

SESSION 3 NUTRITION ACTIONS FOR PEOPLE LIVING WITH HIV/AIDS

Purpose

The purpose of this session is to provide students with general nutrition and dietary guidelines to mitigate the effects of HIV on nutrition and reduce the progression of HIV/AIDS morbidity, mortality, and related discomfort.

Learning objectives

By the end of the session, students will be able to:

- Outline the goals of nutritional care and support for people living with HIV/AIDS
- Describe the essential nutrition actions in the care and support of people living with HIV/AIDS
- Explain factors to consider when planning nutritional care and support interventions for people living with HIV/AIDS

Prerequisite knowledge

- Knowledge of the principles of nutrition throughout the life cycle
- Basics of HIV/AIDS in Africa

Estimated time: 60 minutes

Outline

Content	Methodology	Timing
<p>1. Task 1 in Session 3</p> <p>2. Goals of nutritional care and support</p> <ul style="list-style-type: none"> • Maintaining or improving nutritional status • Ensuring optimal body composition for quality life and survival • Preventing diseases and diminished immunity <p>3. Components of nutritional care and support</p> <ul style="list-style-type: none"> • Assessing nutritional status • Designing and implementing appropriate nutritional interventions • Ensuring appropriate actions for the stage of illness, economic factors, and cultural setting • Taking essential nutrition actions in HIV/AIDS to a) prevent weight loss, b) improve body composition, and c) improve immunity and prevent infections <p>4. Follow up and review: Importance of recording, integrated follow-up, and care of opportunistic infections and other infections</p>	<ul style="list-style-type: none"> • Facilitate group work <p>Facilitate an interactive lecture using PowerPoint 3 presentation</p> <p>Brainstorm the role of nutritional care and support for people living with HIV/AIDS</p> <p>Brainstorm methods that can be used for nutritional assessment in HIV/AIDS</p>	<p>10 minutes</p> <p>50 minutes</p>
<p>5. Factors to consider when designing or implementing nutritional care and support interventions</p> <ul style="list-style-type: none"> • Social factors (stigma, social support) • Economic (household resources) • Clients rights • Quality of support (counseling, infrastructure, consistency) 	<p>After the lecture, facilitate group work to carry out Task 2 in Exercise 3</p>	<p>30 minutes</p>
<p>Summary of presentation by answering students' questions</p>	<p>Capture discussion points on a flipchart or board</p>	<p>10 minutes</p>

Required materials

- LCD or overhead projector
- Flipchart stand and paper
- Writing pens
- Food composition tables for foods consumed in the country

Recommended preparation

- Be familiar with the following:
 - **Lecture Notes 3: Key Nutrition Actions for People Living with HIV/AIDS**
 - HIV/AIDS activities in the country, for examples from the local context
 - Cut-off points for anthropometry and laboratory assessments of population of interest by age group and sex
 - Other materials used in the country for nutritional care and support (e.g., posters, job aids, recording materials)
- Collect examples of brochures of programs that provide nutritional care and support in the country (including addresses and contacts).
- Allocate time for each activity according to students' backgrounds and coverage of the content elsewhere.
- Prepare to divide students into pairs for **Exercise 3**. In this manual names for the case studies were selected arbitrarily. Adapt names and other aspects of the case studies to country and community contexts.
- Prepare to emphasize the use of practical household measures in meal planning.
- Prepare to emphasize a client-centered approach in decision making.

Materials provided

PowerPoint presentations

- **PowerPoint 3/overhead presentation: Nutrition Actions for People Living with HIV/AIDS**

Handouts

- **Handout 3.2: Safe Food Handling Practices**
- National guidelines for nutrition and HIV/AIDS (if available)
- **Additional resources on CD**
- Hellerstein, M, and D Kotler. 1998. HIV-associated wasting syndrome and body-habitus changes. *PRN Notebook* 3(3): 14-21

Suggested reading materials

FANTA. 2000. HIV/AIDS: A guide for nutritional care and support. Washington DC: FANTA Project, Academy for Educational Development.

Fields-Gardner, C, and JK Keithley. 2001. Management of antiretroviral-related nutritional problems: Challenges and future directions. *J Assoc Nurses AIDS Care* 12 suppl: 79-84.

Gasparis, AP, and AK Tassiopoulos. 2001. Nutritional support in the patient with HIV infection. *Nutrition* 17 (11-12): 981-82.

