Feeding young children

by Ann Ashworth

Good food is important for good health. Children who are well fed during the first two years of life are more likely to stay healthy for the rest of their childhood. During the first six months of a child’s life, breast milk alone is the ideal food. It contains all the nutrients needed for healthy growth as well as immune factors that protect against common childhood infections.

Breast milk continues to be an important source of nutrients until a child is at least two years old. However, after six months of age, all babies need increasing amounts of additional foods, before eventually changing to family foods alone. These additional foods are called complementary foods. As a baby grows and becomes more active, complementary foods fill the gap between the total nutritional needs of the child and the amounts provided by breast milk. Without adequate amounts and a good mixture of these additional foods, babies will fail to grow properly and their immune system will become less effective. Common infections like diarrhoea last longer and are more severe in malnourished children. Once a child is sick, poor appetite can lead to a cycle of ever-worsening malnutrition and repeated infections that often ends in death (see diagram, page 3). Nearly two-thirds of all deaths in children aged 0–4 years are associated with malnutrition in countries in the south – so good feeding practices are of vital importance to child survival.

**Complementary foods**

Complementary foods should be:
- rich in energy and nutrients
- clean and safe
- easy to prepare
- locally available and affordable
- easy and enjoyable for the child to eat
- not too peppery or salty.

Complementary foods may be specially prepared foods, or be made from mixtures of family foods which are modified to make them easy to eat and high in nutrients. They should be given in small amounts three times a day at first, increasing to five times daily by 12 months. Start with a few teaspoons and gradually increase the amount and variety. It is important to actively...
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Iron and zinc
Foods high in iron and zinc include red meats, liver, kidneys, blood and other kinds of offal. Egg yolks, dark green leaves and pulses are also high in iron, but this iron is not so easily absorbed in the body. However, eating fruit rich in vitamin C (eg: oranges, papaya), at the same meal will improve the absorption of iron.

courage a child to eat. A child left alone may not eat enough.

When preparing these foods, make sure all utensils are clean. Spoon-feed complementary foods from a cup or bowl and do not use a feeding bottle. Foods should be used within two hours of preparation if they are not kept in a refrigerator.

Keep a chart of a young child’s weight. Monitoring growth is a useful way to know if a child is eating enough and is healthy.

Complementary foods need to contain sufficient energy, protein, minerals and vitamins to meet the nutritional needs of the growing child. The most difficult nutritional needs to fill are usually for energy, iron, zinc and vitamin A.

Using staple foods
Every community has a staple food which is the main food eaten. This may be a cereal (such as rice, wheat, maize, millet), or a root crop (such as cassava, yam, potato), or starchy fruits (such as plantain and breadfruit). In rural areas, families often spend much of their time growing, harvesting, storing and processing the staple food. In urban areas the staple is often bought, and the choice depends on cost. For use as complementary foods, cooked staples can usually be mashed (for example, rice, noodles, cassava, potato), or softened in a small amount of liquid (for example, bread and chapati).

Porridges prepared from the staple are often used as early complementary foods. However, these are usually watery and contain little energy and few nutrients. Soups are also commonly used and are watery, so have the same problems.

Vitamin A can be stored in a child’s body for a few months, so encourage families to feed foods high in vitamin A as much as possible when available.
Staple foods provide energy. Cereals also contain protein, but most other staple foods have very little protein. However, staple foods are poor sources of iron, zinc, calcium and some vitamins, which are all needed to meet the nutritional need of the growing child.

Useful complementary foods

Other foods must be eaten with the staple food in order to fill the energy and nutritional needs. The types of foods that fill these needs best are:

■ pulses (such as peas, beans, and groundnuts) and oil seeds (such as sesame seeds). These are good sources of protein. Some, such as groundnuts, bambara, soybeans and oil seeds, are rich in fat so are also high in energy.

■ foods from animals and fish These are rich sources of many nutrients but are often expensive. Also, some people do not eat meat because of their religious or personal beliefs. Meat and organs (such as liver, heart, and kidneys), as well as milk, yoghurt, cheese and eggs are good sources of protein. Foods made from milk and any food containing bones that are eaten (eg: small fish, canned fish, or pounded dried fish) are good sources of calcium, needed to build strong bones.

■ dark green leaves and orange-coloured fruits and vegetables are all rich sources of vitamins A and C.

■ oils, fats (such as margarine, butter, ghee) and sugars are concentrated sources of energy. Adding one teaspoon of oil or fat to a meal gives extra energy. Red palm oil is also very rich in vitamin A.

Mixing complementary foods is the best way to make certain that children get enough energy, protein and micro-nutrients for healthy growth and development. During a day, a good mixture is:

■ a staple + a pulse + animal food + green leaves or an orange-coloured vegetable or fruit.

Families can use all these foods to make a meal, or they can use, as examples:

■ staple + pulse + green leaves at one meal

■ staple + animal food + fruit at another meal.

Add a small amount of fat or oil to give extra energy if none of the other foods in the meal is energy-rich.

Anaemia

Children need iron to produce new blood particularly during their first year when growth is fastest. Breast milk contains very little iron, but full-term babies are born with enough iron for their needs in the first six months. After that, if their need for iron is not met, the child will become anaemic. Premature and low birth-weight babies are at higher risk of anaemia because they are born with smaller body stores of iron. Give them iron drops from two months, if available.

