

## THE IMPORTANCE OF NUTRITION FOR PEOPLE LIVING WITH HIV/AIDS

The effects of **HIV (Human Immunodeficiency Virus)** on the nutrition of a person infected with the virus are numerous. These effects follow a number of pathways, depending on the stage of the HIV infection. Health and nutrition depends on the stage and the severity of the infection. It is known that good nutrition can contribute to the wellness and sense of well-being of the person with HIV/AIDS at all stages of the disease and may even prolong life. Nutritional advice and support of people living with HIV/AIDS is therefore an important part of their care.

### Nutrition through the stages of HIV infection

***Good nutrition means different things at the various stages of HIV infection. Nutritional needs will vary according to the development of the disease. What is needed in each stage?***

#### **Stage 1: HIV infected and still healthy**

Even though one may already be infected with HIV, there may be no symptoms of the disease, except perhaps a feeling of tiredness. The goal during this stage is to keep the body weight stable in order to strengthen the body's ability to fight infections with the immune system and to prevent progression of the HIV illness. During the early stage of the infection the emphasis is on a normal and healthy balanced eating pattern. Remember that no single food contains all the nutrients and goodness that the body needs. By concentrating on eating a wide variety of healthy foods, health can be maintained during this early stage. Many people with the virus can live for 10 years or more if they maintain good nutrition.

#### **Stage 2: Some problems but generally well**

When the HIV infection begins to cause health problems, it is necessary that the person with

HIV/AIDS learn how to cope. The health problems may include sore mouth and throat and diarrhoea, caused by infections that take advantage of the weakened immune system. These infections put extra demands on the immune system and increase the body's need for energy and other nutrients. On the other hand poor eating habits will reduce the body's ability to fight infection and will result in more infections.

Illness will cause loss of appetite and medication may cause nausea, both of which lead to poorer food intake and contribute to weight loss. Furthermore, eating may sometimes be uncomfortable or painful with infections of the mouth. With time some people will learn to avoid certain foods that cause problems or to adjust the amounts that they eat in order to feel better. Later in these guidelines there is more information on the common problems that HIV positive people experience and advice is supplied for dealing with these. It is also important to maintain one's current weight to delay the worsening of the disease. The section on Coping with the Problems of HIV/AIDS gives some practical advice for dealing with the difficulties experienced during this stage and also later on.

#### **Stage 3: More serious problems**

As the disease develops, more serious health problems will appear. At this stage of the HIV infection the ability to fight off other infections is completely weakened and very serious infections can occur. This stage is called "**full-blown**" AIDS and the body gradually becomes weaker, making the person less able to cope alone. Physical help may be needed with daily tasks, including shopping, and in severe cases also food preparation and perhaps even eating. Weight loss or wasting becomes a serious problem and diarrhoea occurs more often and lasts longer. With good nutrition the development of this stage is slower and the person can survive for longer. If a person with HIV/AIDS has a good appetite and is eating well, but is still feeling ill and losing weight rapidly during this stage, it might be a sign that there is another infection, such as tuberculosis. Advice should be sought from health workers if this is the case.

## The relationship between HIV/ AIDS and Nutrition

The **relationship between HIV/AIDS and poor nutrition is cyclical**. This means that in the development of the disease, one problem worsens the other and so on. Unless the cycle is broken, poor nutrition will result. Poor nutrition due to poor food intake, increased nutrient usage in the body and loss of nutrients from the body, weakens the immune system, which in turn decreases the ability of the body to fight other infections. The weakened immune system results in repeated infections, which in their turn lead to poor nutrition and so the cycle continues. Although the causes of poor nutrition are complex, they can be divided as follows:

### HIV/AIDS increases nutritional needs:

The virus itself has an effect on the nutrition of the person living with HIV/AIDS. The body reacts to the virus with an immune response that uses more energy and nutrients (*see the section on Supporting the Immune System*). When the immune system is weakened by HIV/AIDS, other infections start to occur and every new infection raises the need for nutrients and energy.

Worry about the disease leads to high anxiety levels, which further weakens the immune system. Certain nutrients are necessary to boost the immune system and the need for these is higher during periods of stress. (*see the section on Supporting the Immune System for details.*)

### HIV/AIDS lowers food intake:

- Infections and illness lead to **poor appetite**.
- Mouth and throat infections cause **difficulties with eating**.
- Some medicines cause a **poor sense of taste** as a side effect.
- Both the expense of treatment and the inability to work affect income that leaves **less money available for food**.
- **Depression**, fear and anxiety contribute to the loss of appetite.
- **Isolation** may result from social prejudice

against people with HIV/AIDS. Because food

and eating is a social event, loneliness will affect the way a person eats.

