The United Republic of Tanzania

Ministry of Health, Community Development,
Gender, Elderly and Children

Nutrition Assessment, Counselling and Support (NACS)

PARTICIPANT WORKBOOK

for Training Health Facility-Based Service Providers

2016

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FANTA III FOOD AND NUTRITION TECHNICAL ASSISTANCE

fhi360 THE SCIENCE OF IMPROVING LIVES

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ABBREVIATIONS AND ACRONYMS

ART	antiretroviral therapy
ARV	antiretroviral medication
BMI	body mass index
C	Celsius
cm	centimetre(s)
CNAs	Critical Nutrition Actions
CTC	care and treatment clinic
FBF	fortified-blended food
g	gram(s)
HBC	home-based care
HIV	human immunodeficiency virus
kcal	kilocalorie(s)
kg	kilogram(s)
MAM	moderate acute malnutrition
MUAC	mid-upper arm circumference
MVC	most vulnerable child(ren)
NACS	nutrition assessment, counselling and support
OPD	outpatient department
PMTCT	prevention of mother-to-child transmission of HIV
RCH	Reproductive and Child Health
RDA	Recommended Dietary Allowance
RUSF	Ready-to-use supplementary food
RUTF	ready-to-use therapeutic food
SAM	severe acute malnutrition
TB	Tuberculosis
TFNC	Tanzania Food and Nutrition Centre
WHZ	weight-for-height z-score
WHO	World Health Organisation

COURSE OBJECTIVES

By the end of this training, participants should be able to:

1. Advocate for and discuss the role of nutrition in care and treatment
2. Assess the nutritional status of clients
3. Identify and follow appropriate Nutrition Care Plans for clients
4. Counsel clients on nutrition
5. Communicate the Critical Nutrition Actions (CNAs)
6. Prescribe and monitor specialised food products for acutely malnourished clients
7. Manage nutrition assessment, counselling and support (NACS) services in the workplace
8. Collect information to monitor and report on NACS services

Expected competencies of facility-based health care providers trained in NACS
Module 1. Overview of Nutrition
1. Explain the importance of nutrition for good health.
2. Define basic nutrition terms.
3. Describe the immediate and underlying causes of malnutrition.
4. Recognise the signs of malnutrition in children, adults, pregnant women and people with HIV.
5. Describe what can happen to someone who is malnourished without nutrition interventions.
6. Describe the consequences of malnutrition for people with HIV.
7. Explain the energy and protein requirements for different age groups.
8. Explain the additional energy and nutrient requirements of people with HIV.
9. Counsel clients on how to prevent and manage malnutrition.
10. Explain the interaction between tuberculosis and nutrition.
11. Explain the interaction between HIV and nutrition.
12. Explain the importance of nutrition interventions to improve immunity and nutritional status.

Module 2. Nutrition Assessment, Classification and Care Plans
1. Assess a client for bilateral pitting oedema.
2. Assess a client for signs of severe wasting.
3. Check a child's growth curve on the Tanzania Child Growth Chart.
4. Interpret client biochemical information.
5. Diagnose and treat a client's medical complications or refer for treatment.
6. Measure length, weight and height accurately.
7. Measure mid-upper arm circumference (MUAC) accurately.
8. Find body mass index (BMI) using weight and height measurements.
9. Find weight for height z-score (WHZ) using weight and height measurements.
10. Use the appropriate anthropometric measurement tools for different groups.
11. Assess a client's food access and intake.
12. Conduct an appetite test for severely malnourished clients to determine whether they should be managed as inpatients or outpatients.
13. Classify a client's nutritional status correctly based on appetite, medical complications and anthropometric measurements.
14. Identify and follow the appropriate Nutrition Care Plan for a client based on nutritional status.
15. Refer a client with medical complications for further assessment and management.
16. Counsel clients based on the results of nutrition assessment.
17. Refer clients to community support as needed.
Module 3. Nutrition Education, Counselling and Referral
1. Prepare for a nutrition education or counselling session by considering time, venue and materials.
2. Apply effective counselling skills when counselling clients.
3. Use the GATHER steps when counselling clients.
4. Counsel clients on the importance of a balanced and varied diet and meal planning to include all food groups.
5. Counsel clients on the importance of food and water safety.
6. Counsel clients on how to manage common health conditions through diet.
7. Counsel clients on the dietary management of symptoms, medication-food interactions and medication side effects.
8. Understand the importance of community case finding.
9. Refer clients to appropriate community services.

