Articles in this issue of AIDS Action highlight two areas of interest for people living with HIV or AIDS and those involved in caring for them - nutrition and anti-HIV treatments.

The article on pages 2 and 3 summarises new developments in treatments for tackling HIV. The author emphasises that, although researchers are making some progress, fully effective and affordable drugs against HIV have not been developed yet. Prevention and treatment for common opportunistic illnesses are still the most important strategies against HIV, especially now that TB causes more deaths in HIV-positive people than any other infection.

Good nutrition also plays a major role in maintaining health (see pages 4 and 5). It is often possible to make low-cost meals that are more nutritious, tastier and easier to eat for people who are unwell.

On page 8, a reader in Tanzania explains how she successfully introduced the group exercise ‘Understanding HIV’ which was described in issue 27. This issue features another educational game which is popular in Chile, and which could be adapted for use in other languages and situations.

Future topics include TB and HIV; practical strategies for promoting people’s rights; blood safety and infection control; ideas for integrating HIV into community development and education; planning, monitoring and evaluation techniques; traditional medicine; working with young people and children; and counselling. Please send articles describing successful activities and approaches to AHRTAG in the UK.
There are three types of treatment for people with HIV. These aim to:
- prevent the virus from reproducing
- strengthen or ‘boost’ the immune system
- cure opportunistic infections.

**Anti-HIV treatments**

One type of anti-viral drug aims to prevent or slow down viral reproduction in human cells (see box below). The drugs have a similar chemical structure to human DNA. This means that the virus bonds with the drug rather than the DNA, and so cannot use the DNA to reproduce itself.

The most widely used anti-viral drug is still AZT, or zidovudine. AZT has been in use since 1985 and is manufactured by Wellcome, under the brand name of Retrovir. Its benefits are limited when taken alone. The 1993 Concorde trial showed that AZT does not benefit people who are still healthy.

A number of other anti-viral drugs have been licensed in different countries for use alone (monotherapy) or in combination with AZT (combination therapy). They include ddi (didanosine), ddC (zalcitabine) and d4T (stavudine).

In September 1995 an international drug trial called Delta proved that a combination of anti-viral drugs is much better at delaying the development of HIV-related infections and death than AZT alone. The two-year trial compared the health status of people with HIV taking ‘combination therapy’ (AZT plus ddi or AZT plus ddC) with another group taking AZT alone. Ten per cent of participants were women.

Results show that, compared with taking AZT alone, the likelihood of dying for people taking combination therapy was reduced by almost 40 per cent. The benefits were greatest for participants who had never taken an anti-viral treatment before. However, disease progression was not affected for those starting combination therapy after taking AZT alone for several months.

**Pregnancy and AZT**

Two recent studies show that AZT treatment for HIV-positive pregnant women before and during delivery, and for their newborns, can reduce HIV transmission to the baby. A study in the USA called ACTG 076 showed that the chance of mother-to-baby HIV transmission was reduced by two-thirds when AZT was given during the last 20 weeks of pregnancy, intravenously during childbirth and to the newborn child.

However, there are many unanswered questions. The studies, in Europe and North America, involved only a small number of infants. The results may not apply to all HIV-positive women. AZT is toxic, and its long term effects on women and newborn infants are not known. Only one-third of infants born to women with HIV are HIV-infected themselves, therefore many uninfected babies could be exposed needlessly to AZT.

Although some pregnant women with HIV in Europe and North America are taking it, more follow-up is necessary. Following the Delta trial it seems likely that women who choose to take anti-viral treatment during pregnancy will be recommended combination therapy rather than AZT on its own.

**Problems**

There are several disadvantages to anti-viral drugs. It is now clear, for example, that the virus quickly becomes resistant to AZT. All these drugs are toxic and cause side effects such as nausea, anaemia and muscle wasting, and sometimes other serious illnesses. These side effects are more severe at higher doses and more likely to appear in people with advanced HIV infection. For people without symptoms there are fewer side effects but the long-term impact on their health has not been studied.

People taking anti-viral drugs need access to regular and expensive monitoring tests which require laboratory facilities and trained staff. For example, blood tests are needed to detect anaemia, as well as high enzyme levels in the blood which can lead to serious illnesses such as pancreatitis. Taking the drugs without medical supervision can do more harm than good.

