Staying strong with HIV/AIDS

Seven ways to maintain Strength if you are HIV-positive

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How to Use the Flipchart

- Use in individual or group counseling.
- Counsel all HIV-positive clients on the **Seven Ways to Stay Strong if You Are HIV Positive**.
- Counsel clients taking food supplements by using counseling cards specifically for this group.

Tips for Conducting Sessions

- Greet the client.
- Listen attentively and maintain eye contact.
- Ask questions in ways that encourage clients to talk about themselves.
- In group sessions, invite different people to talk, including quiet people.
- Be empathetic; imagine yourself in the client's position so s/he knows you understand.
- Indicate that clients may have difficulty following all the recommendations but that you are there to provide support.
- Encourage clients to ask questions and share their own experience.

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SEVEN WAYS TO STAY STRONG IF YOU ARE HIV POSITIVE

1. See a health worker for periodic nutrition assessment (especially weight).
2. Eat more and different kinds of foods.
3. Maintain a high level of hygiene and sanitation.
4. Drink plenty of clean, safe (boiled or treated) water.
5. Maintain a healthy lifestyle.
6. Seek early treatment for infections and manage symptoms through diet.
7. Take medicines as advised by your health worker and manage food and drug interactions and side effects.

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1. Get weighed regularly.

EXPLAIN:

- Getting weighed regularly helps you track your nutrition and health status and take action early.
- If you have HIV-related symptoms, get weighed every month by a health worker.
- If you do not have HIV-related symptoms, get weighed at least every 3 months.
- Keep a record of your weight in a book or on a weight chart.
- Unintentional weight loss may mean poor health and lead to hospitalization.
- If you lose more than 5–10 kg in 2–3 months, either your health or eating habits are inadequate to maintain your weight or your HIV is progressing quickly to AIDS.
- Seek clinical care if you unintentionally lose 5–10 kg of weight in 2–3 months.

ASK:

- Why should you have periodic nutrition assessments?
- What may happen if you don't?

Unintentional weight loss of 5–10 kg in 2–3 months indicates that you are not eating enough good food or that HIV is progressing to AIDS.

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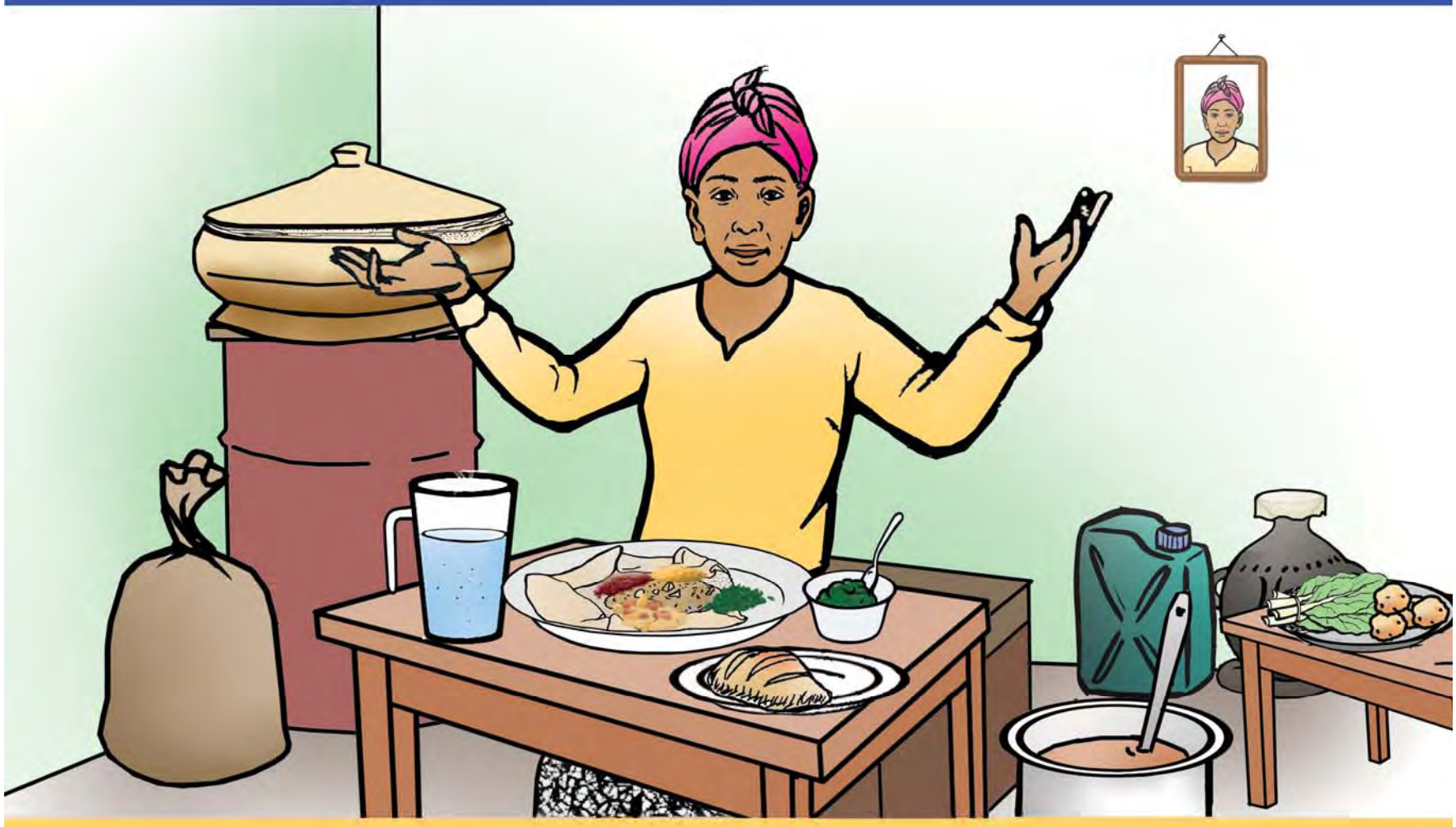

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2. Eat more and different kinds of foods.

EXPLAIN:

- People with HIV need to eat more to meet the extra energy needs from HIV infection, or else they will lose weight and strength.
- Eat three full meals and at least two snacks between meals every day.
  - Meals: Injera with two sauces, porridge, or pasta with tomato sauce and bread
  - Snacks: Bananas, mangoes, tea and bread, kolo, porridge, and boiled milk (use butter, ghee, or peanuts to flavor and enrich your snacks)
  - If you can't eat three full meals because of poor appetite, eat less food more often.
- Always eat different types of food.
  - Staple foods: Injera, bread, potatoes, porridge, fortified foods
  - Vegetables: Kale, pumpkin, carrots, potatoes, tomatoes
  - Fruit: Bananas, oranges, papayas, avocadoes, mangoes
  - Sauces: Shiro, lentils or beans, beef, chicken, fish, mutton, liver, or eggs
- Drink plenty of boiled or treated water.

ASK:

- Why should you eat three meals and regular snacks every day?
- What kind of foods can you eat easily at home?

Meals with a variety of foods help you stay strong and meet the additional energy needs resulting from HIV infection.

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3. Practice good hygiene.

EXPLAIN:

- Storing and preparing food improperly and having dirty hands can lead to infections, diarrhoea, or vomiting, which reduce the amount of energy, vitamins, and minerals available to the body.
- Use only boiled or treated water for drinking, taking medicines, and mixing juices.
- Wash your hands with soap and flowing water after using the toilet or helping children using the toilet and before eating or preparing food.
- Wash all fruits and vegetables with clean water before cooking or eating.
- Keep food and water in clean, covered containers away from insects, flies, and rodents.
- Clean food preparation areas and wash utensils with soap and water after every meal and cooking session.
- Avoid raw meat and eggs, spoiled or moldy foods, and juice made with unboiled water.
- Avoid food cooked in unhygienic places.

ASK:

- Why is it important to practice good hygiene?
- What could happen it you don't?
- How can you practice good hygiene in your home? Name three ways.

Good hygiene can prevent infection that can make you weaker.

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4. Drink plenty of boiled or treated water.

EXPLAIN:

- The body needs water to remove the toxins caused by HIV and by ARVs.
- Drink only boiled or treated water to prevent infections such as diarrhoea.
- To make water safe to drink you, bring it to a rolling boil or use water treatment products such as use WuhaAgar or PUR®.
- Store boiled or treated water in a clean storage container with a narrow mouth and a lid to prevent recontamination.
- Drink plenty of clean safe water; about eight glasses a day.
- Have enough clean, safe drinking water at home at all times to drink, make juice, and take medicine.

ASK:

- Why should you drink plenty of water each day? What may happen if you don't?
- What kind of water should you drink?

Boiling or treating water kills germs that could cause infection.

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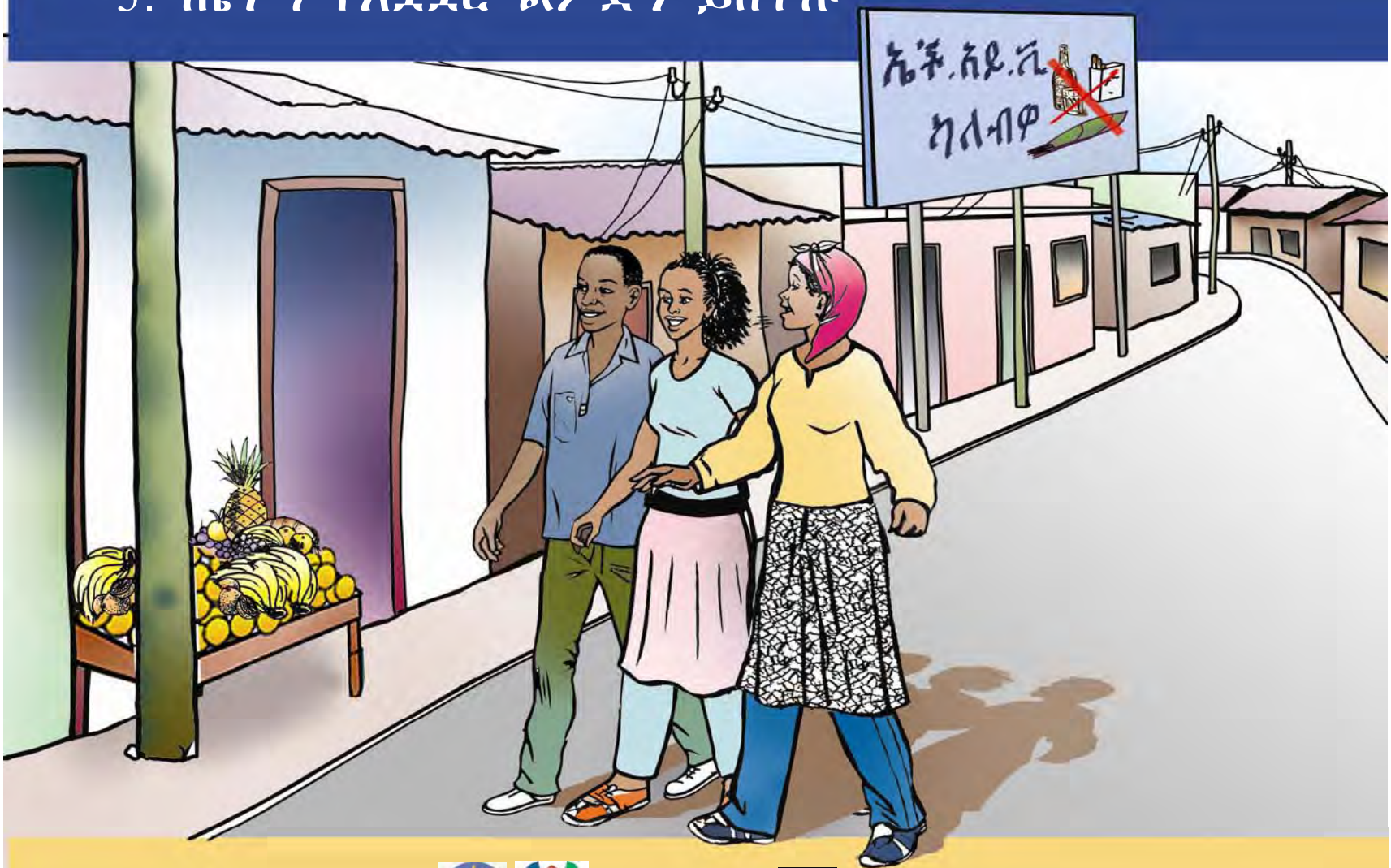

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5. Maintain a healthy lifestyle.