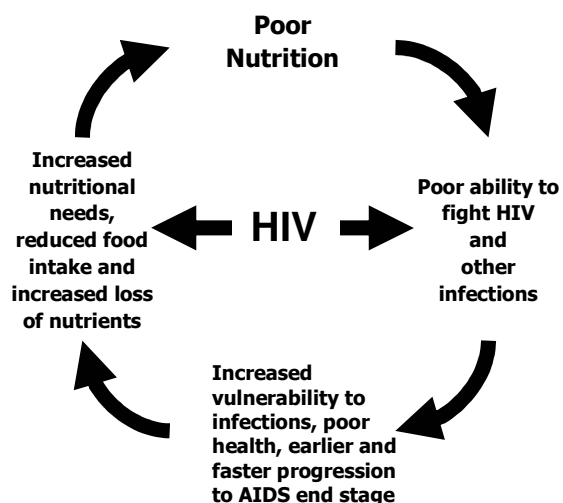
- In the late stage of the disease, people with HIV/AIDS may find it **difficult to take care of themselves**.

### HIV/AIDS causes physical problems:

- The **lining of the gut deteriorates** due to HIV and other infections, affecting the ability of the gut to digest and absorb food.
- This inability of the gut to take up the nutrients from the foods that are eaten is called **mal-absorption**.
- The result of mal-absorption is **diarrhoea**. During diarrhoea, water and nutrients are lost from the body.

A combination of the factors listed above, cause poor nutrition and weight loss in people with HIV/AIDS. Poor nutrition itself leads to poor absorption and a weakening of the immune system, which gives the virus a chance to multiply, and so the cycle goes on. Poor nutrition also leads to a decreased ability of the body to cope with the medicines a person with HIV/AIDS has to take.

## The Cycle of HIV/AIDS and Nutrition



## Causes of poor nutrition in people living with HIV/AIDS

*There are many causes for poor nutrition and weight loss in HIV/AIDS. They include the following:*

- The virus causes increased needs for energy and protein
- Repeated infections and fever
- Loss of appetite
- Reduced food intake due to eating problems
- Poor absorption of nutrients from foods
- Nutrient losses in urine and stools
- Medication
- Depression and anxiety
- Reduced ability to care for oneself
- Tiredness, even in the early stages
- Access to and availability of food

## How to break the cycle of HIV/AIDS and poor nutrition

*Effective and inexpensive ways to deal with the cycle of infection and poor nutrition do exist and they include:*

- Awareness of HIV status
- Good nutrition
- Good hygiene and food safety
- Learning to cope with problems of HIV/AIDS
- Early detection and treatment of all infections
- Increased food intake after illness
- Learning to cope with stress
- Increased activity and exercise
- Getting enough rest and sleep
- Management of household resources (*including money, family time and food distribution*)

## What is Good Nutrition for people with HIV/AIDS?

Good nutrition means eating foods that supply the body with all the nutrients that are needed daily. Not only is enough energy needed mainly from starchy foods, fats and oils, but also proteins, vitamins, minerals and water. The right balance of these nutrients promotes health and well-being.

## The benefits of good nutrition

*Good nutrition for people with HIV/AIDS will help to:*

- Keep weight stable
- Prevent loss of muscle
- Replace lost nutrients
- Deal with some of the nutrition problems of HIV/AIDS
- Improve wound healing
- Recover from infections
- Deal better with medication and treatment
- Increase strength
- Improve feeling of well-being

## Food Choices for People Living with HIV/AIDS

### Start Early

Good nutrition is important for everyone. It is best to start taking better care of oneself as soon as one becomes aware that one is infected with HIV. The sooner a start is made, the more successful one will be at staying healthy. Once people with HIV/AIDS begin to fall behind in terms of nutrition, it might be difficult to catch up later when they are feeling less healthy or when they have other infections. In terms of poor nutrition, prevention is better than cure.

### Choose your Own Food

There is more than one way to eat for health. Each of us is different in how we eat and what we like to eat. The next section will help people with HIV/AIDS to make some healthy food choices. Each person will decide what and when to eat. Only they know what food they usually have in the house and what they can buy. Choices from foods that are easily available and affordable are encouraged.

### Eat a Variety of Foods

Remember that no single food is either good or bad. It is the combination of different foods eaten over a long time that leads to better health. Different types of food supply different combinations of the nutrients our bodies need. It is

important that food choices are made from a wide selection of different foods. This way one is more likely to enjoy one's food and have a healthy eating pattern. Some of the foods that you need to include in your diet are discussed below.

