evaluation, Policy Action Coordination Team, 20, Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2557 Email: Ritsonr@who.ch, or Mr Chris Powell, WHO, Division of Health Promotion, Education and Communication, Health Communications and Public Relations, 20, Avenue Appia, CH-1211 Geneva 27, Switzerland. Tel: 41 22 791 2888 Email: powellc@who.ch. For specific information on nutritional aspects please contact the Programme of Nutrition, WHO (Tel: 41 22 791 3326 Fax: 41 22 791 4156 Email: clugstong@who.ch). Based on the WHO document A51/5 and briefing summary 'Health for all in the twenty-first century'. Further information about Health for All in the 21st Century can be found on the WHO website at http://www.who.ch/hfa/index.htm

WHO / UNAIDS / UNICEF

Technical Consultation on HIV and Infant Feeding

Geneva, April 20-22 1998

Three million children worldwide have been infected with HIV. Most have been infected through transmission of the virus from their HIV-positive mother. About two thirds of mother-to-child transmission occurs during pregnancy and delivery, and about one-third through breastfeeding. The number of children infected with HIV is rising, reflecting the increase in numbers of women of childbearing age who are infected. In 1997 alone, more than half a million chiidren were infected worldwide, and in a growing number of countries, HIV is now the single most important cause of child death.

Following the adoption of the Joint Policy Statement on HIV and Infant Feeding in 1997, WHO, UNAIDS Secretariat and UNICEF developed a set of three comprehensive guidelines to assist decision-makers and health care managers to implement the policy:

- ◊ *HIV and Infant Feeding: Guidelines for Decision-makers*. WHO/FRH/NUT/CHD 98.1, UNAIDS/98.3, UNICEF/PD/NUT (J) 98-1.
- ◊ *HIV and Infant Feeding: A Guide for health care managers and supervisors*, WHO/FRH/NUT/CHD/98.2, UNAIDS/98.4, UNICEF/PD/NUT (J) 98-2.
- ◊ *HIV and Infant Feeding: A review of HIV transmission through breastfeeding*, WHO/FRH/NUT/CHD/98.3, UNAIDS/98.5, UNICEF/PD/NUT (J) 98-3.

The documents recognise that HIV can be transmitted through breastfeeding. The documents also cover all alternative feeding options which are: commercial formula, home-prepared formula, heat treated mother's milk, milk from an established milk bank, wetnursing by a relative and earlier cessation of breastfeeding. The documents express the need to support the use of safe alternatives to breastfeeding when an HIV-positive mother makes a fully informed choice not to breastfeed and selects one of the above options. They also strongly emphasise that breastmilk remains the optimal source of nutrition for the majority of infants, including all infants of mothers not tested for HIV.

Implementation of the guidelines was discussed during a meeting convened by WHO in Geneva (April 20-22, 1998) that brought together representatives of governments from countries most affected by HIV/AIDS, scientists, and United Nations agencies. The meeting was also attended by representatives of breastfeeding specialised NGOs and the infant formula industry.

Recommendations and outcome of the meeting

In addition to the key recommendation of increasing access to replacement feeding for HIV-positive women, the need to improve access to voluntary and confidential HIV counselling and testing, particularly for pregnant women, and counselling on infant feeding, was emphasised.

Participants also endorsed the need to implement measures to prevent breastfeeding from being undermined among HIV-negative women and among those who do not know their HIV status. There was consensus that methods for procuring, distributing and making available breastmilk substitutes should comply with the *International Code of Marketing of Breast-milk Substitutes* (see page 67) and subsequent resolutions of the World Health Assembly.

Strengthening health care services was also a priority, particularly reproductive health services in developing countries, to implement interventions that would reduce HIV infection in women and reduce mother-to-child transmission of HIV and ensure care and social support for HIV-positive mothers.

