Anti-retroviral drugs and Nutritional Supplementation

1. Introduction

Nutritional supplementation forms a vital port in the treatment of patients suffering from malnutrition and HIV / AIDS.

This document will serve as a guideline for the identifying of target groups, distribution of nutritional supplements, the supplementation regime, exit criteria (where applicable), nutritional supplementation specifications and nutrition education.

This document is aimed at the Health Professionals in Primary Health Care Facilities and ARV sites that are daily confronted with the dispensing of various nutritional supplements from various programs.

2. TARGETING

The target group for the ARV and Nutritional Supplementation policy includes:

- Children 0-60 months, CD4 count <200, participating in ARV program
- Children 6-14 years, CD4 count <200, participating in ARV program
- Pregnant and lactating women, CD4 count <200, participating in ARV program
- Adults, CD4 count <200, participating in ARV program

3. PROGRAM PACKAGE

3.1. PRIMARY INTERVENTION

Nutrition education will form a vital part in the treatment and management of the HIV / AIDS patient who participates in the ARV program.

3.1.1. NUTRITION EDUCATION

Nutrition education should be presented on the following topics according to need:

- Infant feeding practices, based on the mother's choice to the feeding of her infant.

- Appropriate complementary feeding from 6 months and up. When to introduce complementary feeds, frequency of feeding, energy density of meals, quantities of food per meal;
- Promotion of the consumption of micro-nutrient rich foods
- Food and environmental hygiene and healthy eating habits
- Caring of women and children
- Nutrition during pregnancy and lactation
- Dangers of alcohol / smoking in pregnancy
- Disease specific nutrition education.
- Taking care of yourself
- Cooking and eating defensively
- Eating well while coping with the symptoms of illness
- Recipes for nutritional benefit for HIV / AIDS patients

See Nutrition and ARV Training manual for Nutrition Education guidelines

3.2. SECONDARY INTERVENTION

Secondary intervention entails providing supplementary food for nutrition rehabilitation to target groups as described above. With the exception of infants aged 0-6 months, food products are provided mainly to add energy, certain macronutrients and micronutrients to the existing diet of the patient. The patient should be made aware of it that the food products are only supplementary to the normal diet (which should be adapted according to individual needs).

3.3. HOUSEHOLD FOOD SECURITY

As part of the treatment of nutritional status, it is important that HIV / AIDS patients be supported in the establishment of a food garden at home. This food garden will provide vegetables in order to assist with the intake of food rich in vitamins, to boost the immune system.

Each patient participating in the ARV program will be issued with an eco garden system kit and seeds. The community health worker to establish the food garden will support the household.

3.4. PRODUCTS TO BE USED FOR NUTRITION REHABILITATION

INFANTS AGED FROM BIRTH TO 6 MONTHS

(Only in cases where the mother chooses not to breastfeed her infant)

- Issue **one of the following** products according to the identified individual need:
  - 1 brand breast milk substitute (BMS) – acidified

OR

  - 1 brand breast milk substitute (BMS) – soya milk based

Acidified BMS

- Supply products to non-breastfed babies

Mothers / Caretakers should be educated in the hygienic preparation of the formula according to the manufacturer's instructions on the container.

Soya based BMS

- To be used in cases where infants cannot tolerate the acidified breast milk substitute or when acidified formula is not available

Mothers / Caretakers should be educated in the hygienic preparation of the formula according to the manufacturer's instructions on the container.

CHILDREN OLDER THAN 6 MONTHS UPTO 60 MONTHS

- Issue **all of the following** products per underweight child:
  - 1 kg Enriched, lactose free protein drink per child per month
  - 2 kg Enriched maize meal per child per month
  - 100 ml Multivitamin syrup per person per month

MIXING INSTRUCTIONS PER DAY:

PRODUCT	PRODUCT WEIGHT PER DAY	WATER (PREBOILED AND COOLED)
Enriched, lactose free drink	30g = 8 level medicine measures	Add 200ml (2/3rd cup) water to the product
Precooked, enriched maize meal	66g = 16 level medicine measures	Add 250 ml (1 cup) water
Multivitamin syrup*	5 ml per day for 20 days, OR 5 ml for 10 days and 2,5 ml for 20 days.	