Fortified foods

Fortified foods have special nutritional ingredients added by the manufacturers. For example, cereal products may be fortified with iron. Salt may be fortified with iodine. Margarine usually has vitamins A and D added to it by the manufacturer.

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Discussion questions

■ Discuss the age at which most children start complementary foods in your area. Is this too early or too late? If so, discuss why.

■ Are foods from animals eaten in your area? What are they?

■ Which of these are regularly given to young children?

■ Can you think of ways to make more animal foods available for eating at home, for example, by building a fishpond, or raising rabbits, guinea pigs or poultry?

■ Dark green leaves and orange-coloured vegetables and fruits are all rich sources of vitamins A and C. Make a list of those available in your area. What could some families do if there are some months when none are available? Can you help families overcome this lack?
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LETTERS

CAHD tries to lessen the exclusion of, and negative attitudes towards, people with disabilities and to break the negative cycle which links poverty and disability. CAHD is being piloted in Asia by Handicap International and Christoffel Blinden Mission in partnership with local organisations.

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Training about medicinal plants
I was very interested to read the Footsteps issue on medicinal plants. Our group has been interested in medicinal plants for about 25 years. We have gradually set up a training centre and created a botanical garden. The garden holds 182 local varieties of medicinal plants. We hold seminars in French for groups of 15–60 participants for training in medicinal plants and group dynamics. Please write for details if you are interested in attending these seminars.

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Community approaches to disability
Thank you for the excellent Footsteps issue on people with disabilities. Readers may be interested to hear of a new approach which bridges community-based rehabilitation and general community development work. We call this Community Approaches to Handicap and Disability (CAHD). It helps existing community development organisations to gain awareness, knowledge and skills to include people with disabilities in their existing work.

The Deborah Movement
A group of women had a vision to gather all the women from evangelical churches in Burkina Faso together for intercession, evangelism and to train them using Bible studies.

They launched the Deborah Movement. With support from various church groups they have organised Prayer Days to pray for the country. Half the day is used for teaching and the other half for praying for the various needs in the country.

A second day of prayer for AIDS was held in 2002 with a particular concern for the 200,000 orphans in the country. These days have been a huge encouragement and we are now planning an international conference in November.

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Water for health
People often do not drink enough water. This results in people having health problems such as stomach problems, dizziness and dry skin. To encourage people to drink more water we have tried the following demonstration.

- Cut the bottom off a plastic soda bottle with a narrow neck. Half fill the bottle with a mix of gravel, sand and earth. Line up eight full glasses of water.
- Explain to people that drinking water is important for the body to get rid of wastes. Start pouring the water from the glasses slowly into the bottle. The water looks dirty at first. If you don’t drink enough, the body’s leftover dirt will cause problems.

EDITORIAL

Nutrition is a huge topic and in this issue we have chosen to concentrate on one of the most important stages of nutrition – the early years of life when a child learns to share in the family diet. This is a dangerous time for many young children. Two thirds of the deaths of young children aged 0–4 years in Third World countries are associated with malnutrition. The types of food given and the way in which babies are encouraged to eat are so important. Healthy and well-nourished babies grow into strong children better able to fight off disease.

A recent report by UNICEF called We the Children found that in India, for example, nearly half of all children under three years of age suffered from malnutrition.

Ann Ashworth is a world expert in nutrition and provides many good and practical ideas. Breast-feeding always used to be the very best way to feed a baby. However, with the knowledge that the HIV virus can be passed from mother to baby through breast-feeding, many people are unsure how to advise mothers. We provide an update on the real risks to help people make an informed judgement.

Home gardens can be used nearly everywhere, including urban areas and can really help improve the intake of vitamins and minerals.

We hope this issue provides a variety of ideas to help improve nutrition in your community. Future issues will look at holistic development, urban agriculture and pressures on the family.

Joel Carter
Traditions and customs concerning our food

All cultures develop a variety of traditional beliefs and customs concerning food. Sometimes there are foods that people eat at special festivals. Some foods may be avoided on particular days. Foods which are avoided in one culture may be valued in another. Most of these beliefs have little impact on nutrition but there are some that have a considerable impact. For example, in many cultures pregnant or nursing women are not supposed to eat eggs – which are a very nutritious food. Children likewise may be prevented from eating foods which would be of real nutritional benefit.

Read I Samuel 21:1-6

- Why did the priest give David the consecrated bread?

David knew that according to religious custom he should not have eaten this bread. But without it, he and his men would not have had the strength to continue their mission.

They use striga, a common weed of maize and sorghum, and find this treatment as effective as the vaccine. They soak the whole striga plant in water for 10–20 minutes. Leaving the plant in the water, they give the water to the chickens to drink. The mixture should be kept topped up with water. Continue treatment for one week.

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Reflections on HIV/AIDS

Statistics show clearly that unless drastic measures are taken immediately, the HIV/AIDS epidemic will claim half of Africa’s population within the next few years. It is estimated that over 7,000 Africans are dying and about 11,000 are being infected with the virus every single day!

If HIV testing facilities and life-saving medicines were readily available and affordable, more people would be encouraged to go for an HIV test. Over 90% of people who discover they are HIV positive try to avoid passing on the virus to others until they die. This helps reduce transmission of the disease.

