AIDS Community

Food and Nutrition Security Community

AIDS COMMUNITY
The Food and Nutrition Security Community
Consolidated Reply

Query: Nutrition and PLHIV, World Food Programme (Examples)

Compiled by E. Mohamed Rafique and Gopi N Ghosh and Resource Persons; additional research provided by Seema Kochhar, Shavika Gupta and Bidisha Pillai, Research Associates
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Original Query: Elizabeth Nozenesky, World Food Programme, New Delhi
Posted: 27 December 2005

World Food Program (WFP) provides technical assistance to the National AIDS Control Organization (NACO) to integrate nutrition and food based interventions into prevention, treatment and care programs. Technical assistance includes the development of model nutrition projects in select states for people living with and affected by HIV and AIDS. These projects aim to build the capacity of local healthcare providers and project implementers in the areas of nutrition for People Living with HIV (PLHIV) and food management. To assist in this effort, WFP will facilitate the development of nutritional guidelines and training manuals that are culturally appropriate and user friendly. Rather than reinvent the wheel, WFP would like to conduct a desk review of existing training and IEC materials on nutrition for People Living with HIV before developing new materials. We are aware that many NGOs, Positive Networks and medical institutions have developed such materials for their own use.

We would be grateful if these organizations would share with us any materials they have developed for use by People Living with HIV or caregivers. We would also be very interested to know what, if any, food or nutritional supplements these organizations are providing to people living with or affected by HIV and AIDS.

Responses were received, with thanks, from:

1. **Tony Castleman, FANTA Academy for Educational Development, Washington DC**
2. **Waseem, Rizvi College of Management, Mumbai**
3. **Ashutosh Saxena, South Asian Research & Development Initiative (SARDI), New Delhi**

4. **Rajendra A. Shirke, HIV & Development Unit, UNDP, Delhi**
5. **Shafique R. Kokan, K. B. N. Engineering College, Gulbarga**
6. **Ashok Row Kavi, Humsafar Trust, Mumbai Metro**
7. **D. Lakshmi Rani, Gender Specialist, UNFPA Maldives**
8. **Gopi Ghosh, FAO, New Delhi**
9. **Prema Ramachandran, NFI, New Delhi**

Further Contributions are welcome!

Summary of Responses
Examples
Related Resources
Responses in Full

Summary of Responses

Members have cited examples from various countries on development of guidelines, training modules, IEC and counselling material on nutritional care for people living with HIV. These include national guidelines (Uganda, Zambia) and international guidelines (WHO, SCN, UNICEF, UNAIDS, USAIDS) for enhancing capacity of local health providers and project implementers.

Nutrition and Food Security of PLHIV (People Living with HIV) and PLWHA (People Living with HIV/AIDS): Respondents have brought out that matters relating to food security and nutritional care assume much added significance for people with this affliction due to their additional and varied nutritional needs, as also due to the difficulties, many of them face, in matters of 'access and affordability' to meet such needs. National food security and livelihood promotion policies should, therefore, be reoriented taking these concerns into account. Similarly, all agencies working for HIV/AIDS patients and the literature being developed in this regard should reflect the required understanding in due depth and detail. Members emphasized various points to be considered while formulating guidelines and training manuals. These include, dietary and nutritional aspects, treatment, care and counselling, and special requirements of pregnant women and infants:

Meeting Nutrition and Food Security Needs:

- Enhancing economic capability of PLWHA for buying food to achieve normal nutritional status and improving resistance and resilience for infections;
- Promoting focused nutrition intervention for those not yet on ARVs;
- Food and nutrition interaction with ART (patients on antiretroviral therapy);
- Encouraging dietary diversification to provide adequate phytochemicals, antioxidants, vitamins and minerals to improve immunity and strengthening resistance and resilience.

Caring for Pregnant Women and Infants:

- Ensuring availability of appropriate infant feeding regimes to prevent mother to child transmission of HIV.
- Promoting Universal breast feeding, early initiation of breast feeding, exclusive breast feeding for the first six months, and continued breast feeding for 24 months or longer for infants born to HIV positive mothers.

Treatment, Care and Counselling:

- Treating opportunistic infections.

- Providing antenatal and postnatal counselling, nutritional advice, care and support of HIV-infected women. Also ensuring regular follow-up of pregnant women to monitor and treat any adverse nutritional status/complications.
- Encouraging community participation (especially with the use of effective communication aids) besides providing home-based care and quality clinical services.

Indigenous, Inexpensive Foods: One of the members has highlighted that with India's great diversity and availability of many inexpensive sources of high-value nutrition, these sources should not go untapped. The respondent suggested that it's beneficial to eat certain easy to find, cheap Indian food items which are high on nutrition, such as, grinding Indian wild millets like nachni and bajra (which are high on protein), to make flour and eating as chapattis/upmas, etc.; also eating locally available fresh fruits and vegetables, 'dalias' and 'chutneys' which can be easily made at home. Drinking boiled water with little cumin in it was also recommended as a very beneficial practice. This approach of locally available and low-cost, nutrition-dense foods if promoted both as part of a national policy and through the initiatives of local care-giving agencies, it can reduce the difficulties of access and affordability faced by many PLHIV, at least to an extent.