EXPLAIN:

- People with HIV are more vulnerable to illness than people without HIV.
- Practice safer sex to avoid re-infection with HIV.
- See a health worker regularly to check your weight.
- Avoid alcohol because it weakens your body, reduces appetite, affects nutrient absorption, and interferes with how medicines work in the body.
- Avoid eating unhealthy foods such as chips, soda, sugary foods, and street food.
- Avoid situations that cause stress and depression, which can affect your appetite.
- Get regular exercise such as walking, jogging, or gardening to improve blood circulation, stimulate appetite, reduce fat, and maintain muscle tone.
- Do not smoke cigarettes or chew khat, because they reduce appetite and make ARVs less effective.

ASK:

- Why should PLHIV maintain a health lifestyle? What may happen if they don't?
- What kind of unhealthy lifestyle can you avoid? How can you do that??

A healthy lifestyle helps you eat well, stay strong, and avoid infections.

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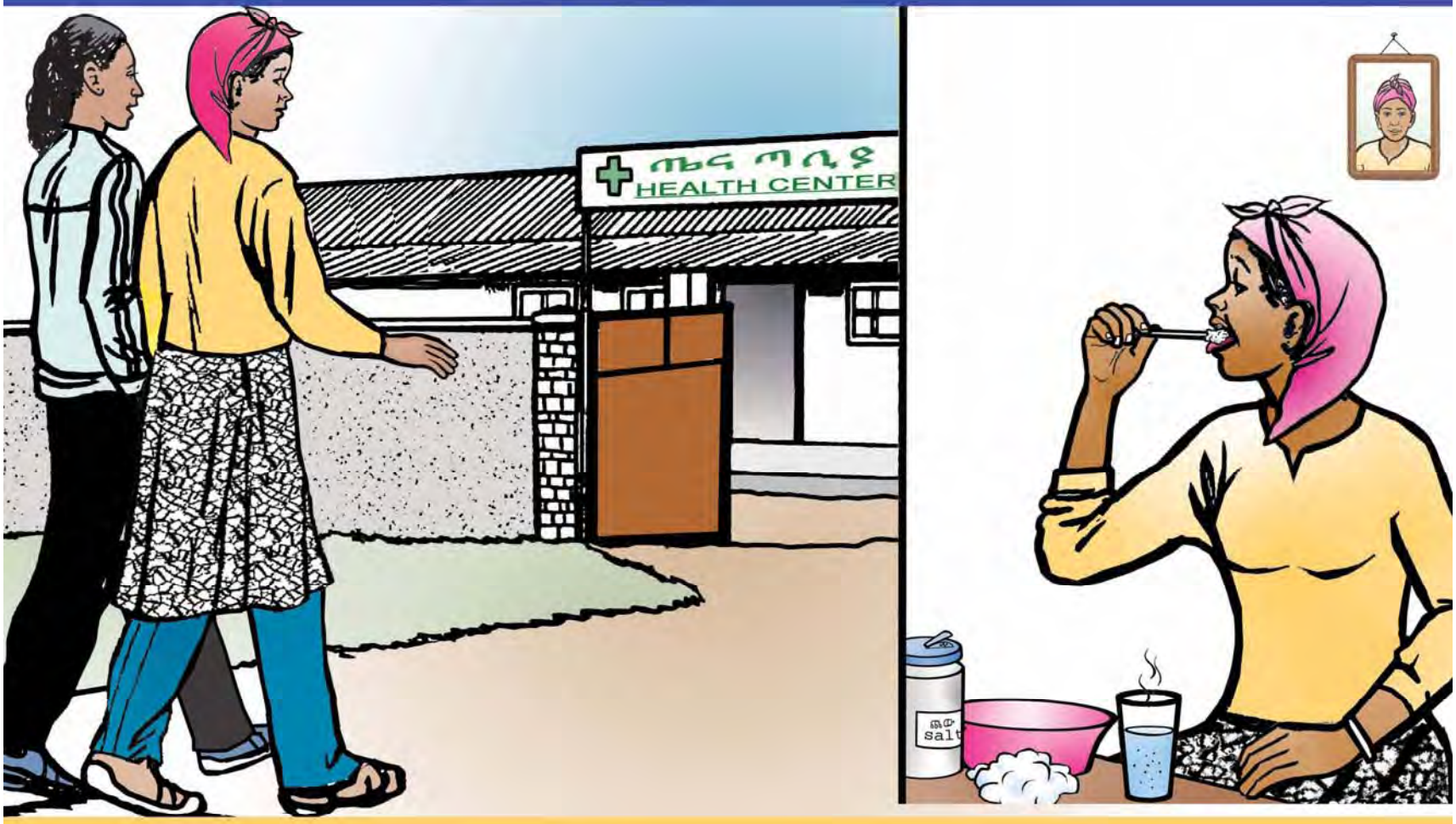

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6. Take care of yourself when you are sick.

EXPLAIN:

- Infections not treated immediately can interfere with the body's use of food, reduce appetite, and cause stress and depression, which cause weight loss and poor nutrition.
- Continue eating and taking medicines when you are sick, even if you do not feel like it.
- Eat foods that are easy to chew and swallow, appetizing, and energy dense (such as vegetable soup or gruel)**.**
- If you have mouth sores, eat soft, mashed foods, avoid sugar and spices, and clean your mouth every day with cotton and salt water.
- If you have diarrhea, drink more fluids, take ORS, and try to keep eating.
- If you have nausea or poor appetite, eat small amounts of food often and eat with supportive friends or family.
- If you have heartburn, eat small amounts of food often and avoid gas-forming foods such as cabbage or soda.
- See a health worker immediately for treatment if you are sick**.**

ASK:

- Which illnesses cause people to lose appetite or lose weight?
- Give two reason why you should seek medical treatment for symptoms that affect diet.

Getting infections treated early helps you stay healthy and strong.

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7. Take medicines and food as your health worker advises.

EXPLAIN:

- Medicines are most effective if you take the dose and follow the schedule recommended by your health worker. Some medicines require careful planning of when or what to eat.
- Take all medicines as advised by your health worker.
- Use only boiled or treated water to take medicines.
- Work with a health worker to make and stick to a drug-food schedule to plan when to take your medicines in relation to meals. Ask someone to help you stick to the schedule.
- Avoid alcohol when taking ARVs.
- Tell a health worker if you are taking any supplements, home therapies, or herbs, which may reduce the effectiveness of ARVs.
- Tell a clinician about all symptoms you think are related to the medicines you take.
- Ask your health worker how to manage symptoms and side effects (nausea, diarrhoea, lack of appetite) with diet.

ASK:

- Why is it important to stick to a drug-food schedule?
- Who can help you remember to take your medicines and eat well?

Sticking to the schedule for taking medicines and eating makes the medicines work better and reduces side effects.

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Support for Malnourished People on Food Supplements

EXPLAIN:

- A person who has lost too much weight needs to eat special foods to regain strength and weight. These foods should be eaten as recommended for as long as recommended
- The foods are like medicine—do not share them with other people in your home.
- Prepare the foods as instructed by your health worker.
- Maintain a high level of hygiene and sanitation when handling and preparing food.
- Use only boiled or treated water to drink or prepare food.
- Go to the clinic every month for weighing and any other needed assessment.
- Use you available money to buy foods that are nutritious and full of energy.
- Get dewormed every 6 months (twice a year)**.**

ASK:

- Why are the foods you were given important to treat your weight loss?
- How can you make sure to finish the food as recommended?

Food supplements are ONLY for malnourished clients, to help them regain strength and health.

Are you taking ARVs?

Continue taking your medications as advised by your health worker, even if you have vomiting, diarrhea, and loss of appetite. Follow the instructions below for each ARV you are taking:

- **Ziduvodine:** Take 1 hour before breakfast or dinner. If you experience side effects, take with food, but no fat or oil.
- **Nevirapine:** Take with or without food.
- **Lamivudine:** Take with or without food.
- **Efavirenz:** Take with or without food. Do NOT take with foods with too much fat or oil.
- **Stavudine:** Take with or without food.

If you have diarrhoea:

- Drink 1 full glass of oral rehydration solution (ORS). You can make ORS by adding 1 pinch salt and ½ teaspoon sugar to 1 glass of clean, boiled water or water treated with WuhaAgar or PUR®.
- Mash your food to make it easy to chew and swallow.

Have you been given food supplements?

- Follow the **Seven Ways to Stay Strong if You Are HIV Positive**.
- Eat the food supplements at the times your health worker recommends and in the amounts your health worker recommends.
- The foods are like medicine—do not share them with other people in your house.
- Prepare the foods as the health worker instructed.
- Attend the clinic every month to be weighed and checked for any other needed assessments.
- Use available money to buy nutritious and energy-rich foods.
- Get dewormed every 6 months (twice a year)

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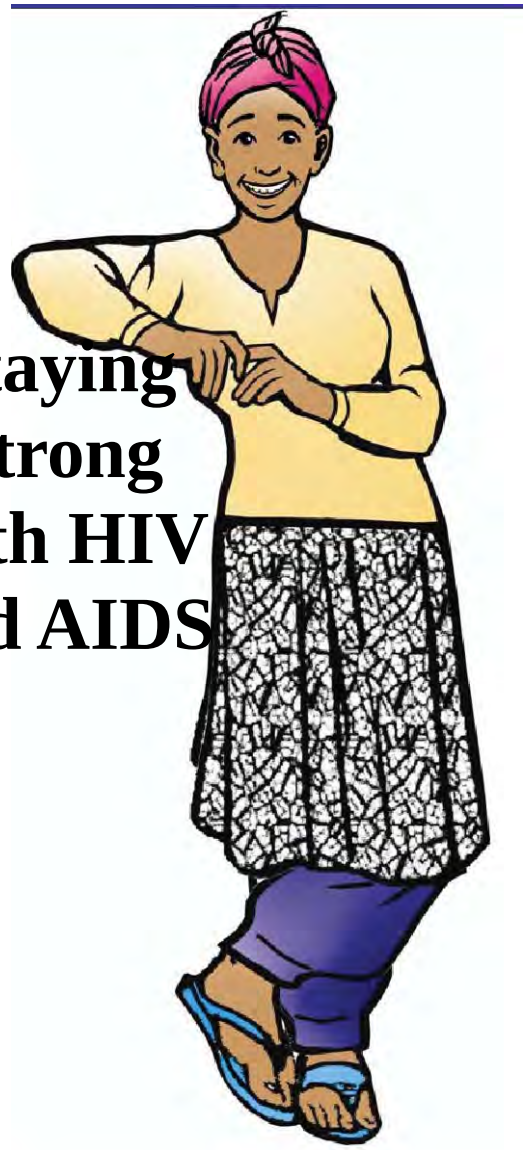
Staying Strong with HIV and AIDS



Seven Ways to Stay Strong if You Are HIV Positive

Get weighed regularly.

- Periodic weighing helps you track your nutrition and health status and take action early.
- Seek clinical care if you unintentionally lose 5–10 kg of weight in 2–3 months.

1

Eat more and different foods.

- Eat three meals every day, with at least two snacks between meals.
- Eat plenty of vegetables.
- Eat fruits such as papaya, avocadoes, and mangoes.

2

Practice good hygiene.

- Wash your hands with soap and flowing water after using the toilet or helping children using the toilet and before eating or preparing food.
- Keep food and water in clean, covered

3

Drink plenty of boiled or treated water.