Hellerstein, M, and D Kotler. 1998. HIV-associated wasting syndrome and body-habitus changes. *PRN Notebook* 3(3): 14-21.

Kotler, D. 2000. The epidemiology and pathogenesis of lipodystrophy in HIV disease: An update. *PRN Notebook* 5(1): 9-13.

McDermott, AY, A Shevitz, T Knox, R Roubenoff, J Kehayias, and S Gorbach. 2001. Effect of highly active antiretroviral therapy on fat, lean, and bone mass in HIV-seropositive men and women. *Am J Clin Nutr* 774(5): 679-86.

Patrick, L. 2000. Nutrients and HIV part two: Vitamins A and E, zinc, B-vitamins, and magnesium. *Altern Med Rev* 5(1): 39-51.

Piwoz, EG, and EA Preble. 2000. HIV/AIDS and nutrition: A review of the literature and recommendations for nutritional care and support in sub-Saharan Africa. Washington, DC: SARA Project, Academy for Educational Development.

Republic of South Africa Department of Health. 2001. South African national guidelines on nutrition for people living with TB, HIV/AIDS, and other debilitating conditions. Pretoria.

Scrimshaw, NS. 1977. Effect of the infection on nutrient requirements. *Am J Clin Nutr* 30: 1536-44.

Tang, AM, and E Smit. 1998. Selected vitamins in HIV infection: A review. *AIDS Patient Care STDS* 12(4): 263-73.

LECTURE NOTES 3: NUTRITION ACTIONS FOR PEOPLE LIVING WITH HIV/AIDS

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Introduction

Steady advances have been made in understanding the mechanisms underlying nutritional loss in HIV patients. The utility and optimal modes of nutritional support, however, have not been fully established.

Purpose (slides 2, 3)

The purpose of this session is to give students basic information on nutritional care and support practices for people living with HIV/AIDS. This information can be used as a general guideline to mitigate the effects of HIV on nutrition and reduce the progression of HIV/AIDS morbidity, mortality, and discomfort. The session:

- Outlines the goals of nutritional care and support for people living with HIV/AIDS
- Describes the essential components of nutritional care and support for people living with HIV/AIDS
- Identifies appropriate assessments for nutritional care for people living with HIV/AIDS
- Outlines appropriate follow-up and review actions for nutritional care and support for people living with HIV/AIDS
- Describes selected nutritional effects of antiretroviral therapy (ART)
- Explains factors to consider when planning nutritional care and support interventions for people living with HIV/AIDS

Goals of nutritional care and support (slide 4)

Lwanga and Piwoz (2001) identify the following goals of nutritional care and support for people living with HIV/AIDS:

- **Improve nutritional status** by maintaining weight, preventing weight loss, and preventing loss of muscle mass.
- **Ensure adequate nutrient intake** by improving eating habits and building stores of essential nutrients, including carbohydrates, protein, important antioxidant nutrients, and other vitamins and minerals necessary for the functioning of the immune system.
- **Prevent food-borne illnesses** by promoting hygiene and food and water safety.
- **Enhance the quality of life** by promptly treating infections and managing the symptoms that affect food intake to minimize the nutritional impact of secondary infections when they occur.
- **Provide palliative care during the advanced stages of the disease.**

Components of nutritional care and support (slide 6)

The three components of nutritional care and support are nutritional assessment, intervention selection and design, and follow up and review.

Nutritional assessment: Why measure? (slide 7)

Nutritional assessments of people living with HIV/AIDS are necessary because they experience changes in a) body composition (decreased weight and body cell mass and even fat accumulation), b) morbidity status that may affect eating and food utilization, and c) food intake. Nutritional assessment measurements are conducted to:

- Identify and track body composition changes and trends to determine the effectiveness of nutrition therapy in slowing the progression of disease

- Offer tailored treatment and management based on the assessment results
- Address concerns and fears about physical health status

Body measurements are increasingly used as screening tools in clinical trials.