Another member has provided (quoting recent research studies) **tips for building a high quality diet** for the PLHIV, taking into view their added requirements, which may assume urgency due to a weakened immune system, and the need to counter the effects of drug-therapies directed to tackle opportunistic diseases, and such other reasons. The salient dietary recommendations of the cited study, include:

- Eat 5–6 servings of fruits and vegetables per day, or approximately 3 cups. Eat a variety of colors for a full range of nutrients.
- Aim to have 50% of your carbohydrates derived from whole grains.
- Choose lean protein sources such as skinless chicken breast, fish, extra-lean cuts of pork and beef, and low-fat dairy products.
- Limit added sugar, sweets, and soft drinks; they are low in nutrient density and cause spikes in glucose levels.
- Have a serving or more of nuts, seeds, or legumes per day.

In sum, members emphasized on the need to augment access, awareness and affordability of a balanced nutrition for all PLHIV as the first and foremost step in their care – both as a supportive and a palliative measure, and to help them combat the disease with dignity.

Examples

Zambia Nutrition Guidelines for the Care and Support of People Living with HIV/AIDS (from Tony Castleman, FANTA Academy for Educational Development, Washington DC)
http://www.fantaproject.org/publications/zambia_guide2005.shtml
The Government of Zambia developed guidelines to provide information to individuals and organizations on the nutritional care and support for PLHIV and AIDS (PLWHA) with support from USAID/Lusaka and FANTA.

Nutritional Care and Support for People Living with HIV/AIDS in Uganda: Guidelines for Service Providers (from Tony Castleman, FANTA Academy for Educational Development, Washington DC)
http://www.fantaproject.org/downloads/pdfs/uganda_HIVAIDS_guide.pdf

These nationally adopted guidelines provide recommendations on the nutritional needs of PLWHA and on steps that service providers can take to help PLWHA manage symptoms and improve functioning through nutrition actions.

Related Resources

Recommended Organizations

Food and Nutrition Technical Assistance - FANTA (from Tony Castleman, FANTA Academy for Educational Development, Washington DC)
http://www.fantaproject.org/focus/hiv_aids.shtml
FANTA and its partners help countries in East and Southern Africa adapt HIV-nutrition guidance to their specific contexts

UNAIDS (from Ashutosh Saxena, South Asian Research & Development Initiative (SARDI), New Delhi)
http://www.unaids.org
It is dedicated to strengthening and supporting an expanded response to prevent the transmission of HIV, provide care and support, reduce the vulnerability of individuals and communities to HIV/AIDS, and alleviate the impact of the epidemic

United Nations System Standing Committee on Nutrition (SCN) (from Ashutosh Saxena, South Asian Research & Development Initiative (SARDI), New Delhi)
http://www.unsystem.org/scn/
The United Nations System Standing Committee on Nutrition is the focal point for harmonizing the policies and activities on nutrition of the UN system

US Agency for International Development (from Shafique R. Kokan, K. B. N. Engineering College, Gulbarga)
http://www.usaid.gov/our_work/global_health/aids
USAID's Global Health Bureau works with the international health community and local partners to prevent the spread of HIV/AIDS.

Family Health International (from Shavika Gupta, Research Associate)
http://www.fhi.org/en/aids/naids.html
FHI's work in HIV/AIDS includes prevention research, program management and support, and technical services

Global Health Council (from Shavika Gupta, Research Associate)
http://www.globalhealth.org/
Their Global AIDS Program works to influence policy on AIDS activities and issues worldwide through educational advocacy and information exchange

Recommended Documentation

HIV/AIDS: A Guide for Nutritional Care and Support 2004 (from Tony Castleman, FANTA Academy for Educational Development, Washington DC)
By FANTA, 2004
http://www.fantaproject.org/downloads/pdfs/HIVAIDS_Guide02.pdf (pdf, 780kb)
The purpose of this guide is to assist program managers and health workers make recommendations on nutritional issues and food management for households with members who are HIV-infected or living with AIDS.

Handbook: Developing and Applying National Guidelines on Nutrition and HIV/AIDS (from Tony Castleman, FANTA Academy for Educational Development, Washington DC)
http://www.fantaproject.org/downloads/pdfs/rcqhc03.pdf

The handbook provides guidance for country teams and national AIDS control programs to develop and apply national guidelines on nutritional care and support of people living with HIV/AIDS.

Nutrition and HIV/AIDS: A Training Manual (from Tony Castleman, FANTA Academy for Educational Development, Washington DC)
By RCQHC, FANTA, and LINKAGES, 2003
http://www.fantaproject.org/focus/preservice.shtml

The manual provides a comprehensive source of information on nutrition and HIV/AIDS, and provides instructors with technical content, presentations, practical exercises, and handout materials for planning and facilitating courses and lectures.