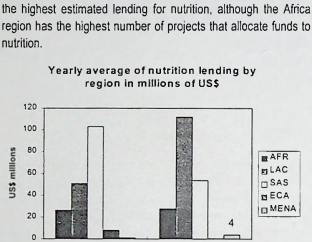
A full report of the meeting '*Technical Consultation on HIV and Infant Feeding: Implementation of Guidelines* WHO/CHD/98.15, WHO/FRH/NUT/98.4, UNAIDS/(.6, UNICEF/PD/NUT(J)98-4' is in preparation, and will be available on request from the Division of Child Health and Development or the Nutrition Programme at WHO, Geneva, or from the UNAIDS Documentation Centre, Geneva, or the Nutrition Section, UNICEF New York, TA –24A, 3 UN Plaza, New York, NY 10017, USA. The three documents listed above are available upon request from Randa Saadeh, WHO Programme of Nutrition. Tel: 41 22 791 3315 Fax: 41 22 791 4156 Email: saadehr@who.ch (CHF16, CHF11.20 in developing countries).

Sources: Felicity Savage (WHO/CHD), Ludmila Lhotska (UNICEF) and Randa Saadeh (WHO/NUT).

The World Bank

Nutrition Lending Update

The graph shows the latest figures for regional nutrition lending by the World Bank. South Asia and Latin America regions have the highest estimated lending for nutrition, although the Africa region has the highest number of projects that allocate funds to nutrition.



The graph shows an overview of the average lending figures per year over the fiscal periods 1991-95 and 1996-2000. All numbers are based on projections; i.e. not actual disbursement.

Recently Approved Projects

Madagascar

The World Bank recently approved a US$27.6 million equivalent credit for a project to improve the nutrition for children and pregnant and breastfeeding women in Madagascar. The project will focus on reducing the number of underweight children, combatting vitamin A and iron deficiency, and reducing helminth infections. An educational component will increase awareness of malnutrition and its causes. This Community Nutrition II project, which will be national in scope, builds on the successful World Bank-supported community nutrition project *Projet de Securité Alimentaire et de Nutrition* currently operating in two provinces.

The project will have several components. A Community Nutrition Programme will support community-based growth monitoring and growth promotion campaigns involving the weighing of children less than 3 years old. Food supplementation will be available for malnourished children as well as pregnant women, and vitamin A supplements will be given to young children and breastfeeding mothers. A School-Based Nutrition Programme will promote good nutrition and hygiene, provide iron and deworming tablets, and treat children aged 3-14 years for worms both in and out of school. The project will also assist in financing nutrition-related activities in the health and agriculture sectors.

The Gambia

The World Bank recently approved a US$18 million equivalent credit for a project to improve family health in The Gambia. This is the first new World Bank supported project in The Gambia since 1994. The *Participatory Health, Population and Nutrition Project* will have far-reaching beneficial impacts on the health of The Gambia's most vulnerable populations - particularly infants, children, and women of reproductive age - by improving health services and promoting the active participation of individuals and communities in ensuring their own health.

Prepared through an extensive consultation process involving NGOs, community members, other donors, and the government, the project takes an integrated approach to improving family health. World Bank financing will support preventive health care activities, as well as support policy and programme development. A grassroots education programme will encourage community awareness, community involvement in health services, promote safe sex behavior, and strengthen basic health and nutrition. Training for health care workers, the expansion of family planning services and HIV/AIDS prevention programmes, and upgrading and maintenance of existing health infrastructure are also included.

The Philippines

The World Bank has approved a US$19 million loan to the Philippines for an *Early Childhood Development (ECD) Project* that will provide services to reduce childhood mortality and promote the physical and mental development of Filipino children, particularly those who are most vulnerable and disadvantaged. The project also aims to establish an effective partnership between national and local governments in the provision of ECD services. It is designed to assist in compensating for past government under-spending in human resource development and poverty alleviation.

The project is part of a 10-year ECD Programme which seeks to expand and upgrade existing ECD programmes in the Philippines. One component of the project will involve supplying crucial inputs to maintain and upgrade five region-wide ECD programmes covering immunisation, improved management of sick children, prevention and control of micronutrient deficiencies (iron, iodine, vitamin A) through food fortification, education of parents on how to stimulate and promote young child development and improved curricula and health services for children in Grade 1.

