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 ≥ 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).