Medical Nutrition Therapy for Human Immunodeficiency Virus (HIV) Disease (from Waseem, Rizvi College of Management, Mumbai)
By L. Kathleen Mahan Krause's Food, Nutrition and Diet Therapy, 11th edition, Washington DC, 2003 (see chapter 41)
http://www.intl.elsevierhealth.com/catalogue/title.cfm?ISBN=0721697844

The book provides information on Medical Nutrition Therapy for Human Immunodeficiency Virus (HIV) Disease

Nutrition counseling, care and support for HIV-infected women: guidelines on HIV-related care, treatment and support for HIV-infected women and their children in resource constrained settings (from Ashutosh Saxena, South Asian Research & Development Initiative (SARDI), New Delhi)
By WHO Department of HIV/AIDS and Department of Nutrition for Health and Development,2004
http://wwwwho.int/hiv/pub/prev_care/en/nutri_eng.pdf

The document reviews current evidence on the relationship between nutrition and HIV and AIDS, the role of nutrition in HIV transmission, disease progression, morbidity, and disease management.

Nutrition and HIV/AIDS Working Group of the SCN: a report (from Ashutosh Saxena, South Asian Research & Development Initiative (SARDI), New Delhi)
By Tomkins, A.; Nutrition and HIV/AIDS Working Group; UN Standing Committee on Nutrition / United Nations (UN) Standing Committee on Nutrition (SCN), 2004
http://www.worldfoodscience.org/cms/?pid=1003103
The report reviews a meeting by the United Nations Standing Committee on Nutrition (SCN), Nutrition and HIV/AIDS working group held at UNICEF in March 2004

Nutrition and HIV/AIDS: evidence, gaps, and priority actions (from Shafique R. Kokan, K. B. N. Engineering College, Gulbarga)
by Piwoz, E. / USA Agency for International Development (USAID) , 2004
http://www.phishare.org/files/2202_Nutrition_HIV_brief_2.pdf

This document outlines evidence, gaps and priority actions related to nutrition, and HIV and AIDS

Women's nutrition throughout the life cycle and in the context of HIV and AIDS: Training of trainers module (from Shafique R. Kokan, K. B. N. Engineering College, Gulbarga)
By Ntombela, N.; Stone-Jimenez, M.; Ross, J.; Martin, L. / LINKAGES Project, 2005

http://www.linkagesproject.org/media/publications/Training%20Modules//Womens-Nutrition_module_May_05.pdf

This training module is intended to provide instructors with the basic theory to train health workers on women's nutrition, with a focus on the complete life cycle

Eat Well and Stay Healthy (from Ashok Row Kavi, Humsafar Trust, Mumbai Metro)
by Humsafar Trust. For copies email: humsafar@vsnl.com

It describes in detail what PLHIV or anybody who wishes to stay fit and fine should know.

Living well with HIV/AIDS -A manual on nutritional care and support for people living with HIV/AIDS (from Gopi Ghosh, FAO, New Delhi)
By FAO,
2002http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/005/Y4168E/Y4168E00.HTM

It provides home care agents and local service providers with practical recommendations for a healthy and well balanced diet for PLHIV

Incorporating HIV/AIDS Considerations into Food Security and Livelihood Projects (from Gopi Ghosh, FAO, New Delhi)
By FAO HIV/AIDS Programme, FAO, Rome, 2003
http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/004/y5128e/y5128e00.htm

It addresses various stages of identification, preparation, appraisal and review, implementation and monitoring, and, evaluation of addressing the impact of HIV/AIDS on food and livelihood security

BBC World documentary explores the relationship between HIV/AIDS and food security (from Gopi Ghosh, FAO, New Delhi)
http://www.fao.org/english/newsroom/focus/2003/aids.htm

The film illustrates how the crisis directly affects millions of people living with the disease—many of whom are agricultural workers

Food as a first medicine: HIV/AIDS, agriculture, food and nutrition security (from Prema Ramachandran, NFI, New Delhi)
by Dr Cheryl Jackson, USAID/USDA, NFI Symposium on Nutrition Security in South Asia, March 2004 http://nutritionfoundationofindia.res.in/conferences.asp#food

The paper emphasized on ensuring food and nutrition security to HIV infected families

Early exclusive breastfeeding reduces the risk of postnatal HIV-1 transmission and increases HIV-free survival (from Prema Ramachandran, NFI, New Delhi)
By Ellen G. Piwoz, Naume V. Tavengwa, Clare D. Zunguza, Edmore T. Marinda, Kusum J. Nathoo, Lawrence H. Moulton, Brian J. Ward, the ZVITAMBO study groupand Jean H. Humphrey, AIDS 2005, 19:699–708
http://www.waba.org.my/pdf/Exclusive_breastfeeding_and_HIV_transmission.pdf

The study analysed importance of exclusive breast feeding in reducing breast-feeding associated HIV transmission.