* Only in the case where the enriched meal do not provide 100% of the RDA for micronutrients

THE ABOVEMENTIONED PRODUCTS ARE ONLY SUPPLEMENTARY (ADDITIONAL) TO THE NORMAL DIET. THESE PRODUCTS SHOULD BE SUBDIVIDED INTO SMALLER QUANTITIES TO BE ADDED TO AT LEAST TWO TO THREE OF THE DAILY MEALS. IT SHOULD PREFERABLY BE TAKEN TOGETHER WITH THE MEALS FOR THE DAY. IT IS IMPORTANT THAT MOTHERS / CARETAKERS SHOULD UNDERSTAND THAT CHILDREN 6-60 MONTHS SHOULD WAT FROM THE FAMILY POT.

Please note:
Advise the mother / caretaker to add 5 ml (1 teaspoon) of cooking oil to the prepared enriched maize meal. By doing this, the energy value and the essential fatty acids content will be higher.
This cooking oil will NOT be SUPPLIED as part of this program.

PREGNANT AND LACTATING WOMEN

- Issue **all of the following** per underweight women:
  - 1 kg Enriched, lactose free protein drink per person per month
  - 2 kg Enriched maize meal per person per month
  - 100 ml Multivitamin syrup per person per month

MIXING INSTRUCTIONS PER DAY:

PRODUCT	**PRODUCT WEIGHT PER DAY**	WATER (PREBOILED AND COOLED)
Enriched, lactose free drink	30g = 8 level medicine measures	Add water to 200ml (2/3rd cup)
Precooked, enriched maize meal	66g = 16 level medicine measures	Add water to get 250 ml (1 cup)
Multivitamin syrup*	5 ml per day for 20 days, OR 5 ml for 10 days and 2,5 ml for 20 days.	

* Only in the case where the enriched meal do not provide 100% of the RDA for micronutrients

THE ABOVEMENTIONED PRODUCTS ARE ONLY SUPPLEMENTARY (ADDITIONAL) TO THE NORMAL DIET. THESE PRODUCTS SHOULD BE SUBDIVIDED INTO SMALLER QUANTITIES TO BE ADDED TO AT LEAST TWO TO THREE OF THE DAILY MEALS. IT SHOULD PREFERABLY BE TAKEN TOGETHER WITH THE MEALS FOR THE DAY.

Please note:
Advise the mother / caretaker to add 5 ml (1 teaspoon) of cooking oil to the prepared enriched maize meal. By doing this, the energy value and the essential fatty acids content will be higher.
This cooking oil will NOT be SUPPLIED as part of this program.

ALL INDIVIDUALS OLDER THAN 60 MONTHS

- Issue **all of the following** per underweight person:
  - 1 kg Enriched, lactose free protein drink per person per month
  - 2 kg Enriched maize meal per person per month
  - 100 ml Multivitamin syrup per person per month

MIXING INSTRUCTIONS PER DAY:

PRODUCT	**PRODUCT WEIGHT PER DAY**	WATER (PREBOILED AND COOLED)
Enriched, lactose free drink	33g = 8 level medicine measures	Add water to 200ml (2/3rd cup)
Precooked, enriched maize meal	66g = 16 level medicine measures	Add water to get 250 ml (1 cup)
Multivitamin syrup	5 ml per day for 20 days, OR 5 ml for 10 days and 2,5 ml for 20 days.	

THE ABOVEMENTIONED PRODUCTS ARE ONLY SUPPLEMENTARY (ADDITIONAL) TO THE NORMAL DIET. THESE PRODUCTS SHOULD BE SUBDIVIDED INTO SMALLER QUANTITIES TO BE ADDED TO AT LEAST TWO TO THREE OF THE DAILY MEALS. IT SHOULD PREFERABLY BE TAKEN TOGETHER WITH THE MEALS FOR THE DAY.