What to assess or measure? (slide 8)

The following measurements are commonly used in nutritional assessments:

- Measurement of body size or proportions, known as anthropometry (e.g., weight, height)
- Laboratory tests for blood sugar, lipids, cholesterol, protein, and micronutrient status (e.g., serum levels, Hb, B₁₂)
- Clinical assessment of symptoms and illnesses associated with HIV/AIDS infection such as oral thrush and diarrhea, often appropriate in the absence of laboratory facilities
- Review of dietary history such as appetite, food habits, and stress or depression that may affect eating
- Lifestyle practices such as smoking, drinking alcohol and caffeine, and using drugs that may affect food intake or utilization

Anthropometric measurements in HIV/AIDS (slide 9)

The following anthropometric measurements should be conducted regularly with HIV/AIDS patients to assess and monitor body weight and composition:

- Percentage change in weight or BMI (body mass index) over time to gauge wasting
- Lean body mass measurement to establish the proportion of body composition that is muscle. Body cell mass is a comparison of weight and volume.

- Circumferences of the waist, hips, mid-upper arm, and mid thigh as indicators of wasting or body composition
- Skin fold measurements can provide an estimate of total body fat

Another body circumference that should be measured is the fat accumulation behind the neck, known as the “buffalo hump.” This is caused by fat maldistribution as a result of altered metabolism in ART and is associated with wasting.

Although weight is often used to measure body mass or composition, obvious sources of error in the context of HIV/AIDS include fluid overload (e.g., severe renal or hepatic disease, hypoalbuminemia, or intravenous hydration) or fluid deficits (e.g., dehydration from diarrhea or poor fluid intake). Body weight measures are therefore not the most effective for differentiating between changes in lean tissues or fat.

Measures of body cell mass—the metabolically active tissue compartment in the body—are superior to body weight measures in the presence of HIV infection because they correlate better with mortality.

Nutrition laboratory measurements in HIV/AIDS (slide 10)

Laboratory measurements are commonly used to assess vitamin and mineral profiles, as well as body composition, to gauge adverse events. For example, the fasting blood sugar test aims to determine hyperglycemia, lipid profiles for hyperlipidemia, and fat maldistribution.

Clinical assessments in HIV/AIDS (slide 11)

Clinical assessments aim to identify symptoms and illnesses associated with HIV/AIDS infection that can affect nutritional status (e.g., diarrhea, fever, mouth and throat sores, oral thrush, nausea, vomiting, muscle wasting, tuberculosis, anorexia, fatigue, and lethargy). Nutritional advice for these symptoms is discussed in detail in Session 4. The advice emphasizes mitigating the nutritional consequences of the disease and preserving functional independence when possible. Patients are advised to:

- Preserve lean body mass

- Eat small, frequent meals throughout the day
- Minimize gastrointestinal discomfort
- Maintain fluid intake
- Avoid foods such as hot, spicy foods, sweet foods, alcohol, and caffeine that cause thermal, chemical, and mechanical irritation
- Treat infections immediately to avoid effects on appetite, ability to eat, and nutrient absorption and retention
- Follow food safety and hygiene guidelines

Diet history in HIV/AIDS (slide 12)

Diet histories of people living with HIV/AIDS are taken to assess the following:

- Dietary intake levels, specifically the types and amounts of food eaten (including food access and utilization and food handling) and use of supplements and medications
- Factors that affect food intake, such as food availability, appetite, eating patterns, medication side effects, traditional food taboos, lifestyles (smoking, alcohol, physical activity, caffeine intake, use of social drugs), psychological factors (stress and depression), stigma, and economic factors

Nutritional care and support interventions (slide 13)

Nutritional care and support interventions and strategies should be based on the nutritional assessment. However, the stage of HIV infection can affect the effectiveness of nutrition interventions.

Consider the phase of the HIV infection (slides 14, 15)

Recommendations for nutritional care vary depending on the underlying nutritional status of the person and the extent of HIV disease progression. Nutrition recommendations should consider disease stage and body composition. Disease progression can be categorized into three main phases:

- In the **early phase** the person has no symptoms and a stable weight
- In the **middle phase** the person experiences significant, unintentional, or undesirable weight loss as a result of opportunistic infections
- The **late or symptomatic phase** leads to full-blown AIDS

Nutrition priorities vary according to individual symptoms and energy and nutrient needs, which depend on the stage of disease (Lwanga 2001).

During the **early phase** the main objective is to stay healthy by building stores of essential nutrients, maintaining weight, preserving lean body mass, and understanding and following food safety guidelines through proper nutrition education and counseling.