For more information, please contact Claudia Rokx (crokx@worldbank.org), or Claire Hervey (Tel: 1 202 473 8294 Fax: 1 202 473 7917 Email: chervey@worldbank.org) at the World Bank, 1818H Street NW, Washington DC 20433. To obtain project documents please contact the World Bank's Public Information Center (PIC), 1776 G Street, NW, Room GC1-300, Washington DC 20433. Tel: 202 458 5454 Fax: 202 522 1500 Email: pic@worldbank.org Further information about the World Bank's recently approved projects can be found on the Web at http://www.worldbank.org/

Sources: C. Rokx, C. Hervey and World Bank 1998 press releases.

GOM-H-22.22
NUT-5.

RECIPES FOR INFANTS AND TODDLERS

POTATO PUDDING

Dried potato chips powder	60 g.
Horse gram dhal powder	25 g.
Groundnut cake powder	30 g.
Baking soda	a pinch(half tea-spoonful)

Method: The flours are mixed and a semisolid batter is prepared. Oil or dalda is smeared on an luminimum pan and the batter is poured into the oiled pan. The vessel is covered with a greased paper and tied up and steamed.

RAGI PUDDING

Ragi flour	50 g.
Bengal gram dhal flour	12.5 g.
Groundnut cake powder	12.5 g.
Jaggery	20 g.
Baking soda	a pinch

Method: Same as for preparation of Potato pudding.

CHOLAM PUDDING

White cholam flour	30 g.
Groundnut cake powder	15 g.
Food Yeast	5 g.
Jaggery	12.5 g.
Cumin seeds	One-fourth teaspoonful

Method: Same as for preparation of Potato pudding.

THENAI ADAI

Thenai flour (roasted)	25 g.
Groundnut cake powder (roasted)	25 g.
Jaggery	20 g.
Dalda	One-eighth teaspoonful

Method: The dough is prepared with jaggery syrup and small balls are made and spread in rounds or squares on the palm. The rounds are placed on a greased hot iron plate. They are kept turning over and over till cooked.

THENAI IDDLY

Thenai	100 g.
Bengal gram dhal	50g.
Salt	to taste (enough for 8 iddlies)

Method: The Thenai grains and Bengal gram dhal are ground and mixed to a thick batter and kept overnight. In the morning iddly moulds are filled up and steamed till they are well cooked.

.....2

CHOLAM IDDLY

White cholam grains	100 g.
Cow gram dhal	50 g.
Salt	(for 8 iddlies)

Method: The grains and dhal are soaked for a few hours. They are ground together into a fine paste in a stone mortar. The paste is kept overnight. The thick batter is poured in iddly moulds and steamed till it is well cooked.

SAMAI BALLS

Samai flour	60 g.
Black gram dhal flour	30 g.
Salt	to taste

Method: The dhal is cooked till soft and salt is added. The samai flour is mixed in water to a thick paste and added to the mashed dhal. It is cooked with just enough water, poured into a plate and while still warm, balls are made.

CHOLAM SORU WITH DHAL

White Cholam	100 g.
Red gram dhal flour (raw)	30 g.
Tomato	30 g. (Blanched and the juice extracted and sieved)
Salt	to taste

Method: The cholam grains are cooked and when it is well done, the dhal powder is added and cooked well for 20 minutes. It is removed from the fire and tomato juice is sprinkled. It is served warm to the child.

READY-TO-USE INFANT FOODS

GROUNDNUT CAKE PORRIDGE

Groundnut cake powder roasted	50 g.
Green gram dhal flour roasted	15 g.
Palm jaggery	25 g.

Method: The two flours are mixed in hot water and a semi-solid batter is prepared. Jaggery is prepared in the form of a syrup. The semi-solid batter is added to the boiling syrup and kept stirred. It is boiled for 10-15 minutes in an open vessel over low fire. It is served to the infants before it gets cold.

....3

GROUNDNUT CAKE POWDER/JACK FRUIT SEED POWDER/PORRIDGE:

Jack fruit seed flour (roasted)	25 g.
Groundnut cake flour	50 g.
Palm jaggery	25 g.

Method: Same as for preparation of Groundnut cake powder.

PREPARATION OF JACK FRUIT SEED FLOUR:

Jack fruit seeds are peeled of theskins and sliced thin and washed repeatedly in cold water It is boiled for 15 minutes and dried in sun. The dried seeds are ground to flour. The flour can be kept for days if kept free from dampness.

SOURCE: Swasth Hind - June 1980.

-x-x-