Please note:
Advise the mother / caretaker to add 5 ml (1 teaspoon) of cooking oil to the prepared enriched maize meal. By doing this, the energy value and the essential fatty acids content will be higher.
This cooking oil will NOT be SUPPLIED as part of this program.

4. NUTRITIONAL SUPPLEMENTS TO USE

See Addendum5 for the issuing of nutritional supplements. However, it is recommended that an enriched meal, which provided 100% the RDA for micronutrients be used.

5. EXIT CRITERIA FOR THE NUTRITION SUPPLEMENTATION PROGRAM

It is suggested that patients as identified through the target group criteria, be part of this supplementation program for as long as it is needed. However, patients should be referred to Department of Social Welfare, NGO's and Household Food security programs. If it should happen that the patient are not participating in the ARV program any longer, this patient should be referred to the Nutritional Supplementation and HIV / AIDS, TB and debilitation disease program.

6. REFERRAL ROUTE

Since the nutritional status of the HIV /AIDS patient play such a bi role in the management of the patient, it is of utmost importance that a patient be counseled by a registered dietician regarding the adaptation of the patient's lifestyle. The screening criteria in Addendum 6 are a guideline for the referral of patients to dieticians when dietetic services are not available on a daily basis.

7. MONITORING AND CONTROL

A good monitoring and control system is an important element for successful program management and evaluation.
The following form will be used in the Free State:

- ARV1: Control register
- ARV2:(Summary)
- ARV3: Order and delivery form

See Addendum 1-4 of this document.

8. List of Addendums

1. Regime for issuing Nutritional Supplements
2. Order and Delivery Form
3. Program Summary
4. Control register
5. Food Supplements Specifications
6. Screening criteria for referral of patients to a registered dietician

ADDENDUM 1

QUANTITIES OF BREASTMILK SUBSTITUTE TO BE ISSUED TO BABIES ON ARV PROGRAM:

BREASTFED BABY UNDER 6 MOHTHS:

PLEASE NOTE:

In this case the mother should be assisted to increase her milk production. Supplements are usually not needed. To ensure success, the number of breastfeeds should be increased to at least 10 – 14 or more breastfeeds in 24 hours. In practice the baby is receiving supplementary feeding, but in the form of supplementary breastmilk directly from the breast. By putting the baby on the breast more frequently, the baby is receiving more milk in total, and at the same time the mother's breasts are stimulated to produce more milk. After a few days the mother's milk supply will be ample. The mother should now continue to breastfeed on demand, at least 8 or more times in 24 hours.

The position and attachment of the baby on the breast must be evaluated and corrected if necessary to ensure long-term success and prevent nipple soreness.

If the mother is not with her baby 24 hours a day, she should express breastmilk during the times she and her baby is separated, to give a total of 10 – 14 incidents of milk removal when breastfeeds and breastmilk expressions are added up. The expressed breastmilk can be given to the baby when the mother and baby are not together. When they are together, the mother must breastfeed as frequently as the baby is willing to breastfeed (this can be as frequent as hourly of even more often).

BABIES NOT BREASTFED:

PRODUCT: NAN PELARGON (400g, ACIDIFIED)

Age of baby	NUMBER OF TINS PER MONTH
1st and 2nd weeks	3
3rd and 4th weeks	3
2nd month	4
3rd and 4th months	5
5th and 6th months	4

PRODUCT: DIVA INFANT FORMULA (500 g, SOY BASED)

WEIGHT OF BABY UP TO:	AGE OF BABY	NUMBER OF BAGS PER MONTH
2,5 kg	1 – 3 weeks	2
3,5 kg	1 month	3
4,5 kg	2 months	4
6,0 kg	3 – 4 months	4
6,5 kg	5 – 6 months	3
7,0 kg and over	6 months	4

PRODUCT: INFASOY (500g, SOY BASED)