During the **middle phase** a person who has or has had an acute infection accompanied by weight loss should primarily minimize consequences by:

- Maintaining food intake during an infection
- Increasing energy nutrient intake and meeting requirements for proteins, iron, and vitamins A, B, C, and E for recovery (this should be done with care) and weight gain
- Continuing as much physical activity as possible to preserve lean body mass

As the disease progresses to AIDS in the **late phase**, the main objective is to provide comfort or palliative care. This care includes treating opportunistic infections, modifying the diet according to symptoms, and encouraging eating.

Psychological and emotional support are also important priorities at all stages of the disease. The use of ARVs is recommended where necessary and possible.

Needs of HIV-infected people (slide 16)

Nutrition-related actions for HIV patients may be grouped under the following three categories, based on individual symptoms or needs:

- Maintain or prevent weight loss
- Improve body composition (e.g., changes in shape, fat deposits)
- Prevent disease and strengthen immunity

These three categories may in turn be used as a guideline for designing interventions to address nutritional change.

Key actions to **prevent weight loss** include promoting adequate calorie and protein intake (e.g., creating an individualized meal plan based on the patient's food security and needs) and advising on lifestyle changes to avoid practices that negatively influence food intake, nutrient use, disease condition, and recovery.

Actions to **improve body composition** include promoting regular exercise to preserve muscle mass and at times using steroids and other growth stimulants to preserve or increase body cell mass.

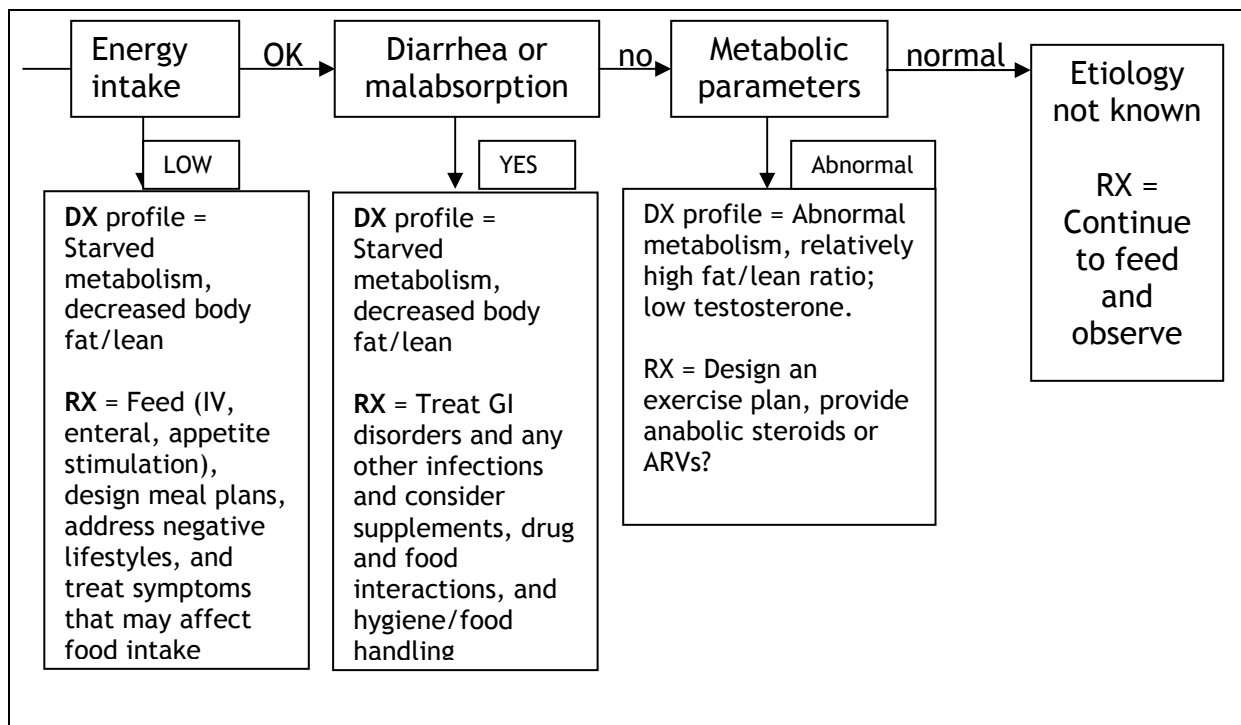
Actions to **improve immunity and prevent infections** include promoting increased micronutrient (vitamin and mineral) intake, encouraging the observation of food safety and handling practices to prevent food borne illnesses, and promoting the use of ARVs to reduce viral load where necessary and possible.