Other types of anti-viral drugs are still in very early stages of development. Studies are taking place to investigate drugs called ‘protease inhibitors’ such as saquinavir. Protease inhibitors aim to deactivate the special HIV enzyme.
which enables attachment to the white blood cells. Scientists hope that they will be less toxic than drugs such as AZT and ddl. Trials are in preliminary phases and there is no evidence at present to suggest that they prolong life or delay the development of HIV-related illnesses.

**Immune system boosting**  
Another area of research focuses on strengthening or ‘boosting’ the immune systems of people with HIV. It is hoped that strengthening certain components of the immune system could protect HIV-positive individuals from developing illnesses. For example, treatments to increase the number of white blood cells could help the body to fight HIV for longer.

There is debate among scientists about the value of these treatments. Increasing the number of white blood cells could also increase the number of these cells that are infected with HIV. The only large trial, carried out with ‘imuthiol’ or DTC, found no clear evidence of benefit and even a possibility that it hastened development of HIV-related illnesses. Another drug called ‘interleuken 2’, already used for kidney cancer, is about to be tested for its effect on the number of CD4 cells. Experimental trials with drugs used for other illnesses are also under way.

The immune system may also be suppressed when someone is poorly nourished or under stress. Many people living with AIDS can feel healthier and stronger if they are able to change their lifestyle and diet and reduce stress. Alternative approaches to strengthening the immune system involve using Chinese medicine and acupuncture, herbal medicines and forms of relaxation. Some herbal medicines are being studied although no scientific research has yet been completed. Traditional and herbal remedies will be looked at in future issues of *AIDS Action*.

**Affordable and effective?**  
The results of recent studies are encouraging. However, therapies are extremely costly and many have side effects. Even people in North America and Europe, who have access to these treatments, are deciding not to take them. Unless effective and low cost therapies can be developed, the prevention and treatment of opportunistic infections such as TB and diarrhoea continue to be the best strategies for most people with HIV. Appropriate care and ‘positive living’ can reduce stress and improve quality of life.

Keith Alcorn, National AIDS Manual, 52 Eurolink Centre, 49 Effra Road, London SW2 1BZ, UK.

See p8 for NAM publications.

**Developing new drugs**  
New treatments need to be tested for safety and effectiveness in several stages, before they can be licensed for commercial manufacture. The research process can take many years and involves:
- laboratory studies to assess the impact of the drug on the virus itself
- research on animals to study effects on health and the immune system
- small scale studies/trials with volunteers to test for side effects and impact on health and immune system
- large scale studies with many people for at least a year to prove safety and effectiveness.

Reports in the media about the discovery of a cure often raise false hopes because all the trial stages have not been completed. There is much debate about whether drugs should be made available before the final stage is completed, because the need for treatments is so great. Some drug companies have run lotteries to select trial participants, because so many people volunteer to take part.
Eat healthily, stay healthy

Good nutrition is essential for health. AIDS Action looks at nutritional needs for people with HIV.

It is extremely important for a person living with HIV to eat a nutritious diet. A well-nourished person is less vulnerable to illness whether or not they have HIV infection. Both HIV and poor nutrition can damage the immune system.

It is important to have reserves of energy to combat infections such as TB which use up the body’s energy, or diarrhoea and vomiting which result in loss of nutrients. Both emotional stress and opportunistic infections can reduce a person’s appetite. Infections in the mouth and throat, such as thrush or open sores, can make eating difficult and painful.

Some studies have shown that HIV itself can cause severe weight loss. This can take the form of muscle wasting where muscle and other protein stores are used up, in addition to fat reserves. Healthy people with HIV infection are recommended to eat as much as possible of a balanced diet. Some people like to take special vitamin and ‘energy-rich’ supplements. However, these are costly and are not necessary.

It is especially important for people with HIV to have enough proteins and micronutrients such as vitamin A and iron. Vitamin A plays a key role in keeping the immune system healthy. Studies show that children who lack vitamin A have more frequent diarrhoea and respiratory infections.

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Nutritious and easy to eat
Some foods can be made more nutritious and easy to digest. Porridge can be made more energy-rich by adding nuts or oil, by replacing some of the water with fresh milk or coconut milk, or by adding mashed fish, dark green or orange fruits and vegetables or fruit juice.