- Drink at least 8 glasses of cool, boiled, or treated water every day.
- To make water safe to drink, bring it to a rolling boil or use water treatment products such as WuhaAgar or PUR®.
- Store boiled or treated water in a clean storage container with a narrow mouth and a lid to prevent recontamination.

4

Maintain a healthy lifestyle.

- See a health worker to check your weight once a month if you have HIV-related symptoms and every 3 months if you don't.
- Do not drink alcohol or chew khat when taking ARVs.
- Get regular exercise such as walking, jogging, or gardening to improve blood circulation, stimulate appetite, reduce fat, and maintain muscle tone.

5

Take care of yourself when you are sick.

- Continue eating and taking your medicines, even if you do not feel like it.
- See a health worker immediately for treatment of illness and infections.
- For mouth sores, eat soft mashed foods, avoid sugar and spices, and clean your mouth with cotton and salt water.
- For diarrhea, drink more fluids, take ORS, and try to keep eating.

6

Take medicines and food as your health worker advises.

- Take your food and medicines according to the schedule recommended by your health worker.
- Tell a health worker if you are taking any supplements, home therapies, or herbs, because these may reduce the effectiveness of ARVs.
- Tell a health worker about all symptoms that you think are related to the medicines you are taking.

7

Algorithm and Nutrition care Plans for the Management of Malnutrition in PLHIV—Children

ASSESS		CRITERIA	CLASSIFY	TREATMENT/ CARE PLAN
HISTORY	**LOOK AND FEEL**			
Refer to records (or if needed ask to determine the following): 1. Has the child lost weight in the past month or since the past visit 2. Does the child have: • Cough for more than 21 days? This may be due to HIV-related chronic disease (e.g., lymphocytic interstitial pneumonia [LIP]) or to PCP, TB, pneumonia, others • Active TB on treatment • Diarrhea for 14 days or more • Other chronic OI or malignancy • Poor appetite Ask all questions and complete all assessments with each child	1.Those under 6 months of age look for signs of severe visible wasting: e.g. • loss of muscle bulk • sagging skin/buttocks 2. Check the presence of oedema on both feet 3. Measure the weight (kg) and height (cm) • Compute weight-for-height, for children < 5 yrs. • Compute BMI for age for children 5 -14 yrs. 4. Measure the mid-upper-arm circumference (MUAC) I5. f wt/ht and MUAC are not possible, then measure weight-for-age • If weight-for-age is used, check the shape of the growth curve. • Or Estimate percentage change in weight since last visit. 6. Examine/observe for **danger signs** of: • Intractable vomiting • High fever >39°C/malaria • Hypothermia <35°C • Severe anemia (paleness, palm pallor) • Convulsion/fitting • Persistent diarrhea • Bilateral oedema +++ • Severe dehydration • Extensive skin lesion • Very week/lethargy • Pneumonia or active TB? Any chest in-drawing	Bilateral pitting **edema** (in both legs) **OR** **WHZ** below -3 or **WHM** < 70% of the WHO reference value **OR** **MUAC** Infants 6mo-11mo <110mm Children 12 mo-59 mo Children 5yr-9yr <110mm Children 10yr-14yr <135mm <160mm **OR** **Visible signs** of severe malnutrition for under six months of age **OR** **BMI for age**: 5-17 years <-3 Z-score	**Severe or moderate Malnutrition with medical complications** • If any of the danger signs **OR** • Infant < 6 months **OR** • Severe bilateral edema **OR** • Poor appetite **Severe Malnutrition without medical complications** • W/H or MUAC < cutoff for severe malnutrition **AND** • None of the danger signs **AND** • No severe bilateral edema **AND** • > 6 months of age	**Admit or refer for inpatient care.** **NUTRITION CARE PLAN A (RED)**
		WHZ below -2 or **WHM** 70-80% of the WHO reference value **OR** **MUAC** Infants 6mo-11mo <120mm Children 12 mo -59 mo <130mm Children 6yr-9yr <145mm Children 10yr-14yr <180mm **OR** **BMI for age**: 5-17 years z-score from -2 to -3	**MODERATE MALNUTRITION**	**NUTRITION CARE PLAN B (YELLOW)**
		Regardless of WFH, MUAC or BMI for age: Growth Curve Faltering Confirmed significant weight loss of > 5% since the last visit	**POOR WEIGHT GAIN**	
		Regardless of W/H, MUAC or BMI for age: • Chronic Lung disease • TB • Persistent diarrhea • Other Chronic OI or Malignancy	**Signs of SYMPTOMATIC DISEASE**	
		Child is gaining weight or maintaining a proper WFH **WHZ** > -2 or **WHM** > 80% of the WHO median reference value **OR** **BMI for age**: 5-17 years >-2 z-score In the absence of signs of symptomatic disease and significant weight loss	**GROWING WELL**	**NUTRITION CARE PLAN C (GREEN)**

NUTRITION CARE PLAN A

1. Assess if the child needs to be admitted to in-patient care. ***CHECK FOR GENERAL DANGER SIGNS***

- All severely malnourished infants under 6months should be treated as in-patients
- All children severely malnourished with complications should be admitted for in-patient care according to the National Protocol for SAM
- Assess if the child wants to eat (i.e. **conduct an appetite test)**. If the child does not eat at least the amount of RUTF shown in the table, refer to **Annex 3,** then admit and manage the client accordingly
- Assess if there are physical signs (e.g., intractable vomiting, high fever > 39°C, malaria, hypothermia < 35°C, severe anemia [paleness, severe palm pallor], pneumonia, active TB, any chest in-drawing, bilateral edema grade +++, excessive skin lesions, excessive weakness/lethargy, severe dehydration, convulsions or fitting)
- Assess if there have been any major changes in the child's circumstances (e.g., mother/caregiver died, breastfeeding has stopped, change of location)
- **Phase 1:** Give F75 only, amounts based strictly on weight (see National Protocol on Management of Severe Malnutrition).
- **Transition phase *and Phase 2:*** Replace F75 with F100 (70–80 ml per kg of body weight per day) and gradually introduce RUTF in small amounts until patient can take RUTF instead of F100.

2. Check the client for treatable conditions and exclude OIs such as TB.

- Ensure **Cotrimoxazole prophylaxis** for HIV+ children as per national protocol
- Explain to caregiver how to give medicines at home (i.e. doses, schedule); the caregiver should give the first dose of medication in front of health worker
- Treat any illnesses (e.g., for candida give nystatin [1ml x 4 for 7d] and also check mother's breast for candida and treat if indicated)
- If HIV+, **refer** for assessment to possibly begin ART, if not already started

If on ART, refer for assessment of clinical and immunological response

3. Home management. This should be done only if the child has appetite (can eat RUTF), and the mother/caregiver's health and condition is conducive for appropriate care. Give RUTF to provide 50-100% additional energy according to the Table below.

Class of weight (kg)	RUTF Paste	OR	Plumpy'Nut	
	Grams per day	Grams per week	Sachet per day	Sachet per week
3.0 – 3.4	105	750	1 ¼	8
3.5 – 4.9	130	900	1 ½ 2	10
5.0 – 6.9	200	1400	2	15
7.0 – 9.9	260	1800	3	20
10.0 – 14.9	400	2800	4	30
15.0 – 19.9	450	3200	5	35
20.0 – 29.9	500	3500	6	40
30.0 – 39.9	650	4500	7	50

4. If using home management, ensure mother/caregiver understands the care plan and ask if s/he has any questions. You may need to demonstrate the use of the RUTF or other feeds to the mother/caregiver**.**

5. If managed at home, then follow up with the client in **1 week** to ensure weight gain of **at least 3-5 gm/kg/d**. Check the **mother's health (and if she needs ART)** and provide support/counseling so she can be able to care for other children in the home.

6. Upon discharge from inpatient care, ensure **Vitamin A supplements** and **deworming drugs** are given every 6 months if the child is under 12 months and has not been given these in the last 4 months (Vitamin A is delayed for children with edema until it subsides). Transfusion should be considered in severe anemia cases during **phase 1** and a folic acid tab (5 mg) should be given for clinical anemia.

7. Transition to Nutrition Care Plan B when **WFH >80% (or MUAC > 110 mm if MUAC was used)** AND **no edema was present for two consecutive weigh-ins** (children can usually tolerate this energy intake for **6-10 weeks**). Review and change to **plan A** if the child becomes severely malnourished again.

8. If the child is **not gaining weight, is losing weight, or edema is worsening**, assess for further investigation and treatment according to the national protocol.

NUTRITION CARE PLAN B

1. Check for treatable conditions. Refer child for treatment where indicated.

2. Ensure **Cotrimoxazole prophylaxis is started for HIV+ children** as per national protocol.

3. If HIV+ refer for ART assessment.

4. If on ART, refer for assessment of clinical and immunological response. Failure to take ART correctly or to adhere at all can result in: related side-effects (e.g., vomiting, abdominal pain, diarrhea, poor appetite, taste change); presence of an OI (e.g., TB, diarrhea); development of the immune reconstitution syndrome; late ART- related side effects (e.g., lactic acidosis [with signs like abdominal pain, vomiting or fast breathing], lipodystrophy; inadequate food intake due to food access problems; possible early signs of treatment failure if on ART and over 6 mo of age. Refer if indicated.

5. Check the mother's health (+need for ART), and how she cares for the sick child and other children

6. Nutrition counseling. Counsel on the Critical Nutrition Practices. Ask the questions: What does the child eat and drink? Who gives the child their food and how does the child eat? Is food available at home?

7. Meet age-specific needs and additional 20-30% food (energy) based on actual weight. If possible, energy and nutrient needs should be met through a food-based approach. Nutrition supplements may be provided by the service/programs where available**.**

Additional energy needs of symptomatic HIV+ children		
Age group	**20-30% Additional energy (kcal) per day**	**Food-based approach: Give as addition to meals and other snacks**
6–11 months	180 kcal/day (in addition to 730 kcal/day)	2 large coffee cups of wheat flour porridge with oil/butter, milk and iodized salt
12–23 months	300 kcal/day (in addition to 1,250 kcal/day)	3 large coffee cups of enjera fetfet with shiro with oil/butter sauce
24–59 months	325 kcal/day (in addition to 1,500 kcal/day)	1 medium cup of besso drink and 1 average size banana
5–9 years	450 kcal/day (in addition to 1,800 kcal/day)	1 medium coffee cup of besso drink and one average size banana
10–14 years	575 kcal/day (in addition to 2,360 kcal/day)	2 large coffee cups of enjera fetfet with meat sauce

For more options refer to **Annex 5. Table 2 (snacks).*

8. If child is moderately malnourished and supplementary food is available, provide supplementary food according to Table 3. Children should graduate from food supplementation when they have received at least 2 months supplementation and WHZ > -2 for children under 5, BMI-for-age for children 5-17 years > -2 Z scores, or WHM > 80% or MUAC is greater than the cut-off for moderate malnutrition for their age group (i.e. 6mo-12mo > 120 mm, 12mo-59 > 130mm, 5-9 years > 145 mm, 10-14 years > 180 mm).

Supplementary food rations for HIV+ children		
Age group	**RUTF**	**FBF**
6–11 months	one 92 g. sachet of RUTF	0 g.
12–23 months	one 92 g. sachet of RUTF	50 g.
24–59 months	one 92 g. sachet of RUTF	100 g.
5–9 years	one 92 g. sachet of RUTF	200 g.
10–14 years	one 92 g. sachet of RUTF	200 g.

9. Ensure the mother/caregiver understands the nutrition care plan and ask if s/he has any questions. Counsel her on managing dietary related symptoms.

10. Ensure adequate micronutrient intake. Counsel to ensure diet is balanced and contains a variety of animal sourced foods, fruits and vegetables. If this is not possible, give a daily micronutrient supplement that provides 1 RDA of a wide range of vitamins and minerals. Anemic children may need supplementation. Children with diarrhea should be given **Zinc for 14 days**.