### **Make Starchy Foods the Basis of Each Meal**

Starchy foods should make up the biggest part of the food intake of people with HIV/AIDS. These foods are relatively cheap and supply lots of energy, which will help to keep the body weight stable. Foods such as from bread, pap, porridge, cereals, rice, potatoes, sweet potatoes, samp, millet, mealies, sorghum and pasta should form the biggest part of each meal. Other foods should be eaten together with the starchy foods to make up a healthy eating pattern. The picture on page 9 shows how foods chosen from a variety should be added to the starchy foods to make up a healthy eating pattern.

### **Eat Lots of Fruits and Vegetables**

Fruits and vegetables are an important part of a healthy food intake. They supply the vitamins and other substances that keep the immune system strong. These foods are especially important for people living with HIV/AIDS to help in the fight against infections. A wide variety of different fruits and vegetables should be eaten every day. Include fruits and vegetables of a yellow, orange, red or dark green colour. Examples include spinach, morogo, pumpkin leaves, green peppers, sweet potato, squash, pumpkin, carrots, yellow peaches, apricots, paw-paws and mangoes. These contain vitamin A, which keeps the linings of the gut and the lungs healthy and so prevents germs from entering the body. Citrus fruits like oranges, naartjies, grapefruit and lemons, and also guavas, mangoes, tomatoes, maroelas and potatoes supply vitamin C, which helps to fight infections. Besides Vitamin A and C, fruit and vegetables supply many other vitamins and other substances, which support the immune system and form part of a healthy eating pattern.

### **Meat and Dairy Foods May Be Eaten Daily**

For people living with HIV/AIDS it is very important to maintain healthy and strong muscles. Foods

from animal sources provide the body with proteins to build strong muscles and they also help to keep the immune system healthy. All forms of meat (*beef, mutton, pork and chicken*) and fish may be eaten daily. Organ meats from animals (*liver, kidney, heart and brains*), trotters, chicken feet and tripe or afval may be included. Eggs, milk and other dairy products may also be chosen. Dairy products include maas, sour milk, yoghurt, buttermilk, milk powder and cheese. If mopani worms and other insects are part of the usual eating pattern, they may be included as well.

### **Eat Dried Beans, Peas, Lentils, Peanuts or Soya regularly**

This group of foods from plant sources also supplies proteins needed to strengthen the immune system and the muscles. More cooked dried beans, peas, lentils, peanuts, peanut butter and soya beans should be included as part of a healthy eating pattern for people with HIV/AIDS. For vegetarians who are HIV positive, these foods and tofu should form an even more important part a healthy eating pattern. For people who are not vegetarian these foods are a more economical protein source than foods from animals.

### **Include Sugars, Fats and Oils**

Sugars, fats and oils are also part of a healthy, balanced eating pattern. They provide much needed energy for the person living with HIV/AIDS. After periods of weight loss these foods should be included in bigger amounts to help with weight gain. Table sugar may be added to food and any foods made with sugar may be included in the daily food intake. Vetkoek, cakes, pastries, biscuits, cookies, tarts, puddings and desserts may be included especially after infections or after periods of weight loss. Fats and oils include butter, lard, margarine, cooking oils, cream, mayonnaise and salad dressings. Add fats and oils to the food to increase energy intake. Note that in the late stage of HIV infection, eating a lot of fat can cause diarrhoea.

### **Use Salt Sparingly**

With diarrhoea and vomiting, salt is lost from the body. Some salt is necessary to replace such losses

(refer to the homemade recipe for water and salt replacement). Eating a lot of salt contributes to high blood pressure and it is advisable to use salt sparingly because many people in South Africa suffer from high blood pressure. Using salt sparingly helps to control the blood pressure and may help to reduce the need of medicines.

### **Be As Active As You Can**

In order to remain healthy it is very important for people with HIV/AIDS to maintain the muscles in their bodies. Weight loss in HIV/AIDS is often due to the loss of weight in the muscles. Keeping the muscles active and working is one way to help keep them strong. People with HIV/AIDS are encouraged to be as active as they can be taking into account how well they feel at the time. Doing work around the house as far as possible and regular walking help to increase activity. There is no need to join a gym if they do not already belong to one, simple daily activities all help to keep the muscles strong.

### **Drink Lots of Clean, Safe Water**

Diarrhoea and vomiting both cause loss of water from the body. Night sweats also cause losses of large amounts of water. Losses have to be replaced by drinking enough fluids everyday and more is needed if there is diarrhoea or vomiting. About 8 cups of liquid per day should be enough. People with HIV/AIDS do not have to drink only water, all liquids add water to the body. Cold drinks, milk, fruit juice and any other beverages should be taken throughout the day. Water from taps is usually safe, but if the water comes from a well, river or borehole it is safer to boil and cool it before use.