Module 4. Nutrition Support
1. Describe the purpose of nutrition therapy and supplementation for clients with acute malnutrition.
2. Define 'specialised food products'.
3. Define 'ready-to-use therapeutic food' (RUTF) and list the RUTFs used in Tanzania.
4. Indicate anthropometric and medical criteria that qualify clients for specialised food products.
5. Demonstrate preparation of RUTF and fortified-blended food (FBF).
6. Explain to clients how to prepare, use and store RUTF and FBF.
7. Explain to clients that specialised food products are not appropriate for infants under 6 months of age and are **medicine** that should not be shared with other family members.
8. Prescribe the appropriate kind and amount of specialised food products based on nutritional status, age and pregnancy/post-partum status.
9. Manage clients on specialised food products, including counselling and follow-up.
10. Estimate types and amounts of specialised food products needed each month.
11. Complete specialised food product reporting forms accurately.
12. Submit completed reporting forms according to schedule.
Module 5. NACS Monitoring and Reporting
1. Explain the importance of recording and monitoring the nutritional status of clients.
2. Complete required NACS reporting forms accurately.
3. Submit completed reporting forms according to schedule.
4. Assess the quality of NACS services in the workplace.

MODULE CONTENTS AND DURATION

Session	Topic	Duration
INTRODUCTORY SECTION		**1 hour**
MODULE 1. OVERVIEW OF NUTRITION		**4 hours**
	Objectives	5 minutes
1.1	Key Nutrition Terms	30 minutes
1.2	Importance of Nutrition	30 minutes
1.3	Nutrient Requirements	30 minutes
1.4	Effects of Infection on Nutrient Requirements	25 minutes
1.5	Causes of Malnutrition	25 minutes
1.6	Clinical Features of Malnutrition	30 minutes
1.7	Consequences of Malnutrition	30 minutes
1.8	Preventing and Managing Malnutrition	30 minutes
	Discussion	5 minutes
MODULE 2. NUTRITION ASSESSMENT, CLASSIFICATION AND CARE PLANS		**14 hours**
	Objectives	5 minutes
	Review	15 minutes
2.1	The Importance of Nutrition Assessment	45 minutes
2.2	Clinical Assessment	1 hour
2.3	Physical Assessment	3 hours
2.4	Biochemical Assessment	40 minutes
2.5	Dietary Assessment	50 minutes
2.6	Nutrition Care Plan C: Severe Acute Malnutrition (SAM)	4 hours
2.7	Nutrition Care Plan B: Moderate Acute Malnutrition (MAM)	2 hours
2.8	Nutrition Care Plan A: Normal Nutritional Status	1 hour
2.9	Nutrition Care Plan D: Overweight and Obesity	15 minutes
	Discussion and evaluation	10 minutes

MODULE 3. NUTRITION EDUCATION, COUNSELLING AND REFFERRAL		**6 hours**
	Objectives	5 minutes
	Review	20 minutes
3.1	Nutrition Education	40 minutes
3.2	Definition of Counselling and Required Skills	1 hour
3.3	Nutrition Counselling Using the GATHER Approach	2 hours
3.4	Nutrition Counselling Messages	1 hour
3.5	Providing Nutrition Services along the Continuum of Care	20 minutes
3.6	Referral	25 minutes
	Discussion and Evaluation	10 minutes
MODULE 4. NUTRITION SUPPORT		**6 hours**
	Objectives	5 minutes
	Review	15–60 minutes
4.1	Components of NACS	15 minutes
4.2	NACS Client Flow and Staff Roles	45 minutes
4.3	Specialised Food Products to Treat Malnutrition	1½ hours
4.4	Entry and Exit Criteria for Specialised Food Products	45 minutes
4.5	Managing Clients on Specialised Food Products	2¼ hours
	Discussion and Evaluation	10 minutes
MODULE 5. NACS MONITORING AND REPORTING		**9 hours**
	Objectives	5 minutes
	Review	20–60 minutes
5.1	Purpose of Recording NACS Data	10 minutes
5.2	Completing NACS Data Collection Forms	2 hours
5.3	NACS Indicators	30 minutes
5.4	Site Practice Visit	4¾ hours
5.5	Action Plan	40 minutes
	Discussion and Evaluation	10 minutes
	Post-test	10 minutes
	Final Evaluation	10 minutes
	TOTAL	**40 hours**