WEIGHT OF BABY	AGE OF BABY	NUMBER OF TINS PER MONTH
2,5 kg	1 – 2 weeks	2
3,0 kg	2 – 4 weeks	2
3,5 kg	4 – 6 weeks	3
4,0 kg	6 – 8 weeks	3
4,5 kg	8 – 10 weeks	4
5,0 kg	10 – 12 weeks	4
5,5 kg	12+ weeks	4

ADDENDUM 2

ARV 2: ORDER AND DELIVERY FORM

(PS: COMPLETE IN DUPLICATE)

FOOD SUPPLEMENTS TO BE ORDERED **BEFORE THE 5TH** OF EVERY MONTH

CLINIC/HOSPITAL: _____ *DISTRICT:* _____
COMPLETED BY: _____ *DATE:* _____
PHYSICAL ADDRESS: _____
_____

FOOD SUPPLEMENT	**NEED**	**ISSUED** (For Office Use)	**RECEIVED BY CLINIC** (Amount)
Acidified BMS* (400g tins)	**X 400g**	**X 400g**	**X 400g**
Soya BMS* (500g packets)	**X 500g**	**X 500g**	**X 500g**
Protein/Energy Drink (500g packets)	**X 500g**	**X 500g**	**X 500g**
Enriched Maize meal (EMM)	**X 1kg**	**X 1kg**	**X 1kg**
Multivitamin	**X 100ml**	**X 100ml**	**X 100ml**

(*BMS = Breast Milk Substitute)

SIGNED : _____ (CHIEF PROFESIONAL NURSE)
NAME IN PRINT: _____
TELEPHONE NUMBER: _____
SEND THE ARV 2 FORM TO: The District Dietitian
Tel No._____
Fax No._____

ADDENDUM 3

ARV1: Summary Form

ARV SUPPLEMENNTATION PROGRAM SUMMARY

(please attach to ARV 2 form for ordering)

DISTRICT NAME : _____

TOWN: _____

CLINIC: _____

MONTH: _____

Acid = Acidified
BMS = Breast Milk Substitute
Protein Drink = Protein/energy drink
EMM = Enriched Maize Meal
Vit & Min = Vitamins and Minerals

						Products issued for the month					
Patient number	Name of Patient	Gender (M/F)	Age	Weight /BMI	Last Diagnosis / Comment	Acid BMS (tins)	Soya BMS (tins)	Protein Drink (Bags)	EMM (Bags)	Vit & Min(bot-tles)	Outcome ↑/→/↓

Signed: _____ Name in print: _____ Summary page:……

(use more than one page if necessary)

ADDENDUM 4

ARV2: MALNUTRITION PROGRAM – CONTROL REGISTER

REGION:	
TOWN:	
CLINIC:	
NAME OF PATIENT:	
MALE:	**FEMALE:**
ADDRESS:	
DATE OF BIRTH:	
PATIENT NUMBER:	

ENTRY DIAGNOSIS	
ARV CHILDREB	
0-6 moths	
7-12 months	
13-60 months	
6-14 years	
ARV ADULTS	
15-18 years	
19-30 years	
31-40 years	
41-50 years	
> 50 years	

Date	Age (Months/ years)	Weight-Child BMI- Adult	Outcome			Diagnosis/ Comments	Treatment Quantity of Supplements					Signature
			↑	↔	↓		Acid BMS	Soya BMS	Protein Drink	EM Meal	Vit A / Multivits	

BMI = Weight (kg) / Length²(m²)

Acid = Acidified
BMS = Breast Milk Substitute
EMM = Enriched Maize Meal
Vit & Min = Vitamins and Minerals

ADDENDUM 5

FOOD SUPPLEMENTS SPECIFICATIONS

PROTEIN DRINK SPECIFICATIONS

Specifications for enriched protein based energy drink

The product shall be a soy based, lactose free mix in a powdered form that needs to be mixed with water to provide the following nutrients per 100g dry product:

Energy – 1800kJ
Protein – 18g
Fat - 18 -22g
Carbohydrate - 40 - 50g
Dietary fibre maximum 6g
Vit. A – 760 mcg RE
Vit D – 10 mcg
Vit E – 10 mcg TE
Vit. B1 – 1,30 mg
Vit. B2 – 1,65 mg
Vit. B6 – 5,20 mg
Vit. B12 – 3,30 mcg
Folic acid – 330 mcg
Biotin – 130 mcg
Nicotineamide – 17,40 mg
Pantothenic acid – 5,61 mg
Vit. C - 49,5 mg
Choline – 130 mg
Vit. K - 52 mcg

Potassium – 870 mg
Calsium – 870mg
Magnesium – 87,5 mg
Sodium maximum – 365 mg
Iron – 10,1 mg

Zinc – 10, 0 mg
Copper – 2,64 mg
Phosphorus – 870 mg
Iodine – 130 mcg
Manganese – 3,3 mg
Selenium - 21,5 mcg
Molybdenum – 21,5 mcg
Chromium – 21, 5 mcg

The product should contain no artificial sweeteners and preferably no colorants. If colorants are present, it should only be permitted colorants. Only permitted flavors are acceptable.

All dry samples must contain less than 10 coliform organisms / gram, no Salmonella-, Shigella-, Staphylococcus aureus- or E.Coli organisms in a 30g sample and no viable spores of mesophilic Clostridium organisms in a 30 g sample.

Marking :

The containers shall be labelled in accordance with requirements of the regulations promulgated under the Marketing Act and the Agricultural Product Standards Act.

The method of preparation must appear on every container.

ENRICHED MAIZE MEAL SPECIFICATIONS

Specifications for instant enriched maize meal:

The following requirements must be specified in the orders.

Requirements :

- The product must be a maize-based, pre-cooked product that only need the addition of cold or hot water to be reconstituted.
- The product shall be of an acceptable taste;

- The product shall contain no egg protein, no lactose, and no colorants, artificial sweeteners or preservatives;
- The product shall be of the defined quality and hygienic standards and shall comply to the following specifications regarding nutrient content:

The product shall contain the following nutrients per 100 g dry product:

Typical Analysis	g/100g
Protein	12.5
Total Carbohydrates	60.0
Fat	17.0
Energy (kilojoules)	1800.0
Bulk density	0.5
Moisture	8.0
Ash	2.5

Vitamins	g/100g
Vitamin A	399.90 mcg R.E.
Vitamin D	10.00 mcg
Vitamin E	7.35 mg
Vitamin C	45.00 mg
Vitamin B1	0.70 mg
Vitamin B2	0.80 mg
Nicotinamide	9.00 mg
Vitamin b6	0.90 mg
Folic Acid	50.00 mcg
Vitamin B12	0.67 mcg
Biotin	13.33 mcg
Pantothenic Acid	2.00 mg

Minerals	g/100g
Calcium	533.33 mg
Phosphorus	533.33 mg
Iron	10.00 mg
Magnesium	66.67 mg
Zinc	6.67 mg
Iodine	46.67 mcg
Sodium	190.00 mg
Potassium	403.33 mg
Selenium	13.33 mcg

* 100% RDA for micronutrients is recommended for enriched maize meal to use in HBC and ARV programs.

All dry samples must contain less than 10 coliform organisms / gram, no Salmonella-, Shigella-, Staphylococcus aureus- or E.Coli organisms in a 30g sample and no viable spores of mesophilic Clostridium organisms in a 30 g sample.

Marking :

The package shall have the name as well as nutrient content printed on the outside. An expiry date should be printed on the packaging material. Reconstitution instructions should be printed on the packaging.

ADDENDUM 6

SCREENING CRITERIA FOR REFERRAL OF PATIENTS TO A REGSITERED DIETICIAN

1. Introduction

Nutrition management is an integral part to the care of all patients infected with HIV. HIV infection results in complicated nutritional issues for patients and there is growing evidence that nutritional interventions influence health outcomes in HIV-infected patients. In this document the levels of nutritional care will be defined and a guideline will be provided for when patients should be referred to registered dieticians / nutritionists.