Micronutrients and vertical transmission of HIV-1 (from Shavika Gupta, Research Associate)
By Michele L Dreyfuss and Wafaie W Fawzi**,** American Journal of Clinical Nutrition, Vol. 75, No. 6, 959-970, June 2002
http://www.ajcn.org/cgi/content/full/75/6/959

The article reviews role of micronutrients and their supplementation in vertical transmission of HIV

Recommended Websites

FAO's HIV/AIDS and Food Security Website (from Gopi Ghosh, FAO, New Delhi)
http://www.fao.org/hivaids/
The Food and Agriculture Organization has a Web site designed to educate people about the links between HIV/AIDS and food security

Tufts University Nutrition Collaborative (from Rajendra A. Shirke, HIV & Development Unit, UNDP, Delhi)
http://www.tufts.edu/med/nutrition-infection/hiv/health_high_quality_diet.html The website is on schedule maintenance
It provided information on a well balanced diet rich in essential nutrients and basic facts about proteins, carbohydrates, fats vitamins and minerals

Recommended Contacts

Enrique Yeves (from Gopi Ghosh, FAO, New Delhi)
Media Production Manager
enrique.yeves@fao.org
(+39) 06 57 05 25 18
He is involved with BBC World documentary that explores the relationship between HIV/AIDS and food security in 2003.

Responses in Full

Tony Castleman, FANTA Academy for Educational Development, Washington DC
If your desk review is including materials from outside of India as well, a number of countries in sub-Saharan Africa have developed national guidelines, training materials, and IEC and counseling materials on nutritional care and support for PLWHA. Some of these materials may be useful and adaptable to the Indian context.

Some of the materials on nutrition and HIV that the FANTA Project (Food and Nutrition Technical Assistance) helped develop are on our website - www.fantaproject.org. For example: Uganda national guidelines; Zambia national guidelines; a Handbook on developing national guidelines; a set of six counseling materials for Uganda; a regional training manual; a guide to HIV nutritional care and support; a technical note on nutritional implications of ART.
Forthcoming materials include: counseling materials from Zambia, Kenya, and Rwanda; national guidelines from Kenya and Rwanda; and additional training materials for nursing schools and for community care providers.

You may want to also post your query on the pronut-hiv listserv. Program managers, service providers, and researchers working in nutrition and HIV in many different countries subscribe to the listserv. Information on pronut-hiv is below:
Post message: pronut-hiv@healthnet.org
Subscribe: pronut-hiv-join@healthnet.org
Info & archives: http://list.healthnet.org/mailman/listinfo/pronut-hiv
Hope this is helpful.

Waseem, Rizvi College of Management, Mumbai

Chapter 41 of the book featured below deals with 'Medical Nutrition Therapy for Human Immunodeficiency Virus (HIV) Disease'. Brief details of the book available at http://www.intl.elsevierhealth.com/catalogue/title.cfm?ISBN=0721697844 are reproduced:

Krause's Food, Nutrition and Diet Therapy, 11th edition
By L. Kathleen Mahan, MS, RD, CDE, Clinical Associate, Department of Pediatrics, School of Medicine, University of Washington, Seattle WA; and Nutrition Consultant, Nutrition by Design, Seattle WA;; and Sylvia Escott-Stump, MA, RD, LDN, Dietetic Programs Director, East Carolina University, Greenville, NC; and Consulting Nutritionist, Nutritional Balance, Greenville, NC
ISBN 0721697844 · Hardback · 1360 Pages
Saunders · Published December 2003
Price: £ 59.99

Ashutosh Saxena, South Asian Research & Development Initiative (SARDI), New Delhi
Please find links and brief write-ups for two documents that could help in designing Nutrition guidelines for PLHIV:

1. Nutrition counselling, care and support for HIV-infected women: guidelines on HIV-related care, treatment and support for HIV-infected women and their children in resource–constrained settings. , (2004)
http://wwwwho.int/hiv/pub/prev_care/en/nutri_eng.pdf
Dual burdens of HIV and reproduction make nutrition interventions crucial for HIV-infected women
WHO / World Health Organization (WHO), 2004 This World Health Organization document reviews current evidence on the relationship between nutrition and HIV and AIDS, as well as on the role of nutrition in HIV transmission, disease progression, morbidity, and disease management. Based on this review, it makes detailed recommendations on nutrition counselling, care and support for HIV-infected women. These cover: nutrition assessment, nutrition counselling and support, use of micronutrient supplements, management of wasting, and nutritional considerations for persons on antiretroviral treatment (ART).
The document also highlights the following general principles: (1) nutrition advice, counselling, care and support for HIV-infected women are especially important because of the dual burdens of HIV and reproduction (pregnancy and breastfeeding) on nutritional vulnerability; (2) all antenatal and postnatal women can benefit from nutrition advice, counselling, care, and support aimed at preventing malnutrition during pregnancy and improving reproductive health and child health outcomes; (3) the focus of nutrition, advice, counselling, care and support varies with the health status of the client; and (4) women receiving ART and treatment for opportunistic infections should be given advice and counselling on related nutritional issues, and should be followed up in order to monitor and treat any adverse nutritional complications. [adapted from authors]

2. Nutrition and HIV/AIDS Working Group of the SCN: a report of the meeting held at UNICEF, New York March 24, 2004, (2004) http://www.worldfoodscience.org/cms/?pid=1003103
Nutrition must be included in HIV guidelines
Tomkins, A.; Nutrition and HIV/AIDS Working Group; UN Standing Committee on Nutrition / United Nations (UN) Standing Committee on Nutrition (SCN) , 2004
The report reviews a meeting by the United Nations Standing Committee on Nutrition (SCN), Nutrition and HIV/AIDS working group held at UNICEF in March 2004. The first section of the document identifies key interventions to assist in achieving the Millennium Development Goals (MDGs). These include: antiretroviral (ARVs) drugs and nutritional guidelines to promote drug efficacy, focused nutrition interventions for those not yet on ARVs, improved food security in HIV affected families so that children can attend school rather than farm or engage in paid work,

improved nutrition, health and survival of HIV infected mothers, and appropriate infant feeding regimes to prevent mother to child transmission.