Life-saving medicines such as Nevirapine help reduce HIV/AIDS being passed from mother to child. However, improving child survival without doing anything to prolong the life of the mother will produce orphans with an uncertain future.

Children who become orphans because of AIDS must be helped in a sustainable way, with education and training that will eventually make them self-sufficient. There is a danger of pouring money into institutions for orphans, as extended families will hand over their traditional responsibility of looking after orphans. It is vital to strengthen and support African extended families to take care of orphans.

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Helpful weeds

I read the article about helpful weeds in Footsteps 48 with a keen interest. In Nigeria, the Tiv people of Benue State have many local chickens. Newcastle disease constantly plagues these chickens. Tiv people use a cheap means of controlling this dangerous disease.
Weaning practices in Nepal

by Sanjay Kumar Nidhi

In Nepal, weaning traditionally begins with the Rice Feeding Ceremony (Pasne) where children receive their first meal. The ceremony is performed at five months of age for a girl and six months for a boy.

Common traditional weaning foods include:

- porridge (lito), made from roasted rice flour (occasionally maize or millet), ghee (clarified butter) and sugar
- jaulo, made from rice and turmeric or rice and salt
- dhiro, made from maize flour (or millet or wheat)
- maar, made in lowland areas by cooking rice, cracked maize and soybeans together
- khichari, a mix of rice, pulses and vegetables.

Some of these traditional foods are high in energy and nutrients and should be encouraged. These include maar and khichari. Others are poor weaning foods with little protein or nutrients, such as jaulo, so adding pulses, green leafy vegetables or fruit to these foods is encouraged.

Another traditional food which has been shown by scientists to be very nutritious, is a porridge made from the finely ground flour of roasted cereal grains and pulses. In Nepal this is known as super-flour porridge or sarbottam pitho ko lito.

Ingredients for super-flour porridge

The flour is made from:

- Two parts pulse – soybeans are best, but other small beans, grams and peas can also be used
- One part whole grain cereal such as maize or rice
- One part another whole grain cereal such as wheat, millet or buckwheat.

The pulses and grains need to be cleaned, roasted well (separately) and ground into fine flour (separately or together). The flour can then be stored in an airtight container for one to three months. The flour is stirred into boiling water and cooked for a short time. The proper amount and consistency of the porridge will depend on the age and condition of the child. Salt should not be added, especially if the child is malnourished.

Super-flour porridge

The recipe developed out of experience and research by Miriam Krantz, working with Nepalese mothers and with the foods they grow. The Nutrition Programme of the United Mission to Nepal fully supports the use of super-flour porridge and it is now promoted throughout the country by the government as the ideal weaning food.

The flour makes full use of whatever local foods are most readily available. Any pulse can be used instead of soybeans, and combinations of any two cereal grains can be substituted for the wheat and maize.

For babies of six months of age or more, porridge made with one or two teaspoons of super-flour given two or three times a day is enough with breastfeeding. As the child grows, the amount of porridge used will gradually increase until about 100gm (four tablespoons) of super-flour is used each day – enough to prepare three feeds of porridge. This amount will provide most of a one to three year old’s requirements of protein, calcium, iron and various vitamins. If a
young child is also breast-fed and eats two small portions of their family’s meal of dhal-bhat (pulses and rice), all their needs for energy and protein will be met.

The nutritional content of super-flour varies according to the ingredients used, but analysis shows that 100gm of flour will contain 13.5–25gm of protein and 345–370 calories. Super-flour porridge does not supply enough vitamin A for a child’s daily need. Health workers therefore teach mothers to add ground leafy greens or other family vegetables to the porridge.

The nutritional value of the porridge is also improved by adding ghee (clarified butter) or other fat or vegetable oil. A recipe that meets the WHO recommendation for severely malnourished children uses 30gm (one heaped tablespoon) of super-flour cooked with 15ml (three teaspoons) of oil and made up to 150ml with water. This is being used for malnourished children in UMN Hospitals.

**Advantages of super-flour**

- Super-flour is a convenient and adaptable food that stores well. For older children the flour can be eaten dry (as sattu) or added to fresh boiled milk or any other liquid without further cooking, since all the ingredients are pre-roasted. The flour can also be used for baking breads and biscuits.

- Infants like the roasted flavour.

- Mashed vegetables and fruits can be added to the porridge to improve the nutritional value and vary the flavour.

- Super-flour porridge is highly recommended for use with severely malnourished children.

Kamali brought her two year old son, Arjun, to the District Health Office with tears in her eyes. She brought him there as a last resort after he had received treatment from local traditional healers. Arjun had diarrhoea all the time, had lost his appetite and had been constantly losing weight. Arjun was immediately referred to the Nutrition Programme of UMN. He had severe weight loss and looked just ‘skin and bones’. He was irritable, very slow, dehydrated and was crying all the time. It was a clear case of severe protein energy malnutrition. Arjun’s mother, Kamali, was advised about his situation and given suggestions for feeding him.

Three days later, UMN staff visited his home and talked with his mother about the family situation. They discovered that she was not aware of the importance of good child feeding and hygiene practices.