2. Education

During the course of HIV infection, several nutrition issues are likely to arise, including the need for education about the following:

- Healthy eating guidelines
- Maintenance of lean body mass and normal growth in children and treatment of wasting
- Management of metabolic complications due to drug therapies
- Management of drug and food or nutrient interactions
- Management of gastrointestinal symptoms that may influence the type and amount of food ingested
- Appropriate use of herbal and / or nutritional supplements
- Cultural and ethics beliefs related to diet and food
- Role of exercise
- Relationships between substance abuse and nutrition
- Food safety
- Nutrition during pregnancy
- Access to infant formula and food as an alternative to breastfeeding

3. HIV and weight loss

HIV-infected patients may be at nutritional risk at any point of their illness. Severe malnutrition and weight loss, particularly loss of lean tissue, and delayed weight gain and height velocity in children, can affect morbidity and

mortality. Fear of developing fat-redistribution syndrome, with central obesity and loss of subcutaneous fat may prevent patients from beginning or continuing potent antiretroviral therapies. Development of hyperglycemia and lipid abnormalities may increase the risk of diabetes, heart disease and stroke.

4. Nutrient-Drug interactions

Food and drug interactions are and important issue for effectiveness and tolerability of antiretroviral therapies. The presence of food in the gastrointestinal tract can influence the absorption of several HIV medications such as didanosine, indinavir, saquinavir and nelfinavir. Drug-food interactions can influence serum drug concentrations, thus increasing the likelihood of side effects when serum concentrations are too high and increasing the risk for viral resistance and loss of durable viral suppression when serum concentrations are too low. It is important for healthcare professionals to be knowledgeable about these interactions so they can help patients with timing of their antiretroviral regimens with regard to food.

5. Symptoms and side effects

Anorexia and oral / gastrointestinal symptoms such as pain, nausea, vomiting, malabsorption and diarrhoea may arise from HIV infection, secondary infections, encephalopathy or drug therapies. Inability to eat food secondary to complicated medical regimens or fatigue adds to the nutritional risk. Opportunistic infections are associated with increased resting energy expenditure and HAART may be associated with increased or decreased resting energy expenditure. Clinically, these symptoms may prevent adequate nutritional intake, resulting in continued weight and lean tissue loss, vitamin or mineral deficiencies and poor nutritional status. Chemical dependency and socioeconomic factors can limit access to proper food and nutrition. The malnutrition that results can it contributes to an increased immunocompromised state.

If weight does increase while the patient receives antiretroviral therapy, the gain appears to be mostly fat rather than lean body mass. In children, catch-up growth has been reported after initiation of HAART.

6. The levels of Nutrition Care

Because of the rapidly changing picture of HIV disease, the CDC classification by CD4 count and clinical signs and symptoms may not be appropriate for nutritional complications or referrals. Ideally, all patients infected with HIV should have access to a registered dietician. Nutrition and medical assessments are needed for optimal individualized care.

The initial visit of a new HIV positive patient should include screening for nutritional risk. The purpose of screening is to categorize a patient's nutritional needs as low, moderate or high risk for nutrition compromise. Referral to a registered dietician should then be made as indicated below, for nutrition assessment and development of an individualized care plan. Follow-up visits for those with greater risk for nutritional problems should be referred to the dietician in a timely manner on the basis of the urgency of the problem. The timing for referral to a dietician is made on the basis of the following guidelines and expert opinion. In general these guidelines apply to all age groups and both sexes.

Levels of nutritional risk are categorized as low, moderate and high risk for nutritional compromise. The risk reflects consideration of multiple factors that may lead to nutritional compromise. The spectrum of nutritional intervention includes ensuring basic education on healthy diets, identifying common practices and diseases that traditionally require nutrition counseling or intervention, and assessing conditions that are specifically seen in HIV disease that are known to affect morbidity and mortality if nutrition intervention does not occur. Many of these factors span the spectrum of HIV disease; therefore, individualized assessment, rather than triage by stage of HIV disease, is recommended.