### **Do Not Take Alcoholic Drinks**

People living with HIV/AIDS should not drink any alcoholic drinks. Alcohol is harmful to the liver and causes the body to lose vitamins, which are important for the support of the immune system. Many people with HIV/AIDS have to take medicines and the combination of alcohol and medicine is very unhealthy for the liver. The influence of alcohol may make it more difficult to practice safe sex. Unsafe sex (*not using a condom*) can cause the virus to be passed on to the partner(s).

Alcoholic drinks include wine, beer (*including home-brewed beer and sorghum beer*), ciders, alcoholic coolers, whiskey, rum, gin, vodka, cane and other hard drinks.

## **A Mixed Meal Guide to Healthy Eating**

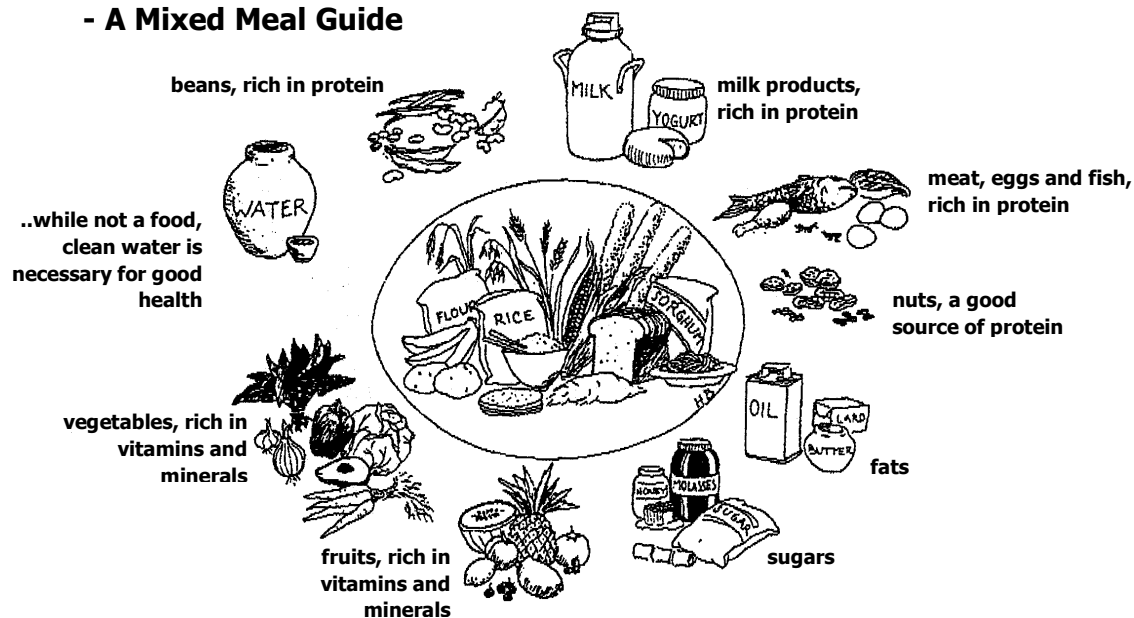
The sketch (*on next page*) shows how food choices can be made to make up a healthy eating pattern. Most of the food in a healthy meal should be from the area within the circle. These main foods are the starchy foods. It is important to add a variety of different other foods from those shown around the circle to every meal. Not all the other foods have to be included with every meal, but a wide variety from these foods should be included in the meals eaten everyday.

## **Weight Loss in HIV/AIDS**

HIV infection and diarrhoea over a long period of time result in weight loss or wasting. In fact, in parts of Africa the illness is called "*slim disease*". This weight loss is a major problem and causes poor health and earlier death. In Africa the wasting seen in HIV infection is not always the result of HIV/AIDS alone. Often TB infection is present as well. Weight loss is very rapid in people with combined HIV and TB infections.

Most people with HIV do not lose weight constantly. Weight loss usually occurs in episodes when the HIV positive person has an infection, for example pneumonia, tuberculosis and diarrhoea. These periods of weight loss can easily lead to the loss of 10 to 15kg. After recovering from the infection, the HIV positive person can regain some weight, although often not back to the original weight. Repeated episodes of infections will therefore cause gradual weight loss over time. It is important to eat well at all times, especially when recovering from infections.