1 Overview of Nutrition

MODULE 1. OVERVIEW OF NUTRITION

Learning objectives

By the end of this module, participants will be able to:

1. Define basic nutrition terms.
2. Explain the importance of nutrition for good health.
3. Explain the energy and protein requirements of people in different age groups.
4. Explain the additional nutritional requirements of people living with HIV.
5. Describe the interaction between HIV and nutrition.
6. Describe the interaction between tuberculosis (TB) and HIV.
7. Describe the causes, clinical features and consequences of malnutrition.
8. Describe the Critical Nutrition Actions (CNAs).

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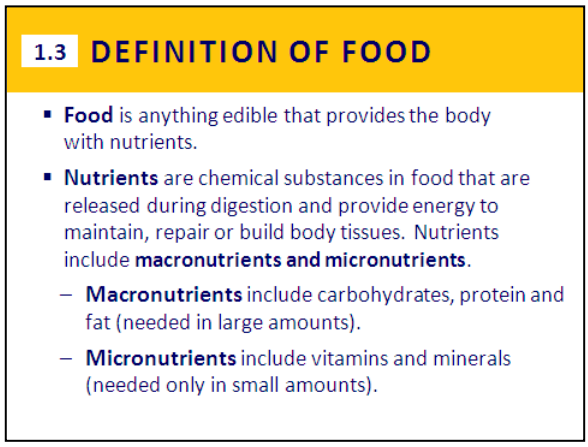

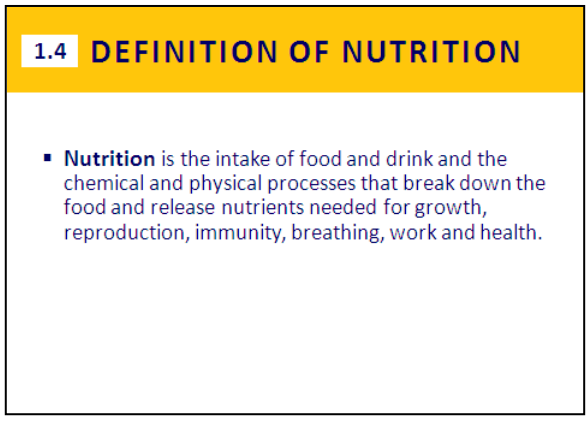

Notes

1.5 CONDITIONS FOR GOOD NUTRITION

- Ability to access and eat the right quality and quantity of food to sustain life and health
- Appetite
- Ability to chew and swallow
- Ability to digest and absorb food
- Ability to use nutrients in food for cell development and growth, reproduction, immunity, breathing, work, etc.
- Ability to store different nutrients/energy in relevant parts of the body
- Ability to excrete toxins/waste

1.6 DEFINITION OF MALNUTRITION

- **Malnutrition** occurs when food intake does not match the body's needs. A malnourished person can have either undernutrition or overnutrition.
  - **Undernutrition** is the result of not consuming enough nutrients for healthy growth and development.
  - **Overnutrition** is the result of consuming more nutrients than the body needs for healthy growth and development.

1.7 TYPES OF MALNUTRITION (1)

- **Acute malnutrition** is caused by decreased food consumption and/or illness, resulting in wasting. **Wasting** is defined by low mid-upper arm circumference (MUAC) or low weight-for-height z-score (WHZ).
- **Chronic malnutrition** is caused by prolonged or repeated episodes of undernutrition, resulting in stunting. **Stunting** is defined by low height-for-age.