Recommendations should be guided by the condition of the patient's disease state and body composition, other symptoms, and social, economic, physical, and biological ability to comply with the recommendations. The first key action is to assess the patient's nutritional status periodically.

Promote adequate nutrient intake (slides 17, 18)

Most people living with HIV/AIDS report weight loss, but loss of weight among HIV/AIDS patients is not only related to food intake. A number of other factors should be investigated to determine appropriate interventions. Hellerstein and Kotler (1998) have suggested an algorithm for choosing the best option of interventions for patients with HIV/AIDS related weight loss (adapted figure below).

Figure 1 Algorithm for managing weight loss in patients with HIV/AIDS



To prevent weight loss it is important to ensure adequate nutrient intake at all times. The following practices can help achieve this:

- Provide information about a proper diet that is based on a variety of foods that are locally available and acceptable and will help the patient diversify the diet and increase energy and nutrient intake.
- Suggest a diet that provides adequate protein, carbohydrates, and other essential nutrients to meet the increased nutritional requirements during HIV infection.

Low energy intake is just one of the possible causes of weight loss among people living with HIV/AIDS. Other important factors that should be examined are malabsorption (or related diarrhea) and metabolic reasons. However, malabsorption and diarrhea should only be examined if levels of energy and nutrient intake are adequate and the client continues to lose weight. Though there are individual differences, the following recommendations apply to people living with HIV/AIDS:

Energy requirements: HIV-infected *asymptomatic* people should increase energy intake by 10 percent over the level of energy intake recommended for healthy, non-HIV-infected people of the same age, sex, and physical activity level. HIV-infected *symptomatic* people should increase energy intake by 20 percent-30 percent over the level of energy intake recommended for healthy, non-HIV-infected people of the same age, sex, and physical activity level. The recommendation during the symptomatic phase is a range from 20 percent to 30 percent because energy needs increase as the disease progresses and opportunistic infections worsen (Seumo-Fosso and Cogill 2003).

Protein requirements: HIV-infected asymptomatic and symptomatic people do not require additional protein beyond the intake level recommended for healthy non-infected people of the same age, sex, and physical activity level. Although the onset of opportunistic infections leads to nitrogen losses, studies have not demonstrated that increased protein intake by HIV-infected people improves clinical outcomes. It is important, however, to consider pre-existing or concurrent protein deficiencies.

If carbohydrate intake is insufficient, protein is used to provide the body with energy. When this happens, protein is not available to maintain muscle and strengthen the immune system. This can lead to muscle wasting and increased susceptibility to infection of an already weakened immune system. The diet should therefore contain foods that are sufficient in both energy (in the form of carbohydrates) and protein.

Individualized meal plans (slide 19)

Because each patient has unique social and medical characteristics, individualized meal plans need to be developed. Meal planning takes time and requires the inclusion of the following considerations:

Stages of illness and symptoms. Symptoms of HIV/AIDS infection vary according to the stage of the disease. No two patients go through the same symptom experience at the same time, even at the same stage of disease.

Food security. Is food available and accessible? Is the patient able to get sufficient amounts of adequate quality food?

Resources. Does the patient have the money to acquire supplemental food sources and medications and the time and energy to prepare them? Are other caretakers willing to help with preparation?

Food preferences and dislikes. Consider tastes and preferences to recommend foods that the patient will eat.

Knowledge, attitudes, and practices. Does the patient understand the importance of proper nutrition in HIV? What are his or her attitudes toward HIV (stigma and discrimination)? Toward food? Current food practices? How do cultural factors affect the above?

Meal plans should suit medication and nutrition *and* health status (slide 20). They should be flexible and take the following into consideration:

- Food and drug interactions
- Medication regimens
- Opportunistic infections such as diarrhea and mouth sores (see details in Session 3)
- Changes in food accessibility, especially in limited-resource settings where patients have limited access to food and money to buy it, which is further hampered by reduced productivity because of HIV.