The nutrition programme staff taught the mother how to prepare super-flour porridge. She was encouraged to feed Arjun this porridge four to five times a day (fortified with ghee or oil) along with other food, fruits and vegetables. During later home visits, Kamali was given practical suggestions regarding weaning foods, feeding sick children, personal hygiene, balanced diet and nutritious local foods. The nutrition field staff also monitored Arjun’s weight during regular home visits.

Arjun gained weight slowly but steadily. When he returned to the nutrition unit for a check-up visit he was a different child – happy and full of energy. He had gained weight, could walk easily, his appearance had improved and he wanted to feed himself. The clear joy in his mother’s eyes said it all.

We hope that our experience in Nepal with home processed weaning foods can be duplicated in other countries. Sound, home-based approaches to child feeding should be recognised and encouraged by policy makers, community leaders and public health workers.
Feeding young children

The three food groups
A child's diet should include food from the three food groups:

■ Energy foods help children play and work. These are staple foods such as maize, rice and plantain, and oils such as vegetable oil and animal fat, and sugar.

■ Building foods or protein help children to grow and repair the body after illness. Examples are peanuts, soybeans, pigeon peas, milk, eggs, fish and meat.

■ Protective foods contain vitamins and minerals, which help the body to run smoothly and protect against illness. Most fruit and vegetables are protective foods.

Mealtimes should be fun
Mealtimes should be relaxed and enjoyable and an opportunity for the whole family to spend time together. Don't force children to eat in a hurry.

Use mealtimes to improve children's development. For example:

■ Children can learn new words and concepts, foods and colours. Talk about how the food tastes, name the utensils, foods and colours.

■ Let children touch and pick up food themselves. This helps to develop their co-ordination.

■ Help children feel good about themselves by giving them praise and smiling at them.

Meals
These recipes are examples from around the world of meals that have a good balance of all three food types. Each meal meets at least one third of a small child's daily requirements of energy, protein, iron and vitamins. Adapt these ideas using your own local foods.

Dhal, carrot and amaranthus (Asia)
Cook dhal (lentils) until soft. Add a few spices to give flavour. Add half a small carrot when the lentils are nearly cooked. Add some amaranthus leaves and steam, or cook separately. For the child's meal, mash 1 rounded tablespoon of cooked lentils with the carrot, 1 teaspoon of ghee (or oil) and a tablespoon of cooked leaves. Serve with half a chapati and 1/4 cup milk.

Millet and bean porridge (Africa)
Gather cowpea leaves (or sweet potato/pumpkin/cassava/kale leaves) and steam or boil. Make a thick porridge from millet and bean flours (3 parts millet to 1 part bean). Mix 5 tablespoons of porridge with 1 tablespoon cooked leaves and add 1 teaspoon oil, margarine or ground-nut paste. Alternatively, serve the cooked leaves separately and fry with onions and tomato for flavour.

Rice, beans and liver (Latin America)
Cook rice. Boil beans with chopped onions and a few spices until soft. Add some potato and continue cooking. Steam a chicken's liver with the rice or cook it with the beans. For the child, mash 3 tablespoons rice, 1 tablespoon of beans and potato, 1/2 tablespoon liver and 1 teaspoon margarine.

Rice, lentils and yoghurt (Middle East)
Cook rice. Boil lentils until soft. Fry some onion until brown and add spices for flavour. Add to lentils. For the child's meal, mix 3 rounded tablespoons cooked rice with 1 1/2 tablespoons lentil and onion mixture and 1 teaspoon oil. Serve with 3 tablespoons yoghurt. Serve with half an orange to improve iron absorption.
Biscuits

Biscuits can make nutritious snacks. Here is a very easy recipe that will work in an oven or on top of a fire or stove.

- 1/2 cup sugar
- 1/2 cup fat
- Pinch of salt
- 2 cups wheat flour (or a mix of 1 cup wheat and 1 cup other flours such as soy or millet)
- 2 small spoons of a sweet spice such as nutmeg, ginger or mixed spice if available
- 1/2 cup finely chopped nuts (pound to a paste if for small babies)

Mix all these ingredients together to make a very stiff dough with either milk, an egg or water.

Either roll out thinly and cut into squares about 5cm in size, or take small spoon-sized pieces of dough and work into a round (like a chapati), again to about 5cm in size. If using an oven, cook on a tray for 15 minutes at 180°. If cooking over a stove or fire, use a thick metal frying pan or sheet of metal. Cook very slowly over a cool heat, again for about 15 minutes, turning over once.

These biscuits may be kept in an airtight container for a few days.

Good snacks

Snacks are foods eaten between meals. Nutritious snacks may be useful to help fill the energy gap and are an easy way to give a young child extra food. Snacks should be easy to prepare.

Good snacks provide both energy and nutrients. Examples are:
- mashed ripe banana, paw-paw, avocado, mango and other fruits
- yoghurt, milk, puddings made with milk
- bread or chapati with butter, margarine, groundnut paste (peanut butter) or honey
- biscuits, crackers
- cooked potatoes.

Poor snacks are high in sugar (which rots teeth) and low in nutrients. Examples are:
- fizzy drinks (sodas)
- ice lollies/lollipops
- sweets.

Vegetable oil

Vegetable oil, as well as being a useful source of energy, helps make food soft and tasty. Children aged 6–12 months should eat two teaspoons each day mixed into their food. Children aged 1–2 years should eat three teaspoons per day.