Notes

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1.8 TYPES OF MALNUTRITION (2)

- **Micronutrient deficiencies** are a result of reduced micronutrient intake and/or absorption. The most common forms of micronutrient deficiencies are related to iron, vitamin A and iodine deficiency.
- **Overweight**
- **Obesity**

1.9 IMPORTANCE OF NUTRITION FOR GOOD HEALTH

Good nutrition

- Is essential for human survival, growth, cognitive and physical development and productivity
- Strengthens the immune system to reduce morbidity and mortality
- Improves medication adherence and effectiveness
- Builds a productive society and high quality of life

1.10 FOOD GROUPS

People should eat a variety of foods from all the food groups to get all the nutrients the body needs.

1. **Cereals, green bananas, roots and tubers** (carbohydrates for energy)
2. **Pulses, nuts and animal-source food** (protein for body building)
3. **Fruits** (vitamins and minerals for protection)
4. **Vegetables** (vitamins and minerals for protection)
5. **Sugar, honey, fats and oils** (extra energy)

Notes

1.11 DAILY ENERGY REQUIREMENTS

Group	Kilocalories (kcal)/day
6–11 months	680
12–23 months	900
2–5 years	1,260
6–9 years	1,650
10–14 years	2,020
15–17 years	2,800
≥ 18 years	2,000–2,580
Pregnant/lactating	2,460–2570

Source: WHO, FAO and United Nations University (UNU). 2001. *Human Energy Requirements: Report of a Joint WHO/FAO/UNU Expert Consultation, 17–24 October 2001.* Geneva: WHO.

1.12 ENERGY REQUIREMENTS OF PEOPLE LIVING WITH HIV

- **HIV-positive adult** in early/asymptomatic stage: 10% more energy
- **HIV-positive adult** in late/symptomatic stage: 20% more energy
- **HIV-positive child**
  - Asymptomatic: 10% more energy
  - Symptomatic: 20–30% more energy
  - Losing weight or acutely malnourished: 50–100% more energy

Source: WHO. 2003. *Nutrient Requirements of People Living with HIV/AIDS: Report of a Technical Consultation, Geneva, 13–15 May 2003.* Geneva: WHO.

1.13 DAILY PROTEIN REQUIREMENTS

Group	Grams (g) per day
0–6 months	9
7–11 months	11
1–3 years	13
4–8 years	19
9–13 years	34
14–18 years	46 (girls), 52 (boys)
19–> 70 years	46 (females), 56 (males)
Pregnant 14–50 years	71
Lactating 14–50 years	105
HIV positive	No additional requirement

Sources: WHO, FAO and United Nations University (UNU). 2001. *Human Energy Requirements: Report of a Joint WHO/FAO/UNU Expert Consultation, 17–24 October, 2001.* Geneva: WHO. U.S. Department of Agriculture. 2011. *Dietary Reference Intakes (DRIs): Recommended Intakes for Individuals.* Washington, DC: U.S. Government.

1.14 NUTRIENT REQUIREMENTS OF PEOPLE LIVING WITH HIV

- **Protein:** Same as for HIV-negative people (12–15% of energy intake, 50–80 g/day or 1 g/kg of ideal weight)
- **Fat:** Same as for HIV-negative people (no more than 35% of total energy needs), but people on antiretroviral therapy (ART) or with persistent diarrhoea might need to eat less fat
- **Micronutrients:** Same as for HIV-negative people (1 Recommended Daily Allowance [RDA] through diet), but if diet is insufficient, HIV-positive children and pregnant/post-partum women might need multiple micronutrient supplements

Source: WHO. 2003. *Nutrient Requirements of People Living with HIV/AIDS: Report of a Technical Consultation, Geneva, 13–15 May 2003.* Geneva: WHO.

1.15 NUTRITION AND TB

- TB reduces appetite and increases energy expenditure, causing wasting.
- Underweight people are at risk of developing active TB.
- Poor nutritional status may speed up progression from TB infection to TB disease.
- Protein loss in TB patients can cause nutrient malabsorption.
- Increased energy expenditure and tissue breakdown increase micronutrient needs in people with TB.
- Poor appetite makes people with TB unable to eat enough to meet their increased micronutrient needs.