Traditional weaning foods can be adapted for people who are sick or having difficulty in eating. Porridge can be made thinner, easier to swallow and more nutritious by ‘fermenting’ or ‘malting’.

Fermentation turns some of the starch in the flour into acidic products. This sours the porridge, making it thinner with a higher concentration of nutrients, and also increases the absorption of some nutrients such as iron and zinc. Bacteria which cause diarrhoea are less likely to grow in soured than in ordinary porridge. One way to make soured porridge is to mix flour with water so the mixture is liquid, leave it to ferment overnight, and then cook as normal. The flour and water mixture becomes more sour the longer it is left. Cooked porridge can also be soured by adding a spoonful of previously fermented porridge.

Malting means allowing cereal grains to germinate (start sprouting) by soaking them in water for two days, spreading them out on sacks and covering them with a damp cloth. They are then left in the dark and kept damp for two to four days. After malting, the grains should be washed and dried before they are roasted, fermented, or pounded into flour. It is important not to use grains which have developed mould because this can become toxic.

What is a balanced diet?
Nutrients are the part of food that the body uses to produce energy for growth and movement, to build and repair tissue and to protect itself from infections. It is possible to obtain all the nutrients that the body needs in everyday, inexpensive food. Every meal should ideally contain food from each of these groups:

- **energy-giving foods**, such as rice, maize or millet porridge, bread, cassava, plantain or yam. These provide the main part of the meal and most of the energy. Sugar, animal fats, vegetable oils and nuts are a concentrated form of energy.

- **body-building foods**, such as meat, chicken, fish, eggs, dairy produce, beans or nuts. These contain protein and micronutrients such as iron, zinc and calcium and some vitamins.

- **vitamin-rich foods**, such as vegetables, especially dark green and orange vegetables and fruits.
During illness
It is important for the person to continue to eat as much as possible. The food should be easy to eat and easily absorbed.

Mouth sores: the person may prefer to eat food that does not need to be chewed, for example milk, porridge, soup, or mashed fruit or vegetables. It is important not to make the food too watery because this reduces the amount of nutrients. Cool food can be more soothing than hot food. Avoid using spicy and peppery foods.

Poor appetite: it is best for the person to eat small amounts more often than usual. Use a variety of foods that the person likes. If they feel nauseous avoid strong smelling foods and cooking smells that linger.

Diarrhoea: this damages the gut so fewer nutrients are absorbed. Damaged intestines need easily digestible foods such as porridge or soups. In some cases fatty or oily foods can worsen diarrhoea because the gut cannot absorb them. Milk can also cause poor absorption in a few people. Damaged intestines are sometimes intolerant to lactose, the sugar found in milk. If the diarrhoea persists the person can consider excluding milk from their diet to see whether the diarrhoea lessens. Other nutritious foods should be taken instead. Antibiotics can also worsen diarrhoea.

During illness, especially diarrhoea and vomiting, make sure the person drinks extra fluids to prevent dehydration, such as thin porridge, coconut water, fruit juices, thin vegetable soups or yoghurt-based drinks. Oral rehydration salts solution can be taken if available.

Quick recovery
When an acute infection passes it is important for the sick person to have extra food in order to repair the gut, rebuild muscles and replace the body’s store of nutrients that has been used up during the illness. This extra food is needed until the body has regained weight. The person should try to eat one extra meal each day, and it is good to have extra food at each meal.

Staying well
When the person is feeling stronger, they should try to continue eating well, including foods that have not been eaten during illness.

For women and children
All pregnant women need extra nutrients, especially if they are anaemic (iron deficiency). It is important for all pregnant women to have enough vitamin A through eating dark green leaves or orange fruits and vegetables, and, if available, liver or egg yolk. A study in Malawi has indicated that babies born to HIV-positive women with vitamin A deficiency are three or four times more likely to have HIV than those born to HIV-positive women with normal levels of vitamin A. It is thought that this is because vitamin A is important for the immune protection provided by the mother and prevents HIV from passing across the placenta from mother to child. This finding is being investigated further.

Breastmilk is the best form of nutrition for every infant, especially during diarrhoea. If the mother has decided not to breastfeed, for example due to severe HIV-related illnesses, ensure that the child is fed adequately using a cup and spoon (see AIDS Action 27). After an attack of illness give older children an extra meal until they are at least the same weight as before the illness.