7. Nutritional risk screening for HIV positive patients

The priority timeline for referral for patients categorized by nutritional risk is as follows:

- High risk to be seen by a registered dietician within one (1) week.
- Moderate risk to be seen by a registered dietician within 1 month
- Low risk to be seen by a registered dietician as needed

7.1. High risk (see dietician within 1 week)

A. Poorly controlled diabetes mellitus
B. Pregnancy (mother's nutrition; infant: artificial infant feeding)
C. Poor growth, lack of weight gain, or failure to thrive in pediatric patients
D. > 10% unintentional weight loss over 4-6 months
E. > 5% unintentional weight loss within 4 weeks or in conjunction with:
    1. Chronic oral and / or esophageal thrush
    2. Dental problems
    3. Loss of appetite (dysphagia)
    4. Chronic nausea or vomiting
    5. Chronic diarrhoea
    6. CNS disease
    7. Intercurrent illness or active opportunistic infections
F. Severe dysphagia
G. Enteral and parenteral feedings
H. Two or more medical comorbidities, or dialysis.
I. Complicated food-drug-nutrient interactions
J. Severely dysfunctional psychosocial situation (especially in children)

7.2. Moderate risk (see dietician within 1 month)

A. Obesity
B. Evidence for body fat redistribution
C. Elevated cholesterol (> 200 mg/dL) or triglycerides (> 250 mg/dL), or cholesterol < 100 mg/dL.
D. Osteoporosis
E. Diabetes mellitus, controlled or new diagnosed
F. Hypertension
G. Evidence for hypervitaminoses or excessive supplement intake
H. Inappropriate use of diet pills, laxatives or other over-the-counter medications
I. Substance abuse in the recovery phase
J. Possible food-drug-nutrient interactions.
K. Food allergies and intolerance
L. Single medication comorbidity
M. Oral thrush

N. Dental problems
O. Chronic nausea or vomiting
P. Chronic diarrhoea
Q. CNS disease resulting in a decrease in functional capacity
R. Chronic pain other than oral / gastrointestinal tract source
S. Eating disorder
T. Evidence for sedentary lifestyle or excessive exercise regimen
U. Unstable psychosocial situation (especially in children)

7.3. Low risk (see dietician as needed)

A. Stable weight
B. Appropriate weight gain, growth and weight-for-age in pediatric patients
C. Adequate and balanced diet
D. Normal levels of cholesterol, triglycerides, albumin and glucose
E. Stable HIV disease (with no active intercurrent infections)
F. Regular exercise regimen
G. Normal hepatic and renal function
H. Psychosocial issues stable (especially in children)

All patients of all levels of risk should be educated about healthy eating guidelines. The patient's age, sex and physiological state, with special attention paid to pediatric growth and development, pregnancy, obesity, quality of dentition and exercise practices should be take into account. Family and medical history should also be considered, particularly regarding diabetes, coronary artery disease, hypertension and other cardiac risk factors. Recommendations and individualized care plans should be adapted to stage of HIV progression, from asymptomatic to advanced stages with active secondary infections. Socioeconomic, cultural and ethical background should be considered, including a history of mental health disorders or substance abuse as well as literacy level and financial status.

The screening criteria for nutritional referral are based on the following:

I. Time considerations, starting with a nutrition assessment at baseline and thereafter according to the individual's level of care, defined in the protocol.

A. For adults:

1. Asymptomatic HIV infection: 1-2 times a year
2. HIV / AIDS symptomatic but stable: 2-6 times a year

3. HIV / AIDS acute: 2-6 times a year
4. Palliative: 2-6 times a year

B. For children / adolescents:
   1. No signs / symptoms or mild signs / symptoms: 1-4 times a year
   2. Moderate signs / symptoms: 4-12 times a year
   3. Severe signs / symptoms: 6-12 times a year

II. New or ongoing clinical conditions.

III. The individual's ability to understand and incorporate nutrition management skills.

8. Referrals

Bartlett JG, 2003, "Integrating Nutrition Therapy into Medical Management of Human Immunodeficiancy Virus", Baltimore, Maryland

Nerad J, et al., 2003, "General Nutrition Management in Patients Infected wit Human Immunodeficiancy Virus:, Chicago, Illinois