Lifestyle changes for nutritional well-being (slide 21)

Good nutrition can help prevent weight loss and strengthen the immune system. Some foods, however, should be avoided because they aggravate the commonly

occurring symptoms discussed previously. These foods may speed up disease progression through infections or have so little nutritional value that they do not help improve nutritional status (Lwanga 2001). The following foods and habits should be avoided:

- Raw eggs, unpasteurized milk, and dairy products from unpasteurized milk may contain bacteria, particularly salmonella, that are harmful to the already weakened immune system of the HIV-infected person.
- Undercooked meats and chicken may contain bacteria that are harmful to the already immune-compromised HIV-infected person.
- “Junk” foods such as chips, biscuits, and sweets have little nutritional value, and sweets and sugar may promote the growth of fungi (thrush).
- Alcohol and coffee decrease appetite and interfere with metabolism. Alcohol may interact with some medications, decreasing their efficacy.
- Smoking increases the amount of free radicals in the body.
- Expired foods, acidic foods, foods with preservatives, and oily foods aggravate symptoms related to diarrhea, nausea or vomiting, loss of appetite, and mouth and throat sores.

Regular exercise (slides 22)

Muscle loss often occurs when disease or trauma places additional nutritional demands on HIV patients who commonly eat less because of a diminished appetite. This causes the body to use protein from muscle stores to fight the disease. Over time the muscles become weaker and smaller and less flexible. Eventually muscle loss makes it difficult to recover from illness, impairs mobility, and affects quality of life. Muscle and lean body mass can be preserved through regular exercise or the use of steroids or hormones (table 1).

Table 1 Comparison of therapeutic regimens for HIV-related weight loss (slide 23)

Therapy	Nitrogen retention [g/day]	Rate of change in body composition	
		<u>LBM</u> [kg/wk]	Weight [kg/wk]
Megestrol acetate	n/a	0.00-0.05	0.45
Parental nutrition	n/a	0	0.30
rGH	4.0	0.25	0.13
Nandrolone (Hypogonadal)	3.7	0.25	0.41
Resistance exercise alone	3.8	0.48	0.53
Resistance exercise and Oxandrolone	5.6	0.86	0.84

Source: Hellerstein and Kotler 1998

The following can be deduced from the table:

- **Megestrol acetate** is an effective appetite stimulant. Its effect on amount of food intake was excellent (20 percent-25 percent increase), but its effect on weight gain was a result of fat mass accumulation.
- All weight gained by study subjects on only **parental nutrition** was fat and not lean body mass.
- rGH is an **anabolic agent** (growth hormone) that increases nitrogen retention (anabolism) and lipid catabolism and thus is expected to increase muscle restoration. However, rGH typically has to be given continuously to preserve normal body cell mass and has serious side effects.
- **Nandrolone and Oxandrolone** are anabolic steroids that increase positive nitrogen balance, lean body mass, and strength.
- **Resistance exercise** or weight lifting by itself and combined with anabolic steroids can have a significant affect on lean body mass. Exercise helps maintain physical activity and improve circulation of blood to the heart, legs, and feet, which improves overall functional capacity in terms of strength and appetite.

Exercises that build muscle mass (slide 24)

Exercises for people with HIV/AIDS do not need to be strenuous but should be of moderate intensity. Exercises should be done 3-5 times a week for approximately 30 minutes of continuous activity, depending on the patient's abilities. Disease stage and body composition should be considered when making exercise recommendations.

Types of exercises recommended to build muscle mass include the following:

- Weight-bearing exercises or progressive resistance training that build lean body mass and hence improve body composition
- Exercises such as aerobics, jogging, stair climbing, hiking, and skipping that generate high force on the bone and also increase bone density and improve circulation
- Relaxation exercises such as yoga and meditation

Increased vitamin and mineral intake (slide 25)

Increased nutrient and mineral intake is essential to replenish body stores as HIV infection increases nutrient needs. Food-based approaches are recommended as a first line of intervention because they are safer, have no undesirable side effects, and in most cases are affordable. Such strategies include recommending vitamin- or mineral-enriched products such as fortified breakfast cereals, beverages, and maize, millet, rice, or wheat flour. This fortification can also be done at home using "micronutrient sprinkles." Issues of food security (discussed in the next session) may be key factors for people relying on food-based approaches.

The other option is the use of nutrient supplements, particularly antioxidant vitamins and minerals. If used well, supplements can improve immune function and other HIV-related outcomes, especially in nutritionally vulnerable populations. Multivitamin and multimineral supplements are better than single vitamin or mineral supplements because they ensure meeting the varied nutrition requirements. HIV causes changes in the cells and intestines, and many minerals and vitamins are not absorbed as well as they used to be .

Nutrient supplements for people living with HIV/AIDS (slide 26)

Deficiencies of total calories, protein, vitamin A, vitamin B₆, vitamin B₁₂, vitamin C, vitamin E, magnesium, iron, selenium, and zinc are associated with HIV.