World Health Organization (WHO) activities concerning nutrition, HIV and AIDS were reviewed by the working group and recommendations for the WHO include: the development of new operational guidelines in the form of manuals, tools and resources, revision of existing nutritional guidelines in an HIV context, and expansion/addition of guidelines to ensure inclusion of particular aspects of nutrition and diet in relation to HAART (Highly Active Antiretroviral Therapy), as well as promotion of efficacy and safety. The meeting also noted that there was little emphasis on nutrition in the 3 by 5 WHO initiative and identified a role for the SCN to ensure that nutrition is included in guidelines. [adapted from author]

Rajendra A. Shirke, HIV & Development Unit, UNDP, Delhi
Please find below extract
from http://www.tufts.edu/med/nutrition-infection/hiv/health_high_quality_diet.html a web page of TNC, which is a guideline that I found useful. TNC stands for the Tufts University Nutrition Collaborative. TNC represents a partnership between three East Coast medical institutions and their affiliated hospitals: Tufts University School of Medicine/New England Medical Center (NEMC) in Boston, Massachusetts; Brown University School of Medicine/Miriam Hospital in Providence, Rhode Island; and Johns Hopkins School of Medicine and Bloomberg School of Public Health in Baltimore, Maryland.
There are other pages in the same web site for Lypodistrophy as
http://www.tufts.edu/med/nutrition-infection/hiv/health_lipo.html and for diarrhea
http://www.tufts.edu/med/nutrition-infection/hiv/health_diarrhea.html etc.

What is a high quality diet?
A high quality diet is a diet high in vegetables, fruits, whole grains, and legumes, with lean, low-fat protein sources. These foods are nutrient-dense, and will contribute much more to your health and well-being than empty calories from sugar and fat.

Tips for a building a high quality diet:

- Eat 5–6 servings of fruits and vegetables per day, or approximately 3 cups. Eat a variety of colors for a full range of nutrients.
- Aim to have 50% of your carbohydrates come from whole grains.
- Choose lean protein sources such as skinless chicken breast, fish, extra-lean cuts of pork and beef, and low-fat dairy products.
- Limit added sugar, sweets, and soft drinks; they are low in nutrient density and cause spikes in glucose levels.
- Have a serving or more of nuts, seeds, or legumes per day.
- Whether eating a full meal or snacking, include all 3 macronutrients: protein, carbohydrates, and a little fat.

  See "Choose snacks that work for you."

Protein
Proteins are the building blocks of your muscles, organs, and many of the substances that make up your body's immune system. When you don't supply enough calories and protein through food, your body uses its own protein (muscles) to make up for the lack of fuel. This results in the weakening of your body and immune system.

The Recommended Daily Allowance (RDA) for protein is 0.4–0.5 grams per pound (0.8–1.0g/kg) of body weight for a healthy adult. For a 160 lb healthy male, that would be 64–80 grams of

protein per day. More protein may be required to maintain or build lean body mass in a person with HIV, from 0.6–0.9 g/lb (1.2–2.0g/kg) of body weight. An approximate rule of thumb is 100–150 g/day in HIV+ men and 80–100 g/day for HIV+ women. Protein intake should not be greater than about 15–20% of total calories; extremely high protein diets can stress the kidneys.

Lean meat, poultry without skin, and fish are good sources of protein; a portion size of 3–4 ounces is about the size of a deck of cards. Eggs and low-fat dairy products are also good. In addition to these animal sources, you can also get protein from legumes (dried beans and peas), nuts, and seeds. Vegetables and grain products such as wheat bread, pasta, barley, and rice contain minimal amounts of protein.

See "Protein and fat content of selected foods."

Carbohydrates
Carbohydrates give you energy. A healthful diet is high in complex carbohydrates (whole grains, whole grain products, and legumes) and low in simple carbohydrates (sugar, candy, soft drinks, cakes, cookies, ice cream). Within the category of complex carbohydrates, legumes and whole grains such as whole wheat flour, oats, barley, and brown rice, are better sources of carbohydrate than white bread and pasta, rice, and potato. They are higher in nutrient values and fiber and are absorbed by the body more slowly to provide a steady source of glucose, better sustaining you until the next meal. These foods may also be helpful for people with diabetes or insulin resistance.

See "Fiber content of selected foods."
See "Lipodystrophy."