Encourage independence

- Encourage children to hold their own spoon by twelve months old. This can be messy, and they will need help, but it makes their mealtimes more interesting.
- Cut up food into small pieces so that it is easier to eat.
- Give children their own plate or bowl.

Food hygiene

Good hygiene when preparing food is always essential but especially when food is being prepared for young children. Always wash hands with soap and water before handling food. Cooking utensils should be clean. Dry them on a drying rack.

Never cough, sneeze or smoke over food that is being prepared for eating. If you are ill, particularly with vomiting or diarrhoea, do not prepare food as you are likely to pass on your infection. Cover cuts and sores on your hands and wear clean clothing.

Flies carry disease so food should always be covered. Some food such as milk, eggs, cooked meat, cooked rice and other cereals will spoil more quickly than other kinds of food. Once cooked, food should not be left at normal temperatures for more than two hours.

Raw meat and fish, and uncooked vegetables with soil on them, should never come into contact with cooked foods. After handling these foods, wash hands well before handling cooked foods.
Gardening for better nutrition

by Ian Horne

Small food gardens near the family home have traditionally made an important contribution to family nutrition. Home gardens can help provide variety in the diet and supply vital vitamins and minerals, carbohydrates and proteins. Good nutrition helps the body to resist disease, so home gardens help improve family health.

In recent years, many people's traditional diets have changed. More processed foods are now eaten. Rural farmers may now grow crops to sell rather than for family use. This means they may grow fewer crop varieties, particularly of vegetables. Wild leaves, roots and berries traditionally harvested as food may no longer be available as a result of deforestation and lack of access to communal land. Because of these trends, the diets of many poor people have lost their original variety of traditional foods and they lack enough income to buy a varied and adequate diet. Home gardens can help improve family nutrition, encourage traditional varieties, improve health, produce medicinal plants and save money.

Working with women is usually the key to improving nutrition through home gardens. Pregnant and nursing mothers and young children are more likely to suffer from malnutrition. Women also usually prepare, process and store family food supplies.

Before planning such work, take time to assess local nutritional problems and consider how these might be solved. Where lack of protein is a serious problem, home garden projects may include the growing of high-protein crops, such as beans of all kinds, as well as the raising of fish, poultry and small animals. In situations where deficiencies of iron (anaemia) and calcium are common, promote vegetables with high iron and calcium content. Where vitamin A deficiency causes ill health and night blindness among the poor, promote leafy green vegetables and other crops, such as sweet peppers and carrots, which are rich in vitamin A.

In urban areas there may be a small area of land outside the home or by the roadside which could be cultivated. Otherwise herbs, tomatoes and leafy crops can be grown in tubs made from old tyres or plastic buckets by windows or doors and watered with waste water.

Setting up a home garden project

We can learn a lot about how to set up a home garden from the experience of the San Lucas Association (SLA) in Peru. Here are some key points for success.

Assess local nutritional needs

What are the main nutritional problems in the community and how are they linked to eating habits?

- What crops are grown? Are they used for income or family consumption?
- How do families budget for buying food?
- What are the main problems in producing food (for example, lack of land or labour, pest damage, lack of skills, poor storage)?
- What are the main problems in cooking and preparing food?

Organisation

Consider carefully how to organise production – in either individual or communal plots and how to co-ordinate support.

San Lucas Association

The San Lucas Association (SLA) in Peru works with poor farming communities in the jungle area of Moyabamba. Here the main crops are rice, coffee, banana, maize and manioc (cassava). Through community meetings and a needs assessment with local people, high rates of infant malnutrition and low consumption of fruits and vegetables were revealed. SLA began a gardening project in the schools of four communities, involving the teachers, pupils and parents' associations. Many families then established vegetable plots on their own land. Recently, SLA has started a community and family gardens project, working mainly with existing grass roots organisations.

The mothers chose their own leaders to coordinate groups of 15–20 women in each village. Each woman cultivates a small home garden near her house, ideally 10 square metres in size. SLA provides training and support with two visits each month, as well as seeds and some hand tools.

The training includes technical information on how to grow vegetables, how to maintain soil fertility, basic nutrition and how to prepare nutritionally balanced dishes with the vegetables.

The crops which have proved most successful are coriander, radish, carrot, small marrows, cabbage and tomato. SLA begin with three or four popular and nutritious vegetables. Later, as producers improve their gardening skills, there may be surplus production for sale.

Major problems have been a lack of water in the dry season and crop losses (from pests, diseases, thieves and livestock). To help resolve the water problem, communities have used pipes to take water from nearby streams and adapted plastic drinking bottles to serve as sprinklers. SLA helps producers identify pests and trains them in using natural pesticides. Losses due to thieves and roaming livestock have been largely solved through community agreements and fencing the gardens.
Practical tips

■ Provide nutrition training and enjoyable participatory workshops where balanced meals are prepared.

■ Introduce new crops slowly and only when they have special nutritional benefits.

■ Include leafy dark green vegetables as good sources of vitamin A. Older leaves tend to have higher levels of vitamin A.

■ Encourage crops rich in vitamin C, such as citrus fruits, sweet peppers and tomatoes.

■ Promote beans, peas and lentils. For maximum protein levels, encourage people to grow and eat a mixture of beans, peas or lentils and starchy vegetables and at each mealtime.