1.16 HIV-TB CO-INFECTION

- In southern Africa, people without HIV have a 10% risk of TB over a lifetime. People with HIV have a 10% risk over 1 year.
- People with HIV are more vulnerable to TB, and it is more difficult to treat TB in people with HIV.
- HIV increases the risks of TB infection, latent TB becoming active and relapse after treatment.
- People with HIV are up to 50 times more likely to develop active TB than people without HIV.
- 30% of people living with HIV with TB die within 1 year of diagnosis and initial treatment.
- TB speeds HIV progression and increases mortality.

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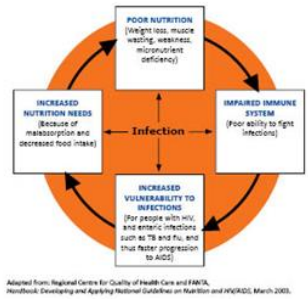
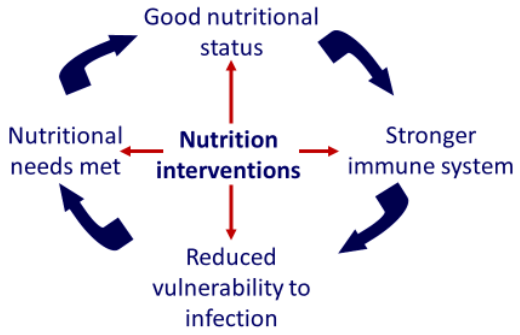
1.17 A VICIOUS CYCLE: MALNUTRITION AND INFECTION

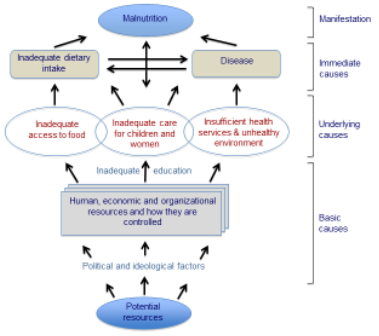


Adapted from: Regional Centre for Quality of Health Care and FANTA, *Handbook: Developing and Applying National Guidelines on Nutrition and HIV/AIDS*, March 2003.

1.18 NUTRITION INTERVENTIONS



1.19 CONCEPTUAL FRAMEWORK OF MALNUTRITION



Notes

1.20 CLINICAL FEATURES OF MALNUTRITION (1)

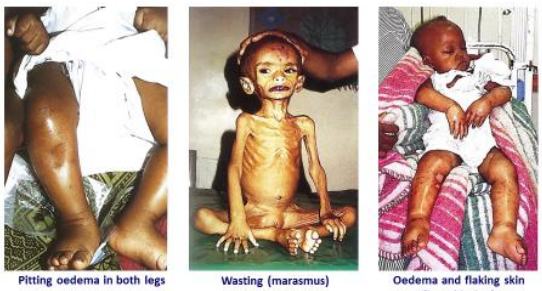
In adults
- Weight loss
- AIDS wasting
- Anaemia

In pregnant women
- Inadequate weight gain
- Anaemia
- Pre-term delivery

General
- Reduced lean body mass
- Metabolic disorders

In children
- Growth faltering
- Slower growth rate
- Weight loss
- Stunting
- Underweight
- Wasting
- Hair colour change
- Bilateral pitting oedema
- Anaemia

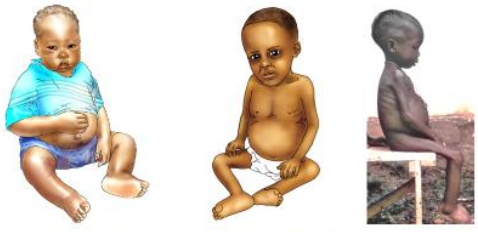
1.21 CLINICAL FEATURES OF MALNUTRITION (2)



Pitting oedema in both legs | Wasting (marasmus) | Oedema and flaking skin (kwashiorkor)

Photos: WHO. 2002. *Training course on the management of severe malnutrition*. Geneva: WHO.