Normalization of these vitamin and mineral deficiencies may be linked to slower disease progression, though the evidence is not conclusive. Though micronutrient needs for people living with HIV/AIDS are largely unknown, the recommendation is not to exceed two times the recommended daily allowance (RDA). The following levels of intake have been recommended. This information needs to be updated regularly as research findings are obtained.

- Vitamin A: 13,000-20,000 IU or 2-4 times the RDA (Vitamin A RDA = 5,000 IU)
- Vitamin E: 400-800 IU
- Vitamin B: High-potency vitamin B complex, e.g., B₂₅ or B₅₀ with niacin and B₆
- Vitamin C: 1,500-2,000mg
- Selenium: 200mcg
- Zinc: 1 RDA (12-19mg)

People with HIV should be informed that nutrient supplementation is only useful in combination with an adequate and well-balanced diet and can never replace the need for proper food intake. A multi-micronutrient nutritional supplement covering recommended daily allowance will help people with HIV maintain their nutritional status.

Adverse effects of nutrient supplements (slide 27)

Caution must be exercised when prescribing supplements to HIV-infected patients. Often patients take in too much, causing adverse effects such as diarrhea, nausea, and stimulation of viral replication (zinc, iron, and vitamins E and C) that hamper food consumption, absorption, or utilization. Special care must be taken when giving supplements, especially during pregnancy and breastfeeding. Excessive amounts of

certain nutrients (including vitamin A, vitamin E, zinc, and iron) impair rather than improve the immune system and can cause harm to mother and infant.

Food safety to prevent food-borne illness (slide 28)

Improper food handling can cause infection in anyone. For HIV-infected people, these food-borne illnesses can cause even greater damage because of their compromised immune systems.

To prevent food-borne infections, people with HIV/AIDS should practice safe food handling (e.g., washing hands, food, and utensils and cooking food thoroughly). A complete list of food eating and handling practices is provided in **Handout 3.2**.

Once contracted, food-borne illnesses may cause loss of appetite that may result in malnutrition. Food-borne illnesses are difficult to treat and may keep recurring.

Follow up and review (slides 29, 30)

Continuous, integrated follow up is necessary both at the health facility and at home for holistic treatment of the patient. The people doing the follow up should:

- Keep accurate client records
- Monitor nutritional and dietary indicators
- Ask about side effects from the use of drugs or ARVs
- Treat or refer and manage opportunistic infections and other infections
- Counsel to address barriers to good nutrition
- Offer support and encouragement
- Review and record changes in meal plans, exercise and drug regimes, and patients' nutritional and health status

Conclusion (slide 31)

Nutritional care should be part of a comprehensive HIV/AIDS program, which requires considering a broad range of factors to design and implement nutritional care and support interventions. HIV infection can affect patients' self-esteem, leading to depression, feelings of isolation, and lack of appetite. When HIV was first diagnosed, it appeared to be confined to groups who practiced socially unacceptable behaviors. This has led to stigmatization of HIV-infected people, causing them to lose their jobs or be denied medical care, housing, education, and inheritance. Stigma and discrimination have increased the spread of the disease, as people avoid being tested and, if they test positive, often deny their status and continue their high-risk behavior. People with HIV have the same human rights as everyone else, including the rights to privacy, freedom of association, and health care.

HIV/AIDS has had serious implications for household and community economic status. Households affected by HIV/AIDS have suffered loss of productive labor, income, and food reserves, with savings diverted to meet health costs. The rising demands of infected people reduce existing household resources. Emotional, spiritual, and social support is essential at such a time to maintain adequate health. Family and community support should be encouraged through quality support structures at policy and local levels. Quality support should be offered through counseling to promote voluntary testing and provide HIV-infected people with access to nutrition and ARV information.

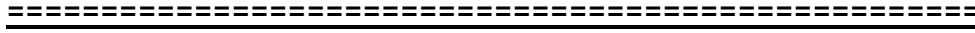
References

Hellerstein, M, and D Kotler. 1998. HIV-associated wasting syndrome and body-habitus changes. *PRN Notebook* 3 (3): 14-21.

Lwanga, D. 2001. Clinical care of HIV-infected women in resource poor settings: Nutritional care and support. Baltimore, MD: Johns Hopkins Program on International Education For Obstetrics and Gynecology (JHPIEGO). CD-ROM tutorial.