11. Vitamin A supplements should be given every 6 months according to IMCI schedule**. Deworm** every 6 months if child is over 1 year of age.

12. Review 1st visit in 2 wks. If the child is responding to treatment, meet every **1-2 months depending** on the response. Change to **Nutrition Care Plan C** when WHZ > -2 OR WHM > 80% for children under 5 OR BMI-for-age > -2 for children over age 5-17 OR MUAC is greater than the cut-off for moderate malnutrition (see No. 9 above) AND the child has been in Plan B for at least 2 months AND there has been no weight loss in the past month AND there are no signs of symptomatic disease.

NUTRITION CARE PLAN C

1. Ask about general condition and if child is on any treatment including ART and TB medicine. If the child is on ART, check that adherence counsel on management of diet related symptoms if indicated.

2. Check the mothers health (+need for ART) and care of other children

3. Nutrition counseling. Counsel on the Critical Nutrition Practices.

- Encourage mother/caregiver that the child is growing well,
- If breastfeeding, counsel on optimal breastfeeding practices. If on replacement feeding emphasis on proper feeding, safety and to avoid mixed feeding**.**
- If a child is in complementary feeding age, promote optimum complementary feeding practice. i.e. FADUA – Frequency, Adequacy, Density, safety and hygiene, active feeding and variety.

4. Counsel to ensure child's **age-specific energy/nutrient needs** are met and that additional 10 percent energy based on age of the child.

Age group	Additional energy (kcal) per day	Food-based approach Give as addition to meals and other snacks
6–11 months	75 kcal/day (in addition to 730 kcal/day)	1 large coffee cup of potato porridge with milk and Butter/oil
12–23 months	125 kcal/day (in addition to 1,250 kcal/day)	1 large coffee cup of bulla porridge with milk and butter/oil
24–59 months	150 kcal/day (in addition to 1,500 kcal/day)	1 average-size mashed sweet potato
5–9 years	180 kcal/day (in addition to 1,800 kcal/day)	1 medium coffee cup of kolo
10–14 years	240 kcal/day (in addition to 2360 kcal daily need)	1 medium coffee cup of Kinche

For more information, refer to **Annex 5. Table 2 (snacks).*

5. Ensure adequate micronutrient intake. Counsel to ensure diet is varied and contains animal-source foods, fruits and vegetables. If this is not possible, give a daily micronutrient supplement that provides 1 RDA of a wide range of vitamins and minerals. Anemic children may need supplementation. Children with diarrhea should be given zinc for 14 days**.**

6. Give **Vitamin A supplements** every 6 months according to the IMCI schedule. **Deworm** every 6 months if the child is over 1 year of age.

7. Ensure **Cotrimoxazole prophylaxis** is provided as per national protocol.

8. Ensure the mother/caregiver understands the nutrition care plan and ask if s/he has any questions.

9. Advise the mother/caregiver of the need for periodic follow-up.

10. Review the child's case in 2-3 months, however tell the mother/caregiver to return earlier if problems arise.

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Algorithm and Nutrition care plans for the Management of Malnutrition in PLHIV— Adults

ASSESS		CRITERIA	CLASSIFICATION	TREATMENT PLAN
HISTORY	**LOOK AND FEEL**			
Refer to records (or if needed ask to determine the following) 1. Has the client lost weight in the past month or since the past visit? 2. Has the client had: • Active TB or is on treatment for it? • Diarrhea for more than 14 days? • Other chronic OIs or malignancies? (e.g., esophageal infections) • Mouth soars or oral thrush? 3. Has the client had noticeable changes in his/her body composition, specifically his/her fat distribution? • Thinning of limbs and face>\ • Change in fat distribution on the limbs, breasts, stomach region, back or shoulders? 4. Has the client experienced the following? • Nausea and/or vomiting? • Persistent fatigue? • Poor appetite?	1. Check for edema on both feet and sacrum. In adults, rule out other causes of symmetrical edema (e.g., pre-eclampsia, severe proteinuria [nephrotic syndrome], nephritis, acute filariasis, heart failure, wet beri– beri). 2. Measure weight (kg) and height (cm). 3. Compute BMI (adults) 4. Measure MUAC (pregnant and post-partum women and/or adults who cannot stand straight). 5. Examine for conditions that cause secondary malnutrition (see above and in "History") 6.Examine/observe for complications and danger signs: • Severe anemia (paleness, pallor of the palms) • Severe dehydration • Active TB • Bilateral severe edema	**Bilateral pitting edema** **Adults (non-pregnant/post-partum)** BMI < 16 kg m^2 (If BMI cannot be measured, use MUAC cutoff below.) **Pregnant/postpartum women** MUAC < 180 mm	**SEVERE/MODERATE malnutrition with complications** if client has any of the danger signs or severe edema (e.g., severe dehydration, poor appetite, bilateral edema) **Acute malnutrition without complications** If client has BMI or MUAC less than the severe malnutrition cutoff and does not have any of the danger signs	**Admit or refer for inpatient care.** **NUTRITION CARE PLAN A (RED)**
		Adults (non-pregnant/post-partum) BMI 16 - 16.99 Moderate BMI 17 - 18.49 (If BMI cannot be measured, use MUAC cut-off below.) **Pregnant/postpartum women** MUAC 180 - 210 mm	**MODERATE malnutrition**	**NUTRITION CARE PLAN B (YELLOW)**
		Regardless of BMI or MUAC: • Confirmed unintentional weight loss of > 5% since the last visit • Reported weight loss: e.g. loose clothing which used to fit	**Significant weight loss**	
		Regardless of BMI or MUAC: • Chronic lung disease • TB • Persistent diarrhea • Other chronic OI or malignancy	**Signs of SYMPTOMATIC DISEASE**	
		Adults (non pregnant/post-partum) BMI $\geq$ 18.5 (If BMI not possible, use MUAC) **Pregnant/post-partum women** MUAC > 210 mm In the absence of signs of symptomatic disease and significant weight loss	**NORMAL**	**NUTRITION CARE PLAN C (GREEN)**

NUTRITION CARE PLAN A

1. INPATIENT: clinical and nutrition management of severely malnourished adults

- Check and ensure, if indicated, that treatment is given for **accompanying illnesses** (e.g., pneumonia, active TB, chronic diarrhea, fever, nausea and/ or vomiting).
- Ensure **Cotrimoxazole prophylaxis** is provided as per the national protocol for HIV-positive clients for CD4 < 350 and WHO stage 3 and 4.
- If there are indications the client has hypoglycemia, severe dehydration, severe anemia, or other infections or medical complications, treat or refer for treatment as per national/WHO guidelines.
- **If not tested for HIV and/or TB, conduct or refer the client for counseling and testing immediately.** If the client is HIV-positive and not on ART, refer him/her to an ART care clinic.
- **Phase 1 (days 1–2):** Give F75 only with amounts given based strictly on weight. The amount per kg of body weight given is much less than for children and decreases with increasing age (See National Protocol for Management of Severe Malnutrition).
- **Transition phase 1 *and Phase 2:*** Replace F75 with F100 (70–80 ml per kg of body weight per day). Gradually introduce RUTF in small amounts until patient can take 3 to 4 sachets a day and give other foods to meet remaining nutritional needs, such as FBF or BP-100.
- **Do an appetite test.** If the client will not eat (the RUTF or the FBF), possibly due to anorexia and/or vomiting, admit the client for inpatient care and feed him/her via a Naso-Gastric tube.
- Refer patients to where they can collect RUTF and/or FBF.

2. OUTPATIENT: nutrition management of severely malnourished adults

- **If the client has an appetite and his/her health condition allows for HBC,** supply enough RUTF and FBF to last for 2 weeks (enough to provide daily energy needs), and explain how to prepare them.
- If client can tolerate it, the consumption of **home foods** should be encouraged.
- **Daily ration should be three 92 g sachets of RUTF (500kcal/92g) and 400 g of FBF (400 kcal/100 g)**.. This ration is the same for pregnant and post-partum women.
- **Counsel on the key messages:** a) the need for periodic weight monitoring; b) how to increase energy density of diets at home; c) how to manage key symptoms through diet modification; d) any possible drug-food interactions; e) sanitation and hygiene, especially making drinking water safe; f) symptom management (e.g. , nausea, loss of appetite, diarrhea, mouth sores, rash)

3. FOLLOW-UP management:

- Give ferrous sulphate tablets (usually after 14 days) if the client shows clinical signs of anemia.
- If the client is managed at home, weigh him/her **bi-weekly** to ensure adequate weight gain**.**

4. Transition to Nutrition Care Plan B when BMI ≥ 16 (or ≥ 17 if no supplementary food is available) AND client has appetite AND can eat home foods AND has some mobility.

5. If the client is not gaining weight, has lost weight for more than 2 months, or has worsening edema, refer him/her to a medical officer immediately.

NUTRITION CARE PLAN B

1. Clinically manage *moderately malnourished* adults *OUTPATIENTS*.

- **Check for treatable conditions and refer** client for treatment where indicated.

2. Ensure **Cotrimoxazole prophylaxis** is provided as per the national protocol for HIV-positive clients for CD4 < 350 and WHO stage 3 and 4

- If **the client is not on ART**, refer for ART assessment.
- If **client is on ART and losing weight**, assess: a) the likelihood of non-adherence; b) related side-effects (e.g., vomiting, abdominal pain, diarrhea, poor appetite, taste change); c) OIs (e.g., TB, diarrhea); d) development of immune reconstitution syndrome; e) development of late ART-related side effects (e.g., lactic acidosis signs such as abdominal pain, vomiting, or fast breathing); f) possible early signs of treatment failure if the client is on ART and older than 6 months (do a CD4 check); g) lipoatrophy. **Refer the client as indicated.**
- **Assess inadequate food intake** (e.g., energy density of the food, quantity of food intake, food access problems). **Support the client appropriately.**

3. Nutrition management of adults: Counsel the client to increase his/her energy intake through home foods to **consume 20–30 percent more energy** based on his/her current weight, as in the **table below**.

Additional energy needs of symptomatic PLHIV		
Age (years)	**Additional (20-30%) energy (kcal) per day due to HIV**	**Food-based approach: Give as addition to meals and other snacks**
15-17	700 kcal/day (in addition to 2,800 kcal/day)	2-3 large size coffee cups of Kinche
18+	525-600 kcal/day (in addition to 2,170-2,430 kcal/day)	3 large size coffee cups of Chechebsa
Pregnant and post-partum women	525-600 kcal/day (in addition to 2,455-2,670 kcal/day)	2 large size coffee cups of Beso firfir

4. **If the client is moderately malnourished, provide supplementary food according to the following specifications: one 92 g sachet of RUTF (500 kcal/sachet) and 200 g of FBF (400 kcal/100 g).** Clients should graduate from RUTF and FBF when they are no longer moderately or mildly malnourished (i.e. BMI > 18.5, for pregnant/postpartum women MUAC > 210 mm).

5. Educate the client on how to **improve household food (increase energy intake and improve taste)** to achieve the extra food requirements for their disease stage.

6. Provide **food supplements** according to RDA and **demonstrate** on their home use.

7. Give the client a daily micronutrient supplement that provides 1 RDA of a wide range of vitamins and minerals, unless supplementary food or daily diet is already providing sufficient micronutrients. Clients who are anemic may need iron supplementation.

8. Counsel on the key messages and Critical Nutrition Practices: a) the need for periodic weight monitoring; b) how to increase the energy density of diets at home; c) how to manage **diet-related symptoms** (e.g., nausea and/or vomiting, poor appetite, diarrhea, mouth sores, thrush); d) any possible drug-food interactions; e) sanitation and hygiene, especially making drinking water safe.

9. Review the plan with the client in a follow-up after one month. If the client is responding, review with him/her every **1-2 months depending** on the level of response.