1.22 MARASMUS AND KWASHIORKOR



Kwashiorkor | Marasmus | Marasmic kwashiorkor

Sources: University Research Co., LLC. 2009. *Comprehensive Nutrition Care for People Living with HIV/AIDS: Facility-Based Health Providers Manual*. Bethesda, MD: URC; Wikimedia

Notes

1.23 CONSEQUENCES OF MALNUTRITION

- Increased risk of infections
- Poor physical growth and brain development
- Weakened immunity, increased morbidity and mortality
- Faster disease progression in people with HIV and TB
- Increased risk of mother-to-child transmission of HIV
- Reduced drug effectiveness and adherence
- Increased poverty and disease
- Lower educational and economic prospects
- Increased health and education costs
- Increased risk of chronic diseases (e.g., diabetes from overnutrition)

1.24 PREVENTING AND MANAGING MALNUTRITION (1)

Food

- Eating a balanced diet using a variety of local foods
- Optimal feeding of vulnerable groups
- Modifying food (mashing, fermenting, germinating, dehulling, roasting)
- Fortifying food (adding micronutrients to staple foods, sprinkling food with multiple micronutrient powders)
- Improving household food production
- Improving food security through economic strengthening
- Providing food support or food aid
- Improving school feeding

1.25 PREVENTING AND MANAGING MALNUTRITION (2)

Health services

- Integrating nutrition into routine health services
- Providing micronutrient supplements
- Treating acute malnutrition with specialised food products
- Deworming
- Providing nutrition education and counselling

Behaviour change

- Growth monitoring and promotion
- Nutrition counselling and education

1.26 CRITICAL NUTRITION ACTIONS

1. Get weighed regularly and have weight recorded.
2. Eat a variety of foods and increase intake of nutritious foods.
3. Drink plenty of boiled or treated water.
4. Avoid habits that can lead to poor nutrition and poor health.
5. Maintain good hygiene and sanitation.
6. Get exercise as often as possible.
7. Prevent and seek early treatment of infections and advice on managing symptoms through diet.
8. Manage food-drug interactions and medication side effects through diet.

1.27 NUTRITION SERVICES IN HEALTH CARE FACILITIES

- Nutrition assessment
- Nutrition counselling and education
- Demonstration of how to prepare nutritious food
- Prescription of specialised food products for acutely malnourished clients
- Micronutrient supplementation
- Deworming
- Referral to community economic strengthening, livelihood and food security services

Notes

2 Nutrition Assessment, Classification and Care Plans

MODULE 2. NUTRITION ASSESSMENT, CLASSIFICATION AND CARE PLANS

Learning objectives

By the end of this module, participants will be able to:

1. Explain the importance of nutrition assessment.
2. Take and interpret anthropometric measurements accurately.
3. Do clinical, biochemical and dietary assessments.
4. Classify nutritional status correctly based on nutrition assessment.
5. Select appropriate Nutrition Care Plans based on clients' nutritional status.
6. Explain the importance of recording client nutrition information.

PowerPoint slides

Notes

2.3 IMPORTANCE OF NUTRITION ASSESSMENT

- Identifies people at risk for malnutrition for early intervention or referral before severe malnutrition
- Detects diet habits that increase the risk of disease
- Identifies needs for nutrition education and counselling
- Identifies local food resources
- Tracks growth and weight trends
- Establishes a framework for a Nutrition Care Plan

Photo: Wendy Hammond

2.4 TYPES OF NUTRITION ASSESSMENT

- **A**nthropometric
- **B**iochemical
- **C**linical
- **D**ietary

Notes

2.5 CLINICAL NUTRITION ASSESSMENT

1. Check for medical complications.

- Bilateral pitting oedema
- Wasting
- Anorexia, poor appetite
- Persistent diarrhoea
- Nausea or vomiting
- Severe dehydration
- High fever (≥ 38.5° C)
- Rapid breathing
- Convulsions
- Severe anaemia
- Mouth sores or thrush
- HIV
- Hypothermia
- Hypoglycaemia
- Lethargy or unconsciousness
- Extreme weakness
- Opportunistic infections
- Extensive skin lesions

2. Find out what medications the client is taking.

2.6 ANTHROPOMETRY

Anthropometry is the measurement of the size, weight and proportions of the human body. Anthropometric measurements also can be used to assess the nutritional status of individuals and population groups.