Seumo-Fosso, E, and B Cogill. 2003. Meeting nutritional requirements of HIV-infected persons. FANTA Project, Academy for Educational Development.

EXERCISE 3



TASK 1: Divide students into pairs to discuss and list two key nutrition actions in the care and support of people living with HIV/AIDS.

TASK 2: Ask students to discuss issues to consider when designing or implementing nutritional care interventions for a given geographic area in the country. They should categorize the issues as social, economic, human rights, and quality of support systems. Ask students to consider these issues to identify interventions to make at the levels of policy, program, and household or individual to improve nutritional status.

TASK 3: Divide students into small groups to address the following case studies as practically as possible.

HANDOUT 3.1 Case studies in HIV and nutrition

Case study 1

You are working as a counselor in a local clinic. José, an HIV-positive business executive, has been having recurrent diarrhea for the past 2 months. He has a poor appetite, smokes a lot, and because of mouth sores prefers to eat cold food. José has heard of antioxidant micronutrients through advertisements by local groups. He wants to start taking antioxidants to help with HIV infection.

1. How do you use this information to assess José's nutritional status?
2. What assessments will you do?
3. What do you need to discuss with José regarding to his nutritional status?
4. What interventions, follow up, and review actions would you propose to José?

Case study 2

You are a manager of a rural local NGO whose mandate is to provide care and support for people living with HIV/AIDS. You meet Adam and his wife Eve, who are both HIV positive and asymptomatic. They have recently migrated from town to live in this rural farming community. While in town they had had regular laboratory tests to monitor their HIV status paid for by their employer, but the nearest HIV/AIDS service center to their present village is 25 kilometers away.

1. What should you discuss with Adam and Eve concerning their nutrition?
2. What issues would you discuss with them concerning their ability to attain their nutritional well-being and objectives in their rural home?
3. What follow-up actions would you discuss with them?

Case study 3

The international NGO you work for in a peri-urban community is interested in starting nutrition activities in its HIV/AIDS program. The program covers a population of 100,000, most of whom are casual laborers in the industrial area and some of whom do petty trading and hawking. Sanitation is poor. People with push-carts sell water to villages, pit latrines are shared among houses, and some homes keep small ruminants or poultry. The prevalence of HIV is estimated at 30 percent among women attending the antenatal clinic (ANC).

One of the two health units in this community is managed by the city council and the other by the Catholic mission. Each is staffed by a clinical officer, a midwife, and three nurses who run the units. Both offer routine out-patient (OPD) care and ANC services. Your NGO has recently introduced voluntary counseling and testing (VCT) in the city council clinic and is helping to provide condoms and TB drugs. The clinic has a referral system for ARV services with the district hospital 20 kilometers away. In addition to the OPD and ANC services, the mission clinic is working with Catholic Relief Services (CRS) to provide food supplements to homes with children below -2.5 standard deviation of weight for age. CRS also offers food to homes with terminally sick people. The mission clinic offers better-quality services than the city council health unit, but you do not want to work with it because it does not want to distribute condoms and insists on charging a “minimal” fee for services.

Your colleagues include the manager of this NGO and the senior staff. You have just agreed that you need a consultant to help make *practical* recommendations on how to integrate nutrition activities into your existing program. As a group, prepare the scope of work for the consultant.

1. What are the objectives of the job and key questions you want answered?
2. What issues does the consultant need to be aware of?
3. What are the expected outputs?

HANDOUT 3.2 Safe Food Handling Practices

Students can use this handout when role-playing to counsel clients on safe food handling practices.

Wash hands thoroughly before preparing, handling, and eating food and after using the toilet or changing diapers or nappies

Keep food covered and stored away from insects, flies, rodents, and other animals

Wash and keep food preparation surfaces, utensils, and dishes clean

Use safe (boiled or bottled) water for drinking, cooking, and cleaning dishes and utensils

Wash all fruit and vegetables with clean water before eating, cooking, or serving

Do not eat moldy, spoiled, or rotten food

Avoid letting raw food come into contact with cooked food

Do not eat raw eggs or foods that contain raw eggs

Ensure all food is cooked thoroughly, especially meats and chicken

Serve all food immediately after preparation, especially if it cannot be kept hot

Avoid storing cooked food unless you have access to a refrigerator

Do not use bottles with teats to feed infants; use a cup instead