Fats
Fat is the body's major source of energy storage. The recommended intake of total fat is less than 30% (25% preferred) of daily total calorie intake, but the kind of fat may be as important as the amount. Saturated fat increases the risk of cardiovascular disease (CVD). People with HIV may experience medication-related high cholesterol and triglycerides, requiring caution with regard to CVD. Omega-3 fatty acids (a type of polyunsaturated fat), found in heart-healthy fish and other foods, are protective against CVD.
Saturated Fat:
Recommendation: 7% or less of total calorie intake
Food sources: fatty meat, poultry with skin, butter, whole-milk dairy foods, and coconut and palm oils
Monounsaturated Fat:
Recommendation: 10% or greater of total calorie intake
Food sources: nuts, seeds, canola and olive oils, avocado, and fish
Polyunsaturated Fat
Recommendation: 10% or less of total calorie intake
Food sources: fish, walnuts, flax seed & oil, and corn, soybean, sunflower, and safflower oil

See "Omega-3 fatty acid content of selected foods."

How many calories do I need?

Calories are the energy in food. They provide your body with the fuel it needs to keep running. If you are HIV-positive, you will need to increase the amount of food you eat to maintain your lean body mass. You need at least 17–20 calories per pound of body

weight. During infections and fever, however, your calorie needs may be higher than usual.

- If your weight is stable and there is no opportunistic infection, use 17–20 calories/lb.
  - Example: If you weigh 140 lbs., you may need 2,380 calories per day (using 17 calories/lb.).
- If you have an opportunistic infection, use 20 calories/lb.
  - Example: If you weigh 140 lbs., you may need 2800 calories per day.
- If you are losing weight, use 25 calories/lb.
  - Example: If you weigh 140 lbs. and have lost 10 lbs. in the last 6 months, you may need 3,500 calories per day.

Keep in mind that calories from healthy, nutrient-dense foods will keep you healthier than empty calories from sugar and fat.

Putting It All Together

General dietary guidelines recommend a daily intake of:

- 15-20% Protein
- 50-60% Carbohydrate
- 25% Fat

Now that you have an idea of how many calories you may need each day, and how to make good choices with proteins, carbohydrates, and fats, see "Dietary Guidelines: A Breakdown by Calorie Intake" for examples of how many grams per day of each of the three groups add up to your daily calorie needs.

Nutrition Supplements

If you are losing weight and do not have adequate food resources, talk to your doctor about adding a nutrition supplement, such as Carnation Instant Breakfast, Boost, or Ensure. Whenever possible, we believe the best way to increase weight is to eat a high quality diet that is nutrient-dense.

See "Weight Loss/Wasting."

We know that most people with HIV do not always eat 100% of the Recommended Daily Allowance (RDA) of all nutrients. For this reason, we recommend taking one or two multivitamin/mineral tablets (without extra iron) providing at least 100% of the RDA (check label) per day. Always discuss any supplement use with your doctor.

For more information about vitamins, minerals, and supplements, including roles in the body, RDAs, upper safety limits, and best food sources, visit the National Institute of Health's Office of Dietary Supplements site.

http://dietary-supplements.info.nih.gov/showpage.aspx?pageid=89

Shafique R. Kokan, K. B. N. Engineering College, Gulbarga.

I feel that the two documents of which the URLs are reproduced will help in designing Nutrition guidelines for People Living with HIV. The first one concludes with the ten key messages on HIV Nutrition and the second is a module for women with HIV in developing countries.

1. Nutrition and HIV/AIDS: evidence, gaps, and priority actions , (2004) http://www.phishare.org/files/2202_Nutrition_HIV_brief_2.pdf

A range of nutrition interventions is needed to support those living with HIV and AIDS

Piwoz, E. / USA Agency for International Development (USAID) , 2004

This USAID document outlines evidence, gaps and priority actions related to nutrition, and HIV and AIDS. The document outlines how HIV infection increases energy requirements, and how vitamin and mineral deficiencies, such as vitamins A, B, C E, selenium and zinc, may contribute to HIV progression. Other findings show that: antiretroviral (ARV) therapy improves nutritional status, but may also have side effects and metabolic complications; HIV exposure and infection

increases problems of child malnutrition; and the relationship between HIV, AIDS, livelihoods, and food and nutrition security is complex and multidimensional.

The document outlines areas where priority actions need to be taken. Nutrition counselling and support is needed for those living with HIV, as is nutritional management for HIV-related illnesses. This would include providing counselling through home-based care programmes, community efforts and clinical services so that individuals and households can use available foods to manage symptoms. Other areas of action include: managing ARV interactions with food and nutrition, therapeutic feeding for severely malnourished HIV-positive adults and children, and ensuring adequate nutrition of HIV-exposed infants and children. Finally, the document emphasizes the need to provide palliative care and establish community coping mechanisms through home, clinic and community-based organizations and programmes. [adapted from author]

2. Women's nutrition throughout the life cycle and in the context of HIV and AIDS: training of trainers module, (2005)
http://www.linkagesproject.org/media/publications/Training%20Modules//Womens-Nutrition_module_May_05.pdf
A cradle-to-grave approach to women's nutrition: training aid for trainers
Ntombela, N.; Stone-Jimenez, M.; Ross, J.; Martin, L. / LINKAGES Project , 2005
Produced by the Linkages Project, this training module is intended to provide instructors with the basic theory to train health workers on women's nutrition, with a focus on the complete life cycle. Intended primarily for use in developing countries, the module provides guidance on women's nutritional status, causes of malnutrition, the effects of malnutrition on the intergenerational life cycle, the consequences of inadequate weight and height, and micronutrient deficiencies. It also addresses the relationship between nutrition and HIV infection, covering the nutritional requirements of HIV-positive pregnant or lactating women and adolescent girls, and nutritional care and support of HIV-positive women. There are specific sections on field practice and improving nutrition at community level.