10. Change to **Nutrition Care Plan C** when BMI >18.5 for adults OR MUAC > 210mm for pregnant/postpartum women AND there is no weight loss AND there are no clinical signs of symptomatic disease.

11. If the client is **not gaining weight for 3 or more months or** if s/he continues to **lose weight for 2 or more months**, you should refer the client to specialized investigation and care.

NUTRITION CARE PLAN C

1. Ask client whether s/he is on any treatment, including ART and TB medicine. If the client is on ART, determine whether s/he is adhering to the treatment and managing diet-related symptoms well.

2. If the client is HIV-positive but not on ART, provide **Cotrimoxazole prophylaxis** for CD4 count < 350 and WHO stage 3 and 4.

3. Counsel the client to eat enough food to meet increased energy and nutrient needs plus 10 percent energy, as in the table below.

Additional energy needs of asymptomatic PLHIV		
Age (years)	**Additional (10%) energy (kcal) per day due to HIV**	**Food-based approach: Give as addition to meals and other snacks**
15-17	280 kcal/day (in addition to 2,800 kcal/day)	1 large coffee cup of Beso firfer
18+	225 kcal/day (in addition to 2,170-2,430 kcal/day)	1 large coffee cup of Kolo
Pregnant and post-partum women	225 kcal/day (in addition to 2,455-2,670 kcal/day)	2 medium coffee cups of Chechebsa

** For more information refer to **Annex 5. Table 2** (snacks).*

4. Counsel client to eat a variety of foods served. If this is not possible, give the client a daily micronutrient supplement that provides 1 RDA of a wide range of vitamins and minerals. Clients who are anemic may need iron supplementation.

5. Advise the client and caregiver of the need for periodic weighing.

6. Counsel on key messages and Critical Nutrition Practices: a) how to increase energy density of diets at home; b) how to manage diet-related symptoms (e.g., nausea and/or vomiting, poor appetite, diarrhea, mouth sores, thrush); c) any possible drug-food interactions; d) sanitation and hygiene, especially making drinking water safe; e) having physical exercise to strengthen muscles and improve appetite.

7. Review the client's progress in 2–3 months (or earlier if problems arise).

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BMI Chart for Determining Nutritional Status of HIV* Children and Adolescents (ages 5-18 years)

BOYS

AGE (YR)	-1SD	-2SD	-3SD
5-8	14.3	13.2	12.3
9	14.8	13.6	12.7
10	15.1	13.9	12.9
11	15.5	14.2	13.2
12	16	14.7	13.6
13	16.7	15.2	14
14	17.3	15.7	14.5
15	17.9	16.2	14.9
16	18.5	16.7	15.3
17	19	17.1	15.6
18	19.4	17.4	15.8

NORMAL / MILD MALNUTRITION | MODERATELY MALNOURISHED | SEVERELY MALNOURISHED

HEIGHT (CM) — BODY WEIGHT (KG)