■ Consider promoting fish farming and the production of chickens, rabbits or other small animals.

■ The leaves and fruits of many trees can make a vital contribution to family nutrition. Plant them in corners of the garden where they do not shade vegetable crops. They often have greater drought resistance because of their extensive root systems.

■ Plan planting carefully so crops provide food all year round, particularly during the ‘lean seasons’ when vegetables and fruits are in short supply.

Choose crops well

Crops should be:
• easy to grow, with short growing cycle or long cropping season
• adapted to the local climate and soil
• locally grown
• popular, with a good flavour
• pest and disease resistant.

When choosing suitable vegetables, study the diet of poor families with good health. Also study the diet of older people with more traditional food customs.

Link production to good nutrition

Enjoyable training on nutrition and preparing balanced meals is vital. Local prejudices against certain foods may need challenging.

Water availability

When water is scarce, other domestic needs are likely to take priority. Improve the water available to plants by:
• covering soil around plants with a mulch of leaves or grass
• shading young plants
• removing weeds (they compete for water)
• add manure and compost to improve water retention.

Pests and diseases

Provide technical help on identifying and treating pests and diseases. Help producers prepare organic pesticides. Distribute leaflets with clear diagrams.

Protect and feed the soil

Consider using techniques such as cover crops to cover the soil and contour barriers which prevent soil from being washed away. SLA encourages compost-making to improve soil fertility.

A few final comments

Warmikunam Cristianas Trabajaykan (WCT) works with indigenous groups in northern Peru. They have found home garden projects useful for empowering women and developing more effective local organisations. This work may lead to commercial production and the processing of garden produce to raise extra income. Such projects contribute to broader community development and solidarity.

PRODAD, in Nicaragua, encourages producers to share part of their garden produce with widows, child feeding centres and other people in need, demonstrating care and concern within the community.

In rural areas, landless people are often the most vulnerable to malnutrition. For home gardens to benefit such people, we will need to help them to have secure access to land.

Special thanks are due to Tearfund partners San Lucas Association and Warmikunam Cristianas Trabajaykan (Peru), CORCRIDE (Honduras), and PRODAD (Nicaragua), who provided information for this article.

Ian Horne is a nutritionist with an interest in rural development and currently works with Tearfund as Desk Officer for the Andean Region. He formerly worked on a home gardens project in Mexico.

Enjoyable training on nutrition and preparing balanced meals is vital.
HIV and breast-feeding

by Ann Ashworth

The HIV virus can be passed from an HIV-infected mother to her baby. This is called *mother-to-child transmission* (MTCT). It can occur during pregnancy, labour and delivery, and through breast-feeding. Antiretroviral drugs such as Nevirapine reduce the risk of MTCT.

### Risk through breast-feeding

The risk of passing the virus through breast-feeding depends on:

- **breast-feeding duration** The longer breast-feeding continues, the greater the risk of MTCT. The risk is thought to be about 5% in the first six months, 10% over the first 12 months, and 15–20% if the baby is breast-fed for 24 months.
- **pattern of breast-feeding** The risk is lower if the baby is fed only breast milk.
- **breast health** The risk is higher if nipples are cracked or bleed, or if the breast is sore or inflamed (mastitis, breast abscess).
- **timing of the mother’s HIV infection** The risk of MCTC is higher if the mother becomes infected during pregnancy or while breast-feeding.
- **mother’s immune status** The risk is greater if the mother’s immunity is low, for example, due to malnutrition or because she is in the advanced stages of HIV disease.

### Feeding options

Mothers with HIV have a difficult choice, especially if they live in poor conditions. Choosing not to breast-feed may prevent some infants becoming infected with HIV but can greatly increase the risk of death from other causes. UNICEF estimates that for every child dying from HIV through breast-feeding, many more die because they are not breast-fed.

It is important to discuss with HIV-positive mothers the feeding options available to them so they can make an informed choice. In most situations the options will be to breast-feed or to give replacement feeding (such as powdered milk). In some cities in Brazil, mothers with HIV may express their breast milk and have it made safe by heat treatment at a breast milk bank.

### Breast-feeding

Babies benefit from the immune factors in breast milk and its high nutritional value. They are less likely to die from diarrhoea and pneumonia but they risk getting the HIV virus. This risk is small if the mother:

- breast-feeds exclusively – this means the mother and others in the household must not give the baby water or other fluids or food
- maintains healthy breasts through good breast-feeding practices, such as breast-feeding on demand and having the baby correctly attached on the breast
- seeks help promptly for nipple or breast problems, and for thrush in the child’s mouth or on her nipples
- avoids becoming infected, or re-infected, with HIV while breast-feeding
- starts complementary feeding at six months (see pages 1–3 ) and stops breast-feeding as soon as is practical.
Replacement feeding
There is no risk of transmitting the virus but there is a risk of death by losing breast milk’s protective immunity and from unhygienic or incorrectly prepared feeds. This risk is high if a mother cannot afford sufficient milk, has an untreated water supply, poor sanitation, scarce fuel, no fridge, feeds by bottle or is poorly educated. In communities where breast-feeding is the usual practice, mothers who choose replacement feeding will ‘stand out’ and may be alienated. Mothers may find it difficult to give only replacement feeding. For example, they may want to breast-feed at night when it is inconvenient to prepare a feed. Mixing breast-feeding with other ways of feeding is more risky in transmitting the virus than exclusive breast-feeding.