Community coping
It is often difficult for people living with HIV and their carers to eat well. Illness in a family is often linked with poverty, because, for example, adults may be too sick to cultivate land or to earn income.

Food aid
Some NGOs provide food aid to families. However, many people in poor communities are badly nourished or sick, not just those with HIV. Providing food only to people known to have HIV draws attention to them when they may prefer to keep their HIV status confidential. Some NGOs have chosen to provide food through schools and mother and child health or TB clinics. One NGO in Tanzania provides food to families where the household has an orphan or is headed by a child, elderly person or woman with no land. Decisions about who receives food are made by local committees.

Maintaining food production
It is important to work with local people and agricultural programmes to avoid food shortages caused by a decline in farming. Providing technical support, such as training on crop diversification and livestock management, transport, storage and marketing, or providing credit can lessen food shortages and increase income. Some organisations work with legal associations to ensure land inheritance for widows and children who would otherwise lose their land on the death of a partner or parent.

Home care
Home care and counselling advice should include information about nutrition. Some organisations are running courses for people with HIV and their carers about improving nutrition with locally available products.

‘Malnutrition and chronic diarrhoea - nutrition guidelines’ (draft), 1995, City Health Department, Mutare, Zimbabwe.
When we started talking about AIDS we realised that we did not have any teaching materials to share knowledge with people in a participative way. So in 1989 we developed a board game called Learning about AIDS: everyone’s task. The game is based on local people’s experiences and aims to:

- provide basic information on HIV/AIDS
- encourage discussion about ideas, beliefs and myths about AIDS
- give opportunities for open exchange of opinions and views about sexuality and AIDS
- promote awareness of how AIDS affects the community and the need for HIV prevention.

Everyone is affected by AIDS and has a role to play in fighting the epidemic. Every community is able to respond in a supportive, caring and effective way. But people need opportunities to discuss the issues and think about their attitudes and feelings.

The game uses two sets of cards: 72 ‘Everyone’s task’ cards with questions on HIV transmission and prevention; and 35 ‘Community’ cards describing possible situations in the community where problems and issues about HIV and AIDS could arise (see examples). The issues are discussed in a booklet which accompanies the game. It is essential to have a skilled facilitator who is aware of the issues that arise when talking about HIV and sexual health.

People play the game in pairs using a dice. Each player in turn moves their counter forward the number of squares on the board shown on the dice. If the counter lands on a square marked with a number the person picks up a card and answers it. When a counter lands on a ‘Community’ card square the group discuss the issue. These cards do not have ‘right’ or ‘wrong’ answers.

The game was designed with a group of people involved in education or living with AIDS and is based on real life experiences. Each group who uses the game can change it for local use. For example, a group of students at the local university played the game during a special event. They made a large-scale version on a football pitch, built life-size models of the community buildings and made a giant dice. Groups in other countries could develop a new set of issues and questions for the players to consider.

The game can be a useful part of an HIV prevention strategy which includes three key elements: relevant information and education; access to services; changing social attitudes to enable every individual to develop their own sexuality healthily and safely. The game both provides information and challenges the players to think about all the issues in their community.

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Sample ‘Everyone’s task’ cards:

- What is AIDS?
- What is an ‘immune system’?
- Are HIV symptoms the same in men and women?
- Name three ways in which someone can become infected with HIV.
- Name various ways of reducing the risk of HIV transmission.
- Does everyone with AIDS die because of this illness?
- Should someone with HIV continue in his or her job?
- True or false: married people do not get HIV.
- Can using drugs or alcohol contribute to risk of HIV transmission?
- Do birth control methods prevent HIV transmission?
‘Understanding HIV’: shall we try it?

After studying the training exercise ‘Understanding HIV’ explained in issue every day. It is a good learning 27 of AIDS Action we decided to exercise and helps us move from introduce it into our AIDS education theory to experience if used during an workshops. Each time we carry out education workshop. We are ready the exercise it has a deep impact on for more innovative techniques to the group. Once the group has really keep AIDS education alive!

Dr Brigid Corrigan, Pastoral Activities and Services for AIDS, Dar es Salaam, Tanzania.

Ed note: We like to hear from readers about their views on the articles and activities in AIDS Action. Please write and tell us what you would like to read about and how you use AIDS Action in your work.