2.7 TYPES OF ANTHROPOMETRIC MEASUREMENT

- Weight
- Height
- Mid-upper arm circumference (MUAC)

Measurements presented as indexes

- Weight-for-age z-score (WAZ)
- Weight-for-height z-score (WHZ)
- Body mass index (BMI)
- BMI-for-age z-score

2.8 CLASSIFICATIONS OF NUTRITIONAL STATUS

- Severe acute malnutrition (SAM) with no appetite or with medical complications
- SAM with appetite and no medical complications
- Moderate acute malnutrition (MAM)
- Normal nutritional status
- Overweight
- Obesity

2.9 HOW OFTEN SHOULD YOU WEIGH CLIENTS?

- Daily in inpatient care
- Generally on each health facility visit
- Children under 5: Follow routine reproductive and child health (RCH) weighing schedule
- Outpatient adults:
  - With severe acute malnutrition (SAM): Every 2 weeks
  - With moderate acute malnutrition (MAM): Every month
  - With normal nutritional status: Every 3 months

2.10 BODY MASS INDEX

- BMI = $\frac{\text{weight (kg)}}{\text{height (m}^2\text{)}}$
- BMI is a reliable indicator of body fatness and an inexpensive and simple way to measure adult malnutrition.
- BMI cutoffs are not accurate in pregnant women or adults with oedema, whose weight gain is not linked to nutritional status. For these groups, use MUAC.

Notes

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2.11 PHYSICAL SIGNS OF MALNUTRITION

- Bilateral pitting oedema
- Dull, dry, thin or discoloured hair
- Dry or flaking skin
- Pallor of the palms, nails or mucous membranes
- Lack of fat under the skin
- Fissures and scars at the corner of the mouth
- Swollen gums
- Goitre
- Bitot's spots in the eyes

2.12 BIOCHEMICAL TESTS USED IN NUTRITION ASSESSMENT

- Measurement of nutrient concentration in the blood
- Measurement of urinary excretion and metabolites of nutrients
- Detection of abnormal metabolites in blood from a nutrient deficiency
- Measurement of changes in blood constituents or enzyme activities that depend on nutrient intake
- Measurement of "tissue specific" chemical markers

2.13 CRITERIA FOR SAM

Adolescents and adults

- MUAC < 18.5 cm
- **OR** BMI < 16.0
- **OR** weight loss > 10% since the last visit

Women who are pregnant or up to 6 months post-partum

- MUAC < 19.0 cm

Children

- Bilateral pitting oedema
- **OR** severe visible wasting
- **OR** MUAC
  - 6 to 59 months: < 11.5 cm
  - 5 to 9 years: < 13.5 cm
  - 10 to 14 years: < 16.0 cm
- **OR** WHZ **OR** BMI-for-age < –3

2.14 CHILD WITH SAM (1)

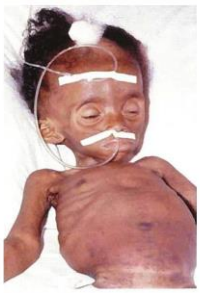
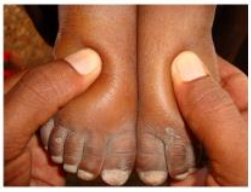
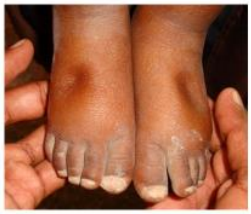


Photo: WHO. 2002. *Training Course on the Management of Severe Malnutrition.* Geneva: WHO.

2.15 CHILD WITH SAM (2)





Photos: Geno Teofilo, Oxfam

2.16 ADULT WITH SAM

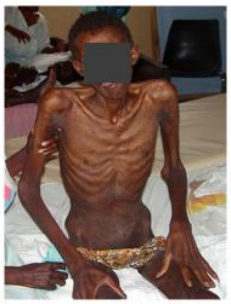


Photo: http://www.redpepper.co.ug/what-to-look-for-14-symptoms-of-hiv/

Notes

Notes

2.17 NUTRITION CARE FOR CLIENTS WITH SAM

- Routine SAM medicines
- Ready-to-use therapeutic food (RUTF)
- High-energy fortified-blended food (FBF) or ready-to-use supplementary food (RUSF)
- HIV testing and PCP prophylaxis if not on ART
- Counselling on the CNA
- Weekly or bi-weekly monitoring (daily if inpatient)
- Appetite test, oedema assessment, weight monitoring and medical checks on each visit
- Referral to food security and livelihood support, home-based care, psychosocial counselling, etc.