Replacement feeding should only be chosen if it is acceptable, affordable, sustainable and safe. Mothers must be told the danger of mixing artificial and breast-feeding. Breast-feeding is the best choice for HIV-negative women and for women whose HIV status is unknown.

Encouraging sick children to eat

■ Make children clean and comfortable before feeding. For example, clean their mouth and nose.
■ Give small meals that are easy to eat and that children like.
■ Feed more frequently – perhaps every two hours.
■ Give plenty to drink, especially if a child has diarrhoea or fever.
■ Feed them on the lap of their favourite carer and gently encourage them to eat.

When children recover, they continue to need loving supervision to make sure they eat extra food and regain lost weight.

Encouraging young children to eat

The amount children eat depends on the food they are offered, their appetite and how their mothers or other carers feed them.

If parents complain that their child ‘refuses to eat’, spend time discussing what they can do.

First, identify why the child is not eating. For example, is the child sick or unhappy? Is the child jealous of a new baby and trying to get more attention? Is the child tired when fed? Is the food too spicy or difficult to eat? Does the child have enough time to eat? Is the child given sweets, sodas or other snacks so they are not hungry at mealtimes?

Then decide how to deal with the problem. Often this means spending more time at meals gently encouraging the child to eat.

Below are some suggestions on how to do this. It is very important to supervise feeding from the time children start complementary foods until they are two to three years old, or if a child is ill.


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Encouraging healthy children to eat

■ Make mealtimes happy times. Encourage children by talking to them, telling them how good the food is and how well they are eating.
■ Play games to persuade children to eat. For example, pretend to feed a doll or pet.
■ Do not hurry children. They may eat a bit, play a bit, and then eat again. Offer a few more spoonfuls at the end of a meal.
■ Feed with the rest of the family but give children their own plates so they get their share of the food.
■ Cut food into pieces that children can hold, and provide spoons for soft foods. Young children like to feed themselves but are messy eaters. Carers must make sure the food eventually reaches the mouth.
■ Give a variety of good foods that children like. Avoid salty or spicy foods.
■ Mix foods together if a child picks out their favourite foods.
■ Make sure children are not thirsty. Thirsty children eat less. But do not fill up their stomachs with too much drink before or during the meal.
■ Feed children when they are hungry. Do not wait until children are too tired to eat.
■ Never force-feed. This increases stress and decreases appetite. If children refuse food, take it away and offer it later. A child may really dislike a particular food. Provided they are eating a variety of other foods do not force them to eat.
■ Give special love and attention if children are unhappy.
Books
- Nutritious Food for Young Children
  A well-illustrated and simply written booklet full of ideas and information on feeding young children. The book has 42 pages and costs US $4. It is available from:
  World Neighbours
  4127 Northwest 122nd Street
  Oklahoma City, OK 73120-8869
  USA

- Complementary Feeding
  Family foods for breastfed children
  A comprehensive guide to family foods for breastfed children. This booklet is full of information on the use of complementary foods, the nutritional value of a variety of foods and gives detailed guidance on all aspects of complementary feeding. The opening article of this issue of Footsteps was based on material from this book. The booklet has 52 pages and is produced by WHO. It costs US $10 (€10) and can be ordered from:
  WHO Marketing and Dissemination
  Avenue Appia, CH-1211 Geneva 27
  Switzerland
  E-mail: bookorders@who.int

Newsletters

Training materials

Advocacy Toolkit

This is the first publication in Tearfund’s new ROOTS series, aimed at supporting partners and other organisations working in development. The Advocacy Toolkit is for anyone interested in advocacy work. It is available as a set of two booklets, to be worked through by groups in a workshop setting, or during short sessions over a longer period. The first booklet, Understanding advocacy, explores what advocacy is and why it is important. It includes group exercises and case studies from Tearfund partners. It also looks in depth at the Christian approach to advocacy. The second booklet, Practical action in advocacy, explores how to develop an advocacy strategy. It is well illustrated with plenty of practical ideas.

The Advocacy Toolkit costs £10 (US/€15) for organisations able to pay. Please make cheques payable to Tearfund. One copy is available free of charge to Footsteps readers unable to pay who could make good use of it. Please write with details to:
Resources Development, PO Box 200, Bridgnorth, Shropshire, WV15 4WQ, UK
E-mail: roots@tearfund.org

Advocacy Toolkit

Improving Nutrition Through Home Gardening
This book is designed for community development and extension workers in Africa. It contains information sheets and illustrations which can be used in training sessions with people who want to start a personal or communal garden. The book also outlines how to improve the quality of food production in home gardens. It shows how, when and where to grow nutritious plants and gives recipes for useful dishes for weaning and young children. The book has 282 pages, costs US $22 (€24.55) and is available from:
FAO Sales and Marketing Group
Viale delle Terme di Caracalla
00100 Rome
Italy
E-mail: publications-sales@fao.org

How to Diagnose and Treat Leprosy
This well illustrated learning guide is aimed at health professionals who need to recognise, care for and provide treatment for people with leprosy. It is available in English and will shortly be available in French. It is available free of charge.
ILEP also have a catalogue with details of other useful resources about leprosy.
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**Footsteps in Hindi and Bengali**  
*Footsteps* is now available in Bengali and Hindi. If you would like to receive copies in Bengali, please contact:  
**HEED**  
PO Box 5052  
Newmarket  
Dhaka 1205  
Bangladesh

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**PILLARS**

PILLARS (Partnership In Local Language Resources) is a new way of sharing information through discussion within small groups that has been developed by Tearfund.  