BMI	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	BMI
	100					110										120										130										
11.8	13.0	13.3	13.5	13.8	14.0	14.3	14.5	14.8	15.1	15.3	15.6	15.9	16.2	16.4	16.7	17.0	17.3	17.6	17.9	18.1	18.4	18.7	19.0	19.3	19.6	19.9	20.2	20.6	20.9	21.2	21.5	21.8	22.1	22.5	22.8	11.8
11.9	13.1	13.4	13.6	13.9	14.1	14.4	14.7	14.9	15.2	15.5	15.7	16.0	16.3	16.6	16.9	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	11.9
12	13.2	13.5	13.7	14.0	14.3	14.5	14.8	15.1	15.3	15.6	15.9	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6	20.9	21.2	21.5	21.9	22.2	22.5	22.9	23.2	12
12.1	13.3	13.6	13.9	14.1	14.4	14.6	14.9	15.2	15.5	15.7	16.0	16.3	16.6	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.8	21.1	21.4	21.7	22.1	22.4	22.7	23.0	23.4	12.1
12.2	13.5	13.7	14.0	14.2	14.5	14.8	15.0	15.3	15.6	15.9	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6	20.9	21.3	21.6	21.9	22.2	22.6	22.9	23.2	23.6	12.2
12.3	13.6	13.8	14.1	14.3	14.6	14.9	15.2	15.4	15.7	16.0	16.3	16.6	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.4	21.8	22.1	22.4	22.8	23.1	23.4	23.8	12.3
12.4	13.7	13.9	14.2	14.5	14.7	15.0	15.3	15.6	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6	21.0	21.3	21.6	21.9	22.3	22.6	22.9	23.3	23.6	24.0	12.4
12.5	13.8	14.0	14.3	14.6	14.9	15.1	15.4	15.7	16.0	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.5	21.8	22.1	22.4	22.8	23.1	23.5	23.8	24.2	12.5
12.6	13.9	14.2	14.4	14.7	15.0	15.2	15.5	15.8	16.1	16.4	16.7	17.0	17.2	17.5	17.8	18.1	18.4	18.8	19.1	19.4	19.7	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.6	24.0	24.3	12.6
12.7	14.0	14.3	14.5	14.8	15.1	15.4	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.1	23.5	23.8	24.2	24.5	12.7
12.8	14.1	14.4	14.7	14.9	15.2	15.5	15.8	16.1	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.1	19.4	19.7	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.7	24.0	24.4	24.7	12.8
12.9	14.2	14.5	14.8	15.0	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	24.9	12.9
13	14.3	14.6	14.9	15.2	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.7	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.4	24.8	25.1	13
13.1	14.4	14.7	15.0	15.3	15.6	15.9	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.6	18.9	19.2	19.5	19.8	20.1	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	24.9	25.3	13.1
13.2	14.6	14.8	15.1	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.6	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.7	23.0	23.3	23.7	24.1	24.4	24.8	25.1	25.5	13.2
13.3	14.7	14.9	15.2	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.2	19.5	19.8	20.1	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	25.0	25.3	25.7	13.3
13.4	14.8	15.1	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.7	19.0	19.3	19.6	19.9	20.3	20.6	20.9	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.7	24.1	24.4	24.8	25.2	25.5	25.9	13.4
13.5	14.9	15.2	15.5	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.9	18.2	18.5	18.8	19.1	19.4	19.8	20.1	20.4	20.8	21.1	21.4	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	25.0	25.3	25.7	26.1	13.5
13.6	15.0	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.3	19.6	19.9	20.2	20.6	20.9	21.3	21.6	21.9	22.3	22.6	23.0	23.3	23.7	24.1	24.4	24.8	25.2	25.5	25.9	26.3	13.6
13.7	15.1	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.8	19.1	19.4	19.7	20.1	20.4	20.7	21.1	21.4	21.8	22.1	22.4	22.8	23.2	23.5	23.9	24.2	24.6	25.0	25.3	25.7	26.1	26.5	13.7
13.8	15.2	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.3	18.6	18.9	19.2	19.5	19.9	20.2	20.5	20.9	21.2	21.6	21.9	22.3	22.6	23.0	23.3	23.7	24.0	24.4	24.8	25.2	25.5	25.9	26.3	26.7	13.8
13.9	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.1	18.4	18.7	19.0	19.4	19.7	20.0	20.4	20.7	21.0	21.4	21.7	22.1	22.4	22.8	23.1	23.5	23.9	24.2	24.6	25.0	25.3	25.7	26.1	26.5	26.9	13.9
14	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.6	17.9	18.2	18.5	18.8	19.2	19.5	19.8	20.2	20.5	20.8	21.2	21.5	21.9	22.2	22.6	22.9	23.3	23.7	24.0	24.4	24.8	25.1	25.5	25.9	26.3	26.7	27.0	14
14.1	15.5	15.8	16.1	16.4	16.8	17.1	17.4	17.7	18.0	18.3	18.6	19.0	19.3	19.6	20.0	20.3	20.6	21.0	21.3	21.7	22.0	22.4	22.7	23.1	23.5	23.8	24.2	24.6	24.9	25.3	25.7	26.1	26.5	26.9	27.2	14.1
14.2	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.5	18.8	19.1	19.4	19.8	20.1	20.4	20.8	21.1	21.5	21.8	22.2	22.5	22.9	23.3	23.6	24.0	24.4	24.7	25.1	25.5	25.9	26.3	26.7	27.0	27.4	14.2
14.3	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.3	18.6	18.9	19.2	19.6	19.9	20.3	20.6	20.9	21.3	21.6	22.0	22.3	22.7	23.1	23.4	23.8	24.2	24.5	24.9	25.3	25.7	26.1	26.4	26.8	27.2	27.6	14.3
14.4	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.1	18.4	18.7	19.0	19.4	19.7	20.1	20.4	20.7	21.1	21.4	21.8	22.1	22.5	22.9	23.2	23.6	24.0	24.3	24.7	25.1	25.5	25.9	26.2	26.6	27.0	27.4	27.8	14.4
14.5	16.0	16.3	16.6	16.9	17.2	17.5	17.9	18.2	18.5	18.8	19.2	19.5	19.8	20.2	20.5	20.9	21.2	21.6	21.9	22.3	22.7	23.0	23.4	23.8	24.1	24.5	24.9	25.3	25.6	26.0	26.4	26.8	27.2	27.6	28.0	14.5
14.6	16.1	16.4	16.7	17.0	17.3	17.7	18.0	18.3	18.6	19.0	19.3	19.6	20.0	20.3	20.7	21.0	21.4	21.7	22.1	22.4	22.8	23.2	23.5	23.9	24.3	24.7	25.1	25.4	25.8	26.2	26.6	27.0	27.4	27.8	28.2	14.6
14.7	16.2	16.5	16.8	17.1	17.5	17.8	18.1	18.4	18.8	19.1	19.4	19.8	20.1	20.5	20.8	21.2	21.5	21.9	22.2	22.6	23.0	23.3	23.7	24.1	24.5	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.0	28.4	14.7
14.8	16.3	16.6	16.9	17.3	17.6	17.9	18.2	18.6	18.9	19.2	19.6	19.9	20.3	20.6	21.0	21.3	21.7	22.0	22.4	22.8	23.1	23.5	23.9	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.4	27.8	28.2	28.6	14.8
14.9	16.4	16.7	17.1	17.4	17.7	18.0	18.4	18.7	19.0	19.4	19.7	20.0	20.4	20.7	21.1	21.5	21.8	22.2	22.5	22.9	23.3	23.7	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.0	28.4	28.8	14.9
15	16.5	16.9	17.2	17.5	17.8	18.2	18.5	18.8	19.2	19.5	19.8	20.2	20.5	20.9	21.2	21.6	22.0	22.3	22.7	23.1	23.4	23.8	24.2	24.6	25.0	25.4	25.7	26.1	26.5	26.9	27.3	27.7	28.2	28.6	29.0	15
15.1	16.6	17.0	17.3	17.6	17.9	18.3	18.6	18.9	19.3	19.6	20.0	20.3	20.7	21.0	21.4	21.7	22.1	22.5	22.8	23.2	23.6	24.0	24.4	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	27.9	28.3	28.8	29.2	15.1
15.2	16.8	17.1	17.4	17.7	18.1	18.4	18.7	19.1	19.4	19.8	20.1	20.5	20.8	21.2	21.5	21.9	22.3	22.6	23.0	23.4	23.8	24.1	24.5	24.9	25.3	25.7	26.1	26.5	26.9	27.3	27.7	28.1	28.5	28.9	29.4	15.2
15.3	16.9	17.2	17.5	17.8	18.2	18.5	18.9	19.2	19.5	19.9	20.2	20.6	20.9	21.3	21.7	22.0	22.4	22.8	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	27.9	28.3	28.7	29.1	29.6	15.3
15.4	17.0	17.3	17.6	18.0	18.3	18.6	19.0	19.3	19.7	20.0	20.4	20.7	21.1	21.4	21.8	22.2	22.5	22.9	23.3	23.7	24.1	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.7	28.1	28.5	28.9	29.3	29.8	15.4
15.5	17.1	17.4	17.7	18.1	18.4	18.8	19.1	19.4	19.8	20.1	20.5	20.9	21.2	21.6	21.9	22.3	22.7	23.1	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.4	27.8	28.2	28.7	29.1	29.5	29.9	15.5
15.6	17.2	17.5	17.9	18.2	18.5	18.9	19.2	19.6	19.9	20.3	20.6	21.0	21.4	21.7	22.1	22.5	22.8	23.2	23.6	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.0	28.4	28.9	29.3	29.7	30.1	15.6
15.7	17.3	17.6	18.0	18.3	18.7	19.0	19.3	19.7	20.0	20.4	20.8	21.1	21.5	21.9	22.2	22.6	23.0	23.4	23.8	24.1	24.5	24.9	25.3	25.7	26.1	26.5	26.9	27.4	27.8	28.2	28.6	29.0	29.5	29.9	30.3	15.7
15.8	17.4	17.8	18.1	18.4	18.8	19.1	19.5	19.8	20.2	20.5	20.9	21.3	21.6	22.0	22.4	22.8	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	27.9	28.4	28.8	29.2	29.7	30.1	30.5	15.8
15.9	17.5	17.9	18.2	18.5	18.9	19.2	19.6	19.9	20.3	20.7	21.0	21.4	21.8	22.1	22.5	22.9	23.3	23.7	24.1	24.4	24.8	25.2	25.6	26.1	26.5	26.9	27.3	27.7	28.1	28.6	29.0	29.4	29.8	30.3	30.7	15.9
16	17.6	18.0	18.3	18.7	19.0	19.4	19.7	20.1	20.4	20.8	21.2	21.5	21.9	22.3	22.7	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.5	27.9	28.3	28.7	29.2	29.6	30.0	30.5	30.9	16
16.1	17.8	18.1	18.4	18.8	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.0	22.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.1	28.5	28.9	29.3	29.8	30.2	30.7	31.1	16.1
16.2	17.9	18.2	18.5	18.9	19.2	19.6	20.0	20.3	20.7	21.1	21.4	21.8	22.2	22.6	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.7	26.1	26.5	27.0	27.4	27.8	28.2	28.7	29.1	29.5	30.0	30.4	30.9	31.3	16.2
16.3	18.0	18.3	18.7	19.0	19.4	19.7	20.1	20.4	20.8	21.2	21.6	21.9	22.3	22.7	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	28.0	28.4	28.8	29.3	29.7	30.1	30.6	31.0	31.5	16.3
16.4	18.1	18.4	18.8	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	25.6	26.0	26.5	26.9	27.3	27.7	28.1	28.6	29.0	29.4	29.9	30.3	30.8	31.2	31.7	16.4
16.5	18.2	18.5	18.9	19.2	19.6	20.0	20.3	20.7	21.1	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.5	27.9	28.3	28.7	29.2	29.6	30.1	30.5	31.0	31.4	31.9	16.5
16.6	18.3	18.7	19.0	19.4	19.7	20.1	20.5	20.8	21.2	21.6	22.0	22.3	22.7	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.4	26.8	27.2	27.6	28.1	28.5	28.9	29.4	29.8	30.3	30.7	31.2	31.6	32.1	16.6
16.7	18.4	18.8	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.6	24.0	24.5	24.9	25.3	25.7	26.1	26.5	26.9	27.4	27.8	28.2	28.7	29.1	29.5	30.0	30.4	30.9	31.3	31.8	32.3	16.7
16.8	18.5	18.9	19.2	19.6	20.0	20.3	20.7	21.1	21.5	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.3	26.7	27.1	27.5	28.0	28.4	28.8	29.3	29.7	30.2	30.6	31.1	31.5	32.0	32.5	16.8
16.9	18.6	19.0	19.3	19.7	20.1	20.4	20.8	21.2	21.6	22.0	22.4	22.7	23.1	23.5	23.9	24.3	24.7	25.2	25.6	26.0	26.4	26.8	27.3	27.7	28.1	28.6	29.0	29.4	29.9	30.3	30.8	31.3	31.7	32.2	32.7	16.9
17	18.7	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.7	26.1	26.6	27.0	27.4	27.9	28.3	28.7	29.2	29.6	30.1	30.5	31.0	31.4	31.9	32.4	32.8	17
17.1	18.9	19.2	19.6	19.9	20.3	20.7	21.1	21.5	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.5	25.9	26.3	26.7	27.1	27.6	28.0	28.5	28.9	29.3	29.8	30.2	30.7	31.2	31.6	32.1	32.6	33.0	17.1
17.2	19.0	19.3	19.7	20.1	20.4	20.8	21.2	21.6	22.0	22.4	22.7	23.1	23.5	23.9	24.4	24.8	25.2	25.6	26.0	26.4	26.9	27.3	27.7	28.2	28.6	29.1	29.5	30.0	30.4	30.9	31.3	31.8	32.3	32.8	33.2	17.2
17.3	19.1	19.4	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.7	26.2	26.6	27.0	27.5	27.9	28.3	28.8	29.2	29.7	30.1	30.6	31.1	31.5	32.0	32.5	32.9	33.4	17.3
17.4	19.2	19.6	19.9	20.3	20.7	21.1	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.3	26.8	27.2	27.6	28.1	28.5	29.0	29.4	29.9	30.3	30.8	31.2	31.7	32.2	32.7	33.1	33.6	17.4
17.5	19.3	19.7	20.0	20.4	20.8	21.2	21.6	22.0	22.3	22.7	23.1	23.5	24.0	24.4	24.8	25.2	25.6	26.0	26.5	26.9	27.3	27.8	28.2	28.7	29.1	29.6	30.0	30.5	31.0	31.4	31.9	32.4	32.8	33.3	33.8	17.5
17.6	19.4	19.8	20.2	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	27.9	28.4	28.8	29.3	29.7	30.2	30.7	31.1	31.6	32.1	32.6	33.0	33.5	34.0	17.6
17.7	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.3	26.8	27.2	27.7	28.1	28.5	29.0	29.5	29.9	30.4	30.8	31.3	31.8	32.3	32.7	33.2	33.7	34.2	17.7
17.8	19.6	20.0	20.4	20.8	21.1	21.5	21.9	22.3	22.7	23.1	23.5	24.0	24.4	24.8	25.2	25.6	26.1	26.5	26.9	27.4	27.8	28.3	28.7	29.2	29.6	30.1	30.5	31.0	31.5	32.0	32.4	32.9	33.4	33.9	34.4	17.8
17.9	19.7	20.1	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.3	29.8	30.3	30.7	31.2	31.7	32.1	32.6	33.1	33.6	34.1	34.6	17.9
18	19.8	20.2	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.4	26.8	27.2	27.7	28.1	28.6	29.0	29.5	30.0	30.4	30.9	31.4	31.8	32.3	32.8	33.3	33.8	34.3	34.8	18
18.1	20.0	20.3	20.7	21.1	21.5	21.9	22.3	22.7	23.1	23.5	23.9	24.4	24.8	25.2	25.6	26.1	26.5	26.9	27.4	27.8	28.3	28.7	29.2	29.7	30.1	30.6	31.1	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	18.1
18.2	20.1	20.4	20.8	21.2	21.6	22.0	22.4	22.8	23.2	23.7	24.1	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.2	31.7	32.2	32.7	33.2	33.7	34.2	34.7	35.2	18.2
18.3	20.2	20.6	21.0	21.3	21.7	22.1	22.5	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.4	26.8	27.2	27.7	28.1	28.6	29.1	29.5	30.0	30.5	30.9	31.4	31.9	32.4	32.9	33.4	33.8	34.3	34.9	35.4	18.3
18.4	20.3	20.7	21.1	21.5	21.9	22.3	22.7	23.1	23.5	23.9	24.3	24.8	25.2	25.6	26.1	26.5	26.9	27.4	27.8	28.3	28.8	29.2	29.7	30.1	30.6	31.1	31.6	32.1	32.5	33.0	33.5	34.0	34.5	35.0	35.6	18.4
18.5	20.4	20.8	21.2	21.6	22.0	22.4	22.8	23.2	23.6	24.0	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.7	32.2	32.7	33.2	33.7	34.2	34.7	35.2	35.7	18.5
18.6	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.8	24.2	24.6	25.0	25.5	25.9	26.3	26.8	27.2	27.7	28.1	28.6	29.1	29.5	30.0	30.5	31.0	31.4	31.9	32.4	32.9	33.4	33.9	34.4	34.9	35.4	35.9	18.6
18.7	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.5	23.9	24.3	24.7	25.2	25.6	26.0	26.5	26.9	27.4	27.8	28.3	28.8	29.2	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.1	34.6	35.1	35.6	36.1	18.7
18.8	20.7	21.1	21.5	21.9	22.3	22.7	23.2	23.6	24.0	24.4	24.9	25.3	25.7	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	34.8	35.3	35.8	36.3	18.8
18.9	20.8	21.2	21.6	22.0	22.5	22.9	23.3	23.7	24.1	24.6	25.0	25.4	25.9	26.3	26.8	27.2	27.7	28.1	28.6	29.1	29.5	30.0	30.5	31.0	31.5	31.9	32.4	32.9	33.4	33.9	34.4	35.0	35.5	36.0	36.5	18.9
19	20.9	21.3	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.1	25.6	26.0	26.5	26.9	27.4	27.8	28.3	28.7	29.2	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.1	34.6	35.1	35.7	36.2	36.7	19
19.1	21.1	21.5	21.9	22.3	22.7	23.1	23.5	24.0	24.4	24.8	25.3	25.7	26.1	26.6	27.0	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	34.8	35.3	35.8	36.4	36.9	19.1
19.2	21.2	21.6	22.0	22.4	22.8	23.2	23.7	24.1	24.5	25.0	25.4	25.8	26.3	26.7	27.2	27.6	28.1	28.6	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.4	32.9	33.5	34.0	34.5	35.0	35.5	36.0	36.6	37.1	19.2
19.3	21.3	21.7	22.1	22.5	22.9	23.4	23.8	24.2	24.6	25.1	25.5	26.0	26.4	26.9	27.3	27.8	28.3	28.7	29.2	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.1	34.7	35.2	35.7	36.2	36.8	37.3	19.3
19.4	21.4	21.8	22.2	22.6	23.0	23.5	23.9	24.3	24.8	25.2	25.7	26.1	26.6	27.0	27.5	27.9	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	34.8	35.4	35.9	36.4	36.9	37.5	19.4
19.5	21.5	21.9	22.3	22.7	23.2	23.6	24.0	24.5	24.9	25.3	25.8	26.2	26.7	27.2	27.6	28.1	28.5	29.0	29.5	30.0	30.5	31.0	31.5	31.9	32.4	33.0	33.5	34.0	34.5	35.0	35.5	36.1	36.6	37.1	37.7	19.5

GIRLS

AGE (YR)	-3SD	-2SD	-1SD
5-8	11.8	12.8	14
9	12.2	13.3	14.6
10	12.5	13.7	15.1
11	12.9	14.1	15.6
12	13.4	14.6	16.3
13	13.8	15.2	16.9
14	14.2	15.7	17.5
15	14.5	16	18
16	14.6	16.3	18.3
17	14.7	16.4	18.5
18	14.7	16.5	18.6

SEVERELY MALNOURISHED | MODERATELY MALNOURISHED | NORMAL / MILD MALNUTRITION

BMI Chart for Determining Nutritional Status of HIV* Children and Adolescents (ages 5-18 years)

BOYS

AGE (YR)	-1SD	-2SD	-3SD
5-8	14.3	13.2	12.3
9	14.8	13.6	12.7
10	15.1	13.9	12.9
11	15.5	14.2	13.2
12	16	14.7	13.6
13	16.7	15.2	14
14	17.3	15.7	14.5
15	17.9	16.2	14.9
16	18.5	16.7	15.3
17	19	17.1	15.6
18	19.4	17.4	15.8