## Mixed Foods and Helper Foods - A Mixed Meal Guide



During these periods of weight loss, the muscles in particular are depleted and become weak. Adequate food intake is important for weight maintenance and enough protein is needed to build muscle. Activity and exercise are also necessary to build strong muscles. *(To select protein-rich foods, see the Food Choices under the headings "Meat and dairy foods may be eaten daily" and "Eat dried beans, peas, lentils, peanuts and soya regularly").*

The wasting seen in HIV infection is a sign of the progress of the disease and severe wasting eventually leads to death. People with HIV/AIDS who are able to keep up a healthy body weight, will be healthier and survive longer.

### Body weight of people with HIV/AIDS

- A comfortable weight should be maintained. If there is rapid weight loss, it could be the result of other infections and the health workers should be consulted
- This is no time to start dieting. If much weight is lost, it can be hard to put it back on.
- Regular weighing is encouraged if it is possible.

### The Effect of Medication

There are a number of medicines that could help to fight HIV and treat the problems and infections resulting from a weakened immune system. New medicines are continuously being researched. People with HIV/AIDS sometimes have to take medicines for conditions that are not related to this virus. Medicines may often be necessary over a long period.

The foods that are eaten can affect the way the medicines work. Medicines also affect how the body uses the food and nutrients. When there is poor nutrition, the body cannot deal with the medicines effectively. Sometimes the medicines will have unwanted side effects that could affect nutrition. These include nausea, vomiting and diarrhoea. People who take many different types of medicines have a higher risk of developing side effects. In general medicines tend to make one feel weak and tired. Some medicines may cause weight gain and cholesterol problems. It is important to see a health worker when this happens, because tiredness can also be a sign of anaemia.

## About Vitamin Pills

Remember that pills cannot make up for not eating well. Foods contain many substances, which are not found in pills. There is no specific vitamin that will cure HIV/AIDS. Vitamin pills are simply an addition to a healthy eating pattern. Vitamins are not a treatment for the disease.

It is known that dietary recommendations were designed for healthy people and not really for people living with HIV/AIDS. HIV/AIDS causes people to have higher needs of certain vitamins and minerals and also leads to losses of vitamins and minerals in the urine and stools. If there is also poor food intake and poor absorption of the nutrients, it leads to poor nutrition. It may thus be useful to take a vitamin supplement with added minerals.

### VITAMINS: What, how much and when?

- Always **take vitamin pills on a full stomach**. Be consistent and take them regularly.
- It is probably better (*and cheaper*) to take one **multivitamin tablet with minerals** daily rather than several pills containing different vitamins and minerals.
- **Anti-oxidant preparations** help your immune system. Anti-oxidants include vitamin A, C and E and also selenium. (*See the section on Supporting the Immune System*).
- Vitamin tablets **are not paid for by the medical aid schemes** and will leave less money for food.
- **More is not better**. High doses of vitamins can cause nausea, vomiting, decreased appetite and liver and kidney problems. It is also known that very high intakes of zinc and vitamin A can decrease immunity in people with HIV/AIDS.
- Do not take any vitamin in **amounts of more than twice the Recommended Daily Allowance or RDA**. This is usually stated on the label.
- **Discuss vitamin pills** with health workers.

## Scientifically Unproven Nutritional Treatments

People with HIV/AIDS often become frustrated with the management of the disease. Many are willing to try anything in the hope of staying healthy and living longer. The use of vitamins as discussed above is only one example of what is available. Vitamins are expensive and are sometimes even harmful when too much is taken.

There are a number of other treatments on the market, including traditional and alternative treatments that people living with HIV/AIDS are sometimes encouraged to follow. People with HIV/AIDS are vulnerable to try out all sorts of treatments, which are claimed to be beneficial, but may sometimes actually be dangerous. It is important to be careful when making decisions about treatments. Always discuss the treatments with health workers.

When these treatments require the avoidance of certain foods, it can lead to poor nutrition. This will weaken the immune system. The main argument against these unproven treatments is that they are often very low in energy and can cause weight loss.

## SUPPORTING THE IMMUNE SYSTEM

The immune system resists infections and disease by fighting off germs, bacteria, viruses and parasites that people are exposed to daily. With HIV infection the immune system is weakened or deficient. That is what the name **AIDS (Acquired Immune Deficiency Syndrome)** means.

This protective system of the body is made up of certain **proteins**, called **antibodies**, and **cells** that attack invading germs. The **T-cells** and **B-cells (or lymphocytes)** help to fight infection. These lymphocytes are found in the blood stream. The **T-cells** are an important defence against germs and the **B-cells** make antibodies that assist