The training approach in the module is based on the principles of behaviour change communication (BCC), which emphasize small, do-able actions and learning by reflection on experience. A range of training methods is used, including demonstration, practice, discussion, case studies, and role play. The emphasis is on participation. It is recommended that wherever the training is held, a clinical or community site should be available to support practice in negotiating optimal nutrition, care and support practices with mothers and caregivers. The module concludes with a post-course assessment form. [adapted from author]

Ashok Row Kavi, Humsafar Trust, Mumbai Metro
Excuse me everybody,

What saddens me is all these quotes and references to foreign innovations and efforts towards nutrition for PLHIV. I mean we are a country of one billion people, full of amazing diversity and plentiful flora and fauna that give us the option of highly tasty, nutritious and indigenous diets thanks to our peoples' ingenuity. Just along a two hundred KM stretch on the Konkan coast starting from Bombay going down south to Goa, one can still find over twenty varieties of wild rice if one is really interested. During the heavy monsoon showers, there are wild vegetables like 'takla' and wild mushrooms all over the Ghats.

With this in mind, Humsafar Trust got its nutritionist Usha Kamdar to comb the bazaars and come up with cheap and nutritious diets. The result is a booklet called 'Eat Well and Stay Healthy'

brought out by the Humsafar Trust's IEC Department. It describes in detail what PLHIV or anybody who wishes to stay fit and fine should be knowing. For example, a simple investment in a good cheap thermos flask will allow you to carry boiled water with a little cumin (jeera) in it. This is extremely healthy and an excellent diuretic to flush out toxins from the kidneys. It is very common in Kerala to be served such warm cumin water even in the poorest eating houses.

We have asked small scale manufacturers to make powder from whey which is practically pure protein even for those who have lactic allergies common to Indians. This can save your life if you have any form of dysentery or diarrhea. All boiled, steaming food is practically sterile and one need not follow the habit of turning the tea cup around and holding it with the left hand in order to avoid drinking from the spot commonly used by others at tea-shops.

Usha has made a week-long diet with the common vegetables and fruit that are sold both seasonally or round the year in every Indian bazaar and you can do it too. Look for unpolished parboiled rice (ukdaa) and organic wheat. There is Indian wild millet in plenty like nachni and bajra which are enormous protein banks. Eat them by grinding them to flour, make chapattis or upma and stay healthy.

Then shop for the cheapest fruit and eat it in plenty after washing the fruit. It is a good habit to have fruit only for breakfast as it also helps digestion apart from the minerals, vitamins and nutrient value. Look for green and red vegetables. Fresh green beans of all kinds stir fried with light 'bagaar' (tempering) with mustard seeds and green chilies with minimal oil are great for nutritional value. Change them every day so that the stomach learns to adjust to these variegated healthy foods. Eat dalia (broken wheat or bulgar) boiled with whey and a little jaggery. It's simple yet amazingly tasty and lastly good for you.

Walk rather then take buses and see the huge range of naturally grown vegetables India is so rich in. Touch them and smell them before you buy them fresh. The different kinds of gourds -- bitter (karela), ridged(turiya) and snake (lauki) -- are by themselves a huge mine of protein and fiber. Use them liberally with moong dal to make tasty kichdis with small quantities of unpolished rice. And the number of pumpkins, cucumbers and gerkins (tondli) are legion. Eat them all year round for both roughage and proteins. Eat dahi more than whole milk. Rice payasam is easy to make and cheap. Learn to observe the poor who make chutneys from tamarind seeds, for example. Wild mint and coriander makes for absolutely wonderful chutney with raw mangoes rich in Vitamin C. And if you have a generous baker in your neighbourhood, then use different cereal dough to make your own bread. Many bakers charge you a small sum to use their huge ovens. So experiment with dough of nachni and broken dalia or barley and millet breads.

Vary your diet and be free. And share it with everyone around you. Sharing your food is like eating from a million mouths. When you see healthy people around you, you too will be healthy and we can all move forward together as a healthy nation. As the ancient Sanskrit prayer goes : "Om Sahana Vavatu, Saha Nau Bhunaktu, Saha Viryam Karavavahai..." (Om, Let us sit together. Let us eat together and Let us do Brave Acts Together).

Yes Indeed!

D. Lakshmi Rani, Gender Specialist, UNFPA Maldives

This is a very enthusing response. Good work, keep it up. But I would like to know whether it withstands the difficulties in consumption associated with ARV therapy, which has been planned in a big way in selected states of our country? I have only reviewed the available literature on anorexia associated with it and found it quite alarming. What you propose is so much like what we normal healthy beings consume and if the acceptability and retention are satisfactory, it can

be advocated for on a much larger scale.