NORMAL / MILD MALNUTRITION | MODERATELY MALNOURISHED | SEVERELY MALNOURISHED

HEIGHT (CM) — BODY WEIGHT (KG)

BMI	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	BMI
	100					110										120										130										
11.8	13.0	13.3	13.5	13.8	14.0	14.3	14.5	14.8	15.1	15.3	15.6	15.9	16.2	16.4	16.7	17.0	17.3	17.6	17.9	18.1	18.4	18.7	19.0	19.3	19.6	19.9	20.2	20.6	20.9	21.2	21.5	21.8	22.1	22.5	22.8	11.8
11.9	13.1	13.4	13.6	13.9	14.1	14.4	14.7	14.9	15.2	15.5	15.7	16.0	16.3	16.6	16.9	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.7	21.0	21.4	21.7	22.0	22.3	22.7	23.0	11.9
12	13.2	13.5	13.7	14.0	14.3	14.5	14.8	15.1	15.3	15.6	15.9	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6	20.9	21.2	21.5	21.9	22.2	22.5	22.9	23.2	12
12.1	13.3	13.6	13.9	14.1	14.4	14.6	14.9	15.2	15.5	15.7	16.0	16.3	16.6	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.8	21.1	21.4	21.7	22.1	22.4	22.7	23.0	23.4	12.1
12.2	13.5	13.7	14.0	14.2	14.5	14.8	15.0	15.3	15.6	15.9	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6	20.9	21.3	21.6	21.9	22.2	22.6	22.9	23.2	23.6	12.2
12.3	13.6	13.8	14.1	14.3	14.6	14.9	15.2	15.4	15.7	16.0	16.3	16.6	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.4	21.8	22.1	22.4	22.8	23.1	23.4	23.8	12.3
12.4	13.7	13.9	14.2	14.5	14.7	15.0	15.3	15.6	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6	21.0	21.3	21.6	21.9	22.3	22.6	22.9	23.3	23.6	24.0	12.4
12.5	13.8	14.0	14.3	14.6	14.9	15.1	15.4	15.7	16.0	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.5	21.8	22.1	22.4	22.8	23.1	23.5	23.8	24.2	12.5
12.6	13.9	14.2	14.4	14.7	15.0	15.2	15.5	15.8	16.1	16.4	16.7	17.0	17.2	17.5	17.8	18.1	18.4	18.8	19.1	19.4	19.7	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.6	24.0	24.3	12.6
12.7	14.0	14.3	14.5	14.8	15.1	15.4	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.1	23.5	23.8	24.2	24.5	12.7
12.8	14.1	14.4	14.7	14.9	15.2	15.5	15.8	16.1	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.1	19.4	19.7	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.7	24.0	24.4	24.7	12.8
12.9	14.2	14.5	14.8	15.0	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2	19.5	19.8	20.2	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	24.9	12.9
13	14.3	14.6	14.9	15.2	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.7	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.7	23.0	23.3	23.7	24.0	24.4	24.8	25.1	13
13.1	14.4	14.7	15.0	15.3	15.6	15.9	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.6	18.9	19.2	19.5	19.8	20.1	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	24.9	25.3	13.1
13.2	14.6	14.8	15.1	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.6	20.0	20.3	20.6	21.0	21.3	21.6	22.0	22.3	22.7	23.0	23.3	23.7	24.1	24.4	24.8	25.1	25.5	13.2
13.3	14.7	14.9	15.2	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5	18.8	19.2	19.5	19.8	20.1	20.5	20.8	21.1	21.5	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	25.0	25.3	25.7	13.3
13.4	14.8	15.1	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.7	19.0	19.3	19.6	19.9	20.3	20.6	20.9	21.3	21.6	22.0	22.3	22.6	23.0	23.3	23.7	24.1	24.4	24.8	25.2	25.5	25.9	13.4
13.5	14.9	15.2	15.5	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.9	18.2	18.5	18.8	19.1	19.4	19.8	20.1	20.4	20.8	21.1	21.4	21.8	22.1	22.5	22.8	23.2	23.5	23.9	24.2	24.6	25.0	25.3	25.7	26.1	13.5
13.6	15.0	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.3	19.6	19.9	20.2	20.6	20.9	21.3	21.6	21.9	22.3	22.6	23.0	23.3	23.7	24.1	24.4	24.8	25.2	25.5	25.9	26.3	13.6
13.7	15.1	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.4	18.8	19.1	19.4	19.7	20.1	20.4	20.7	21.1	21.4	21.8	22.1	22.4	22.8	23.2	23.5	23.9	24.2	24.6	25.0	25.3	25.7	26.1	26.5	13.7
13.8	15.2	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.3	18.6	18.9	19.2	19.5	19.9	20.2	20.5	20.9	21.2	21.6	21.9	22.3	22.6	23.0	23.3	23.7	24.0	24.4	24.8	25.2	25.5	25.9	26.3	26.7	13.8
13.9	15.3	15.6	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.1	18.4	18.7	19.0	19.4	19.7	20.0	20.4	20.7	21.0	21.4	21.7	22.1	22.4	22.8	23.1	23.5	23.9	24.2	24.6	25.0	25.3	25.7	26.1	26.5	26.9	13.9
14	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.6	17.9	18.2	18.5	18.8	19.2	19.5	19.8	20.2	20.5	20.8	21.2	21.5	21.9	22.2	22.6	22.9	23.3	23.7	24.0	24.4	24.8	25.1	25.5	25.9	26.3	26.7	27.0	14
14.1	15.5	15.8	16.1	16.4	16.8	17.1	17.4	17.7	18.0	18.3	18.6	19.0	19.3	19.6	20.0	20.3	20.6	21.0	21.3	21.7	22.0	22.4	22.7	23.1	23.5	23.8	24.2	24.6	24.9	25.3	25.7	26.1	26.5	26.9	27.2	14.1
14.2	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8	18.1	18.5	18.8	19.1	19.4	19.8	20.1	20.4	20.8	21.1	21.5	21.8	22.2	22.5	22.9	23.3	23.6	24.0	24.4	24.7	25.1	25.5	25.9	26.3	26.7	27.0	27.4	14.2
14.3	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.3	18.6	18.9	19.2	19.6	19.9	20.3	20.6	20.9	21.3	21.6	22.0	22.3	22.7	23.1	23.4	23.8	24.2	24.5	24.9	25.3	25.7	26.1	26.4	26.8	27.2	27.6	14.3
14.4	15.9	16.2	16.5	16.8	17.1	17.4	17.7	18.1	18.4	18.7	19.0	19.4	19.7	20.1	20.4	20.7	21.1	21.4	21.8	22.1	22.5	22.9	23.2	23.6	24.0	24.3	24.7	25.1	25.5	25.9	26.2	26.6	27.0	27.4	27.8	14.4
14.5	16.0	16.3	16.6	16.9	17.2	17.5	17.9	18.2	18.5	18.8	19.2	19.5	19.8	20.2	20.5	20.9	21.2	21.6	21.9	22.3	22.7	23.0	23.4	23.8	24.1	24.5	24.9	25.3	25.6	26.0	26.4	26.8	27.2	27.6	28.0	14.5
14.6	16.1	16.4	16.7	17.0	17.3	17.7	18.0	18.3	18.6	19.0	19.3	19.6	20.0	20.3	20.7	21.0	21.4	21.7	22.1	22.4	22.8	23.2	23.5	23.9	24.3	24.7	25.1	25.4	25.8	26.2	26.6	27.0	27.4	27.8	28.2	14.6
14.7	16.2	16.5	16.8	17.1	17.5	17.8	18.1	18.4	18.8	19.1	19.4	19.8	20.1	20.5	20.8	21.2	21.5	21.9	22.2	22.6	23.0	23.3	23.7	24.1	24.5	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.0	28.4	14.7
14.8	16.3	16.6	16.9	17.3	17.6	17.9	18.2	18.6	18.9	19.2	19.6	19.9	20.3	20.6	21.0	21.3	21.7	22.0	22.4	22.8	23.1	23.5	23.9	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.4	27.8	28.2	28.6	14.8
14.9	16.4	16.7	17.1	17.4	17.7	18.0	18.4	18.7	19.0	19.4	19.7	20.0	20.4	20.7	21.1	21.5	21.8	22.2	22.5	22.9	23.3	23.7	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.0	28.4	28.8	14.9
15	16.5	16.9	17.2	17.5	17.8	18.2	18.5	18.8	19.2	19.5	19.8	20.2	20.5	20.9	21.2	21.6	22.0	22.3	22.7	23.1	23.4	23.8	24.2	24.6	25.0	25.4	25.7	26.1	26.5	26.9	27.3	27.7	28.2	28.6	29.0	15
15.1	16.6	17.0	17.3	17.6	17.9	18.3	18.6	18.9	19.3	19.6	20.0	20.3	20.7	21.0	21.4	21.7	22.1	22.5	22.8	23.2	23.6	24.0	24.4	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	27.9	28.3	28.8	29.2	15.1
15.2	16.8	17.1	17.4	17.7	18.1	18.4	18.7	19.1	19.4	19.8	20.1	20.5	20.8	21.2	21.5	21.9	22.3	22.6	23.0	23.4	23.8	24.1	24.5	24.9	25.3	25.7	26.1	26.5	26.9	27.3	27.7	28.1	28.5	28.9	29.4	15.2
15.3	16.9	17.2	17.5	17.8	18.2	18.5	18.9	19.2	19.5	19.9	20.2	20.6	20.9	21.3	21.7	22.0	22.4	22.8	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	27.9	28.3	28.7	29.1	29.6	15.3
15.4	17.0	17.3	17.6	18.0	18.3	18.6	19.0	19.3	19.7	20.0	20.4	20.7	21.1	21.4	21.8	22.2	22.5	22.9	23.3	23.7	24.1	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.7	28.1	28.5	28.9	29.3	29.8	15.4
15.5	17.1	17.4	17.7	18.1	18.4	18.8	19.1	19.4	19.8	20.1	20.5	20.9	21.2	21.6	21.9	22.3	22.7	23.1	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.4	27.8	28.2	28.7	29.1	29.5	29.9	15.5
15.6	17.2	17.5	17.9	18.2	18.5	18.9	19.2	19.6	19.9	20.3	20.6	21.0	21.4	21.7	22.1	22.5	22.8	23.2	23.6	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.0	28.4	28.9	29.3	29.7	30.1	15.6
15.7	17.3	17.6	18.0	18.3	18.7	19.0	19.3	19.7	20.0	20.4	20.8	21.1	21.5	21.9	22.2	22.6	23.0	23.4	23.8	24.1	24.5	24.9	25.3	25.7	26.1	26.5	26.9	27.4	27.8	28.2	28.6	29.0	29.5	29.9	30.3	15.7
15.8	17.4	17.8	18.1	18.4	18.8	19.1	19.5	19.8	20.2	20.5	20.9	21.3	21.6	22.0	22.4	22.8	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	27.9	28.4	28.8	29.2	29.7	30.1	30.5	15.8
15.9	17.5	17.9	18.2	18.5	18.9	19.2	19.6	19.9	20.3	20.7	21.0	21.4	21.8	22.1	22.5	22.9	23.3	23.7	24.1	24.4	24.8	25.2	25.6	26.1	26.5	26.9	27.3	27.7	28.1	28.6	29.0	29.4	29.8	30.3	30.7	15.9
16	17.6	18.0	18.3	18.7	19.0	19.4	19.7	20.1	20.4	20.8	21.2	21.5	21.9	22.3	22.7	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.5	27.9	28.3	28.7	29.2	29.6	30.0	30.5	30.9	16
16.1	17.8	18.1	18.4	18.8	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.0	22.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	25.6	26.0	26.4	26.8	27.2	27.6	28.1	28.5	28.9	29.3	29.8	30.2	30.7	31.1	16.1
16.2	17.9	18.2	18.5	18.9	19.2	19.6	20.0	20.3	20.7	21.1	21.4	21.8	22.2	22.6	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.7	26.1	26.5	27.0	27.4	27.8	28.2	28.7	29.1	29.5	30.0	30.4	30.9	31.3	16.2
16.3	18.0	18.3	18.7	19.0	19.4	19.7	20.1	20.4	20.8	21.2	21.6	21.9	22.3	22.7	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.3	26.7	27.1	27.5	28.0	28.4	28.8	29.3	29.7	30.1	30.6	31.0	31.5	16.3
16.4	18.1	18.4	18.8	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2	25.6	26.0	26.5	26.9	27.3	27.7	28.1	28.6	29.0	29.4	29.9	30.3	30.8	31.2	31.7	16.4
16.5	18.2	18.5	18.9	19.2	19.6	20.0	20.3	20.7	21.1	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.2	26.6	27.0	27.5	27.9	28.3	28.7	29.2	29.6	30.1	30.5	31.0	31.4	31.9	16.5
16.6	18.3	18.7	19.0	19.4	19.7	20.1	20.5	20.8	21.2	21.6	22.0	22.3	22.7	23.1	23.5	23.9	24.3	24.7	25.1	25.5	25.9	26.4	26.8	27.2	27.6	28.1	28.5	28.9	29.4	29.8	30.3	30.7	31.2	31.6	32.1	16.6
16.7	18.4	18.8	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.6	24.0	24.5	24.9	25.3	25.7	26.1	26.5	26.9	27.4	27.8	28.2	28.7	29.1	29.5	30.0	30.4	30.9	31.3	31.8	32.3	16.7
16.8	18.5	18.9	19.2	19.6	20.0	20.3	20.7	21.1	21.5	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.4	25.8	26.3	26.7	27.1	27.5	28.0	28.4	28.8	29.3	29.7	30.2	30.6	31.1	31.5	32.0	32.5	16.8
16.9	18.6	19.0	19.3	19.7	20.1	20.4	20.8	21.2	21.6	22.0	22.4	22.7	23.1	23.5	23.9	24.3	24.7	25.2	25.6	26.0	26.4	26.8	27.3	27.7	28.1	28.6	29.0	29.4	29.9	30.3	30.8	31.3	31.7	32.2	32.7	16.9
17	18.7	19.1	19.5	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.7	26.1	26.6	27.0	27.4	27.9	28.3	28.7	29.2	29.6	30.1	30.5	31.0	31.4	31.9	32.4	32.8	17
17.1	18.9	19.2	19.6	19.9	20.3	20.7	21.1	21.5	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.0	25.5	25.9	26.3	26.7	27.1	27.6	28.0	28.5	28.9	29.3	29.8	30.2	30.7	31.2	31.6	32.1	32.6	33.0	17.1
17.2	19.0	19.3	19.7	20.1	20.4	20.8	21.2	21.6	22.0	22.4	22.7	23.1	23.5	23.9	24.4	24.8	25.2	25.6	26.0	26.4	26.9	27.3	27.7	28.2	28.6	29.1	29.5	30.0	30.4	30.9	31.3	31.8	32.3	32.8	33.2	17.2
17.3	19.1	19.4	19.8	20.2	20.6	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.7	26.2	26.6	27.0	27.5	27.9	28.3	28.8	29.2	29.7	30.1	30.6	31.1	31.5	32.0	32.5	32.9	33.4	17.3
17.4	19.2	19.6	19.9	20.3	20.7	21.1	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.3	26.8	27.2	27.6	28.1	28.5	29.0	29.4	29.9	30.3	30.8	31.2	31.7	32.2	32.7	33.1	33.6	17.4
17.5	19.3	19.7	20.0	20.4	20.8	21.2	21.6	22.0	22.3	22.7	23.1	23.5	24.0	24.4	24.8	25.2	25.6	26.0	26.5	26.9	27.3	27.8	28.2	28.7	29.1	29.6	30.0	30.5	31.0	31.4	31.9	32.4	32.8	33.3	33.8	17.5
17.6	19.4	19.8	20.2	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	27.9	28.4	28.8	29.3	29.7	30.2	30.7	31.1	31.6	32.1	32.6	33.0	33.5	34.0	17.6
17.7	19.5	19.9	20.3	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.3	26.8	27.2	27.7	28.1	28.5	29.0	29.5	29.9	30.4	30.8	31.3	31.8	32.3	32.7	33.2	33.7	34.2	17.7
17.8	19.6	20.0	20.4	20.8	21.1	21.5	21.9	22.3	22.7	23.1	23.5	24.0	24.4	24.8	25.2	25.6	26.1	26.5	26.9	27.4	27.8	28.3	28.7	29.2	29.6	30.1	30.5	31.0	31.5	32.0	32.4	32.9	33.4	33.9	34.4	17.8
17.9	19.7	20.1	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.7	24.1	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.3	29.8	30.3	30.7	31.2	31.7	32.1	32.6	33.1	33.6	34.1	34.6	17.9
18	19.8	20.2	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.4	26.8	27.2	27.7	28.1	28.6	29.0	29.5	30.0	30.4	30.9	31.4	31.8	32.3	32.8	33.3	33.8	34.3	34.8	18
18.1	20.0	20.3	20.7	21.1	21.5	21.9	22.3	22.7	23.1	23.5	23.9	24.4	24.8	25.2	25.6	26.1	26.5	26.9	27.4	27.8	28.3	28.7	29.2	29.7	30.1	30.6	31.1	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	18.1
18.2	20.1	20.4	20.8	21.2	21.6	22.0	22.4	22.8	23.2	23.7	24.1	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.2	31.7	32.2	32.7	33.2	33.7	34.2	34.7	35.2	18.2
18.3	20.2	20.6	21.0	21.3	21.7	22.1	22.5	23.0	23.4	23.8	24.2	24.6	25.1	25.5	25.9	26.4	26.8	27.2	27.7	28.1	28.6	29.1	29.5	30.0	30.5	30.9	31.4	31.9	32.4	32.9	33.4	33.8	34.3	34.9	35.4	18.3
18.4	20.3	20.7	21.1	21.5	21.9	22.3	22.7	23.1	23.5	23.9	24.3	24.8	25.2	25.6	26.1	26.5	26.9	27.4	27.8	28.3	28.8	29.2	29.7	30.1	30.6	31.1	31.6	32.1	32.5	33.0	33.5	34.0	34.5	35.0	35.6	18.4
18.5	20.4	20.8	21.2	21.6	22.0	22.4	22.8	23.2	23.6	24.0	24.5	24.9	25.3	25.8	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.7	32.2	32.7	33.2	33.7	34.2	34.7	35.2	35.7	18.5
18.6	20.5	20.9	21.3	21.7	22.1	22.5	22.9	23.3	23.8	24.2	24.6	25.0	25.5	25.9	26.3	26.8	27.2	27.7	28.1	28.6	29.1	29.5	30.0	30.5	31.0	31.4	31.9	32.4	32.9	33.4	33.9	34.4	34.9	35.4	35.9	18.6
18.7	20.6	21.0	21.4	21.8	22.2	22.6	23.0	23.5	23.9	24.3	24.7	25.2	25.6	26.0	26.5	26.9	27.4	27.8	28.3	28.8	29.2	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.1	34.6	35.1	35.6	36.1	18.7
18.8	20.7	21.1	21.5	21.9	22.3	22.7	23.2	23.6	24.0	24.4	24.9	25.3	25.7	26.2	26.6	27.1	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	34.8	35.3	35.8	36.3	18.8
18.9	20.8	21.2	21.6	22.0	22.5	22.9	23.3	23.7	24.1	24.6	25.0	25.4	25.9	26.3	26.8	27.2	27.7	28.1	28.6	29.1	29.5	30.0	30.5	31.0	31.5	31.9	32.4	32.9	33.4	33.9	34.4	35.0	35.5	36.0	36.5	18.9
19	20.9	21.3	21.8	22.2	22.6	23.0	23.4	23.8	24.3	24.7	25.1	25.6	26.0	26.5	26.9	27.4	27.8	28.3	28.7	29.2	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.1	34.6	35.1	35.7	36.2	36.7	19
19.1	21.1	21.5	21.9	22.3	22.7	23.1	23.5	24.0	24.4	24.8	25.3	25.7	26.1	26.6	27.0	27.5	28.0	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	34.8	35.3	35.8	36.4	36.9	19.1
19.2	21.2	21.6	22.0	22.4	22.8	23.2	23.7	24.1	24.5	25.0	25.4	25.8	26.3	26.7	27.2	27.6	28.1	28.6	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.4	32.9	33.5	34.0	34.5	35.0	35.5	36.0	36.6	37.1	19.2
19.3	21.3	21.7	22.1	22.5	22.9	23.4	23.8	24.2	24.6	25.1	25.5	26.0	26.4	26.9	27.3	27.8	28.3	28.7	29.2	29.7	30.2	30.6	31.1	31.6	32.1	32.6	33.1	33.6	34.1	34.7	35.2	35.7	36.2	36.8	37.3	19.3
19.4	21.4	21.8	22.2	22.6	23.0	23.5	23.9	24.3	24.8	25.2	25.7	26.1	26.6	27.0	27.5	27.9	28.4	28.9	29.4	29.8	30.3	30.8	31.3	31.8	32.3	32.8	33.3	33.8	34.3	34.8	35.4	35.9	36.4	36.9	37.5	19.4
19.5	21.5	21.9	22.3	22.7	23.2	23.6	24.0	24.5	24.9	25.3	25.8	26.2	26.7	27.2	27.6	28.1	28.5	29.0	29.5	30.0	30.5	31.0	31.5	31.9	32.4	33.0	33.5	34.0	34.5	35.0	35.5	36.1	36.6	37.1	37.7	19.5