PILLARS guides are designed for use within community groups, broken down into 20 or so topics and with illustrations for non-literate members. These guides are easy to use and a trained leader is not required. Each guide contains Bible studies, again designed for use in small groups. Five guides are now available in English, with translations of some available in French, Spanish and Portuguese.  

PILLARS guides can also be used for translation into local languages, either by organisations or during a series of three workshops with about 20 participants who initially work on translating and adapting their chosen guides and then begin writing and printing their own materials. There is a workbook to guide people through the workshop process and a CD-ROM with design layout etc to make the design and printing process as easy as possible. The PILLARS process has been used in Uganda in the Lusoga language, southern Sudan with the Zande language, Nigeria with the Yoruba language, Burkina Faso in the Mooré language and in Myanmar using Burmese.

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The guides are on the subjects of:  
- **Building the capacity of local groups** (English, French, Spanish, Portuguese)  
- **Improving food security** (English, French)  
- **Credit and loans for small businesses** (English, French, Spanish, Portuguese)  
- **Agroforestry** (English, French)  
- **Preparing for disaster** (English) NEW!

Every guide costs £3.50 (US $5 or €5) or the set of five is £15 (US $20 or €20) including surface postage and packing.  

The workbook and the CD-ROM are £5 (US $8 or €8) each. The workbook is available in English, French, Spanish and Portuguese.

**A complete package** – which is all that is needed to run the workshop series with five copies of each of two guides, plus workbook and CD-ROM costs £35 (US $50 or €50). Please specify which guides are required. Participants use the guides for translation and adaption, working in small groups during the workshop.

Payment is by credit card or cheque in either sterling, euros or dollars made out to Tearfund. For further details or to place an order, please contact:  
Tearfund Resource Development, PO Box 200, Bridgnorth, Shropshire, WV16 4WQ, UK.  
E-mail: pillars@tearfund.org

A number of groups around the world have been piloting the PILLARS process. They have produced guides in various local languages which are available for others to buy. Here are details of the languages and relevant addresses if you would like to contact these groups and ask for details:

**Lusoga**  
Patrick Kaluba, Cultural Research Centre, PO Box 673, Jinja, Uganda

**Zande**  
PILLARS Committee, c/o ECS Yambio Diocese, PO Box 7576, Kampala, Uganda

**Burmese**  
CSSDD – PILLARS, MBC, P O Box 506, Yangon, Myanmar

**Yoruba**  
Francis Ademola, CRUDAN, P O Box 1784, Ibadan, Oyo State, Nigeria

**Mooré**  
Contact Editions, 04BP 8462, Ouagadougou, Burkina Faso  
E-mail: contact.evang@cematrin.bf

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**RESOURCES**

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**Hard at work on the Burmese translation in Myanmar.**
There are several important types of question:

- **closed questions** which allow someone to say only yes or no
- **leading questions** which tend to make the person replying answer in a certain way – usually yes or no – and which may limit the information received
- **ambiguous questions** which are vague and confusing so the person can’t really understand what is being asked
- **open-ended questions** which allow the person replying to give more information
- **probing questions** which seek to discover more about what lies behind the initial replies.

There is no one correct way of asking questions. It depends on the purpose of the interview. However, open, probing questions are usually needed to discover useful information. These often begin with one of the six ‘helpers’: What? When? Where? Who? Why? How?

**An interviewing exercise**

Divide people into groups of three and ask them to choose one to act as interviewer, one as informant and the other as an observer. Suggest some topics on which to ask questions. Here are some suggestions:

- healthcare for older people in the area
- different uses for trees
- good practice in storing household water supplies
- where to obtain information on family spacing methods
- employment opportunities in the area
- child vaccination.

Allow each group ten minutes to try to discover as much as possible about their topic. Explain that good questioning is like peeling away the layers of an onion until the central core or reason is reached. Before starting, ask the group to suggest a few good probing questions. If they lack ideas, suggest a few such as ‘But why?’ ‘Please tell me more about that?’ or ‘Anything else?’

Allow each group to feed back their findings. Were leading questions used? What observations did each participant make? If two groups have taken the same topic, let one feed back after the other and compare their findings.

How easy did they find the interviewing? How well did they keep the interview going? What mistakes did people make?

**Common mistakes**

- not listening carefully (but preparing the next question)
- asking too many closed or leading questions
- helping the informant (often by answering your own questions)
- asking vague or ambiguous questions
- failing to explore people’s answers
- being unaware you have already made your own conclusions
- keeping the informant too long.

Participants may like to repeat the group exercise with a different topic to see if their interviewing skills have improved.

*Adapted from ‘Improving listening and observation skills’ in A Trainer’s Guide for Participatory Learning and Action, 1995, by International Institute for Environment and Development (IIED). E-mail: info@iied.org Website: www.iied.org*