Thanks in advance

Gopi Ghosh, FAO, New Delhi

Meeting immediate food, nutrition and other basic needs is essential if HIV/AIDS-affected households are to live with dignity and security. Providing nutritional care and support for PLHIV is an important part of caring at all stages of the disease. This manual below "Living well with HIV/AIDS -A manual on nutritional care and support for people living with HIV/AIDS" provides home care agents and local service providers with practical recommendations for a healthy and well balanced diet for PLHIV. It deals with common complications that PLHIV are experiencing at different stages of infection and helps provide local solutions that emphasize using local food resources and home-based care and support. For details please see- http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/005/Y4168E/Y4168E00.HTM

HIV/AIDS and nutrition are critically associated. Inadequate nutrition can damage the immune system and contribute to the acceleration of full-blown AIDS. HIV/AIDS may also lead to malnutrition as HIV weakens the immune system compromising body's ability to fight infections. HIV positive people may be susceptible to prolonged illness, with reduced appetite and interference in nutrient absorption. Essential nutrient needs also go up. Many affected people cannot meet these extra needs, though adequate well-balanced diet is critical basic care for such persons.

"Incorporating HIV/AIDS Considerations into Food Security and Livelihood Projects" is an important document that, as the title indicates, systematically addresses various stages of identification, preparation, appraisal and review, implementation and monitoring, and, mid term review and evaluation of addressing the impact of HIV/AIDS on food and livelihood security. It stresses on rethinking and revising development strategies with a focus on protecting and promoting nutritional well being among PLHIV. Kindly see http://www.fao.org/documents/show_cdr.asp?url_file=/docrep/004/y5128e/y5128e00.htm for more on this.

Further FAO's Food security and HIV/AIDS website provides significant information on this and other interrelated aspects. Please click the link below:
http://www.fao.org/es/esn/nutrition/household_hivaids_en.stm

Lastly I strongly recommend to see the BBC World documentary which explores the relationship between HIV/AIDS and food security, aired last year and is an excellent awareness raising and advocacy tool. Please see the news article in the link below for more details.
http://www.fao.org/english/newsroom/focus/2003/aids.htm

For further information about the film, please contact:
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Prema Ramachandran, NFI, New Delhi

Food as a first medicine- In HIV infected persons it is important to ensure that they and their families have Food and nutrition security; this is the most fundamental and important prerequisite for care and support, treatment and impact mitigation in HIV infected persons . Policies and programmes need to be geared to strengthen existing capacities to respond to food

insecurity and supplementing them with appropriate safety nets for those who cannot otherwise cope. Economic viability is important for people to have capacity to buy food required for maintaining normal nutritional status and to cope with infections. Dr Cheryl Jackson, USAID/USDA made a presentation on "food as a first medicine: HIV/AIDS, agriculture, food and nutrition security" in the conference organised by NFI in March 2004. The presentation is available on NFI website- http://nutritionfoundationofindia.res.in/conferences.asp#food

Dietary diversity- it is important to ensure dietary diversity in the diets of people to provide adequate phytochemicals, antioxidants, vitamins and minerals to improve immunity and strengthening resistance and resilience.

HIV infection and breast feeding - Pre- 1985 CDC/WHO recommendations were to prevent breast milk transmission of HIV sero-positive women should not breast feed. Later modified to indicate that if child is HIV negative HIV sero-positive women should not breast feed. But in 1987 -ICMR studies showed that in India if breast feeding is prohibited in sero-positive women, the infants had higher episodes of infections and became under nourished. At that time test for diagnosis of HIV infected infants soon after birth was not available. Therefore ICMR (1990) recommended that HIV infected infants should not be deprived of the benefits of breast feeding.

Majority of HIV infected women in India do not belong to recognised high risk groups. Currently counselling and screening for HIV infection are not a part of routine antenatal care. Therefore majority of sero positive pregnant women will not know that they are infected.

Under Indian conditions in low and middle income group families breast feeding is essential for infant survival and growth. In India breast milk substitutes are not affordable, accessible or safe.. In view of this promotion of universal breast feeding is the national policy irrespective of the fact that HIV status of the woman is known or not known.

A study was conducted in Zimbabwe on HIV transmission. A total of 14, 110 mother–newborn pairs were enrolled, randomly assigned to vitamin A treatment group after delivery, and followed for 2 years. All infants were breastfed. Breastfed infants were classified as exclusive, predominant, or mixed breastfed.

The results showed that exclusive breast feeding for the first six months may substantially reduce breastfeeding-associated HIV transmission. The details of the study are available at- http://www.waba.org.my/pdf/Exclusive_breastfeeding_and_HIV_transmission.pdf

Infant and Young Child Feeding (IYCF) - Tenth Five year Plan envisaged on Universal breast feeding, early initiation of breast feeding, exclusive breast feeding for the first six months, complementary feeding initiated at six months, continued breast feeding for 24 months or longer.

Many thanks to all who contributed to this query!

If you have further information to share on this topic, please send it to Solution Exchange for the Food and Nutrition Security Community in India at se-food@groups.solutionexchange-un.net.in or aids-se@groups.solutionexchange-un.net.in with the subject reading 'Re: Nutrition and PLHIV, from Elizabeth Noznesky, WFP, (Examples). REPLY BY: 5 January 2006.

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