GIRLS

AGE (YR)	-3SD	-2SD	-1SD
5-8	11.8	12.8	14
9	12.2	13.3	14.6
10	12.5	13.7	15.1
11	12.9	14.1	15.6
12	13.4	14.6	16.3
13	13.8	15.2	16.9
14	14.2	15.7	17.5
15	14.5	16	18
16	14.6	16.3	18.3
17	14.7	16.4	18.5
18	14.7	16.5	18.6

SEVERELY MALNOURISHED | MODERATELY MALNOURISHED | NORMAL / MILD MALNUTRITION

አጠቃቀም

1ኛ/ ክብደትን መለካት

በመጀመሪያ የሚዛኑ ጠቋሚ ዜሮ ላይ መሆኑን ያረጋግጡ:: ህመምተኛው ከባድ ልብሶችን እንዲያወልቅ ያድርጉ:: ህመምተኛው ሳይደገፍ ቀጥ ብሎ በሚዛኑ መከካለኛ ቦታ ላየ እንዲቆም ያድርጉ:: የክብደቱን መጠን ወደ 0.1 ኪግ አጠጋግተው ይመዝግቡ::

2ኛ/ ቁመትን መለካት

ህመምተኛው ጫማቸውን እንዲያውልቁ ተደርጎ ቀጥ ብለው ይቁሙ:: ተረከዝ፣ መቀመጫ፣ ትከሻና ጭንቅላት ግድግደውን መንካት አለባቸው:: የቁመቱን መጠን ወደ 0.5 ሳሜ አጠጋግተው ይመዝግቡ::

3ኛ/ ክብደትንና ቁመትን ወደ የሰውነት አቋም መመዘኛ መጠን መቀየር

ሳንቲ ሜትሮችን ወደ ሜትር መቀየር (1 ሜትር 100 ሳንቲ ሜትር ነው) የክብደት መጠንን የሚያሳየው መስመር ከቁመት መጠን መስመር ጋር የሚገናኝበት ቦታ የሰውነት አቋምን (ቢ.ኤም.አይ) ያሳያል::

***ለምሳሌ:-** ክብደቷ 30.2 ኪግ የሆነችና ቁመቷ 156 ሳሜ የሰውነት አቋም መለኪያዋ 12.4 ይሆናል ማለት ነው::*

Reference: WHO 2007 BMI Data for older children and adolescent by age and sex