2.18 CRITERIA FOR INPATIENT TREATMENT OF SAM

ANY OF THE FOLLOWING:

- No appetite (failed an appetite test)
- Concurrent infections or other medical complications
- In outpatient care for 2 months and no weight gain or weight loss or worsening oedema
- Caregiver unable to provide homecare
- Inability to return in 1 week for follow-up

2.19 CRITERIA FOR OUTPATIENT TREATMENT OF SAM

ALL OF THE FOLLOWING:

- Appetite (passed an appetite test)
- No concurrent infections or other medical complications
- Caregiver willing and able to provide home care
- Ability to return for follow-up
- Enough RUTF supply in stock

Notes

2.20 CRITERIA FOR MODERATE MALNUTRITION

Adolescents and adults

- MUAC ≥ 18.5 to < 22.0 cm
- **OR** BMI ≥ 16.0 to < 17.0
- **OR** weight loss > 5% since last visit

Women who are pregnant/ up to 6 months post-partum

- MUAC ≥ 19.0 to < 23.0 cm

Children

- Confirmed weight loss since
- **AND** MUAC
  - 6 to 59 months: ≥ 11.5 to < 12.5 cm
  - 5 to 9 years: ≥ 13.5 to < 14.5 cm
  - 10 to 14 years: ≥ 16.0 to < 18.5 cm
- **OR** WHZ **OR** BMI-for-age ≥ –3 to < –2

2.21 NUTRITION CARE FOR MODERATE MALNUTRITION

- Treatment of concurrent illnesses
- FBF to provide 40–60% of energy needs (slightly more for children coming from SAM treatment)
- HIV testing (especially children) and PCP prophylaxis if not on ART
- Anaemia assessment (supplementation if necessary)
- Deworming
- Counselling on the CNA
- Monthly follow-up and monitoring
- Referral to programmes for psychosocial counselling, HBC, food security or livelihood support

2.22 CRITERIA FOR NORMAL NUTRITIONAL STATUS

Adults

- MUAC ≥ 22.0 cm
- **OR** BMI ≥ 18.5 to < 25.0

Women who are pregnant or up to 6 months post-partum

- MUAC ≥ 23.0 cm

Children

- MUAC
  - 6–59 months: ≥ 12.5 cm
  - 5–9 years: ≥ 14.5 cm
  - 10–14 years: ≥ 18.5 cm
- **OR** WHZ ≥ –2 to ≥ +2
- **OR** BMI-for-age ≥ –2 to ≤ +1

Notes

2.24 CRITERIA FOR OVERWEIGHT

Adults

- BMI ≥ 25.0 to < 30.0

Children and adolescents 5–17 years

- BMI-for-age > +1 to ≤ +2

Children 6–59 months

- MUAC: > 21 cm
- **OR** WHZ > +2 to ≤ +3

2.25 CRITERIA FOR OBESITY

Adults (non-pregnant/post-partum)

- BMI > 30.0 cm

Children and adolescents 5–17 years

- BMI-for-age > +2

Children 6–59 months

- WHZ +3

2.23 NUTRITION CARE FOR NORMAL NUTRITIONAL STATUS

- Counselling to prevent infection and malnutrition
  - Critical Nutrition Actions
  - Child spacing and reproductive health
  - Optimal infant and young child feeding
- Micronutrient supplementation
- Growth monitoring and promotion
- Deworming
- Malaria prevention

2.26 NUTRITION CARE FOR OVERWEIGHT AND OBESITY

- Medical assessment to rule out diabetes or high cholesterol
- Counselling to eat more fruits and vegetables, fewer fried and sugary foods and to drink water instead of juice or soda
- Counselling to get at least 1 hour of exercise a day

Notes

WORKSHEET 2.1. WEIGHT, HEIGHT, BODY MASS INDEX (BMI) AND MID-UPPER ARM CIRCUMFERENCE (MUAC)

Name	Sex (M/F)	Pregnant (Y/N)	Weight (kg) to nearest 100 g	Height (cm)	BMI	MUAC	Nutritional status
1.							
2.							
3.							
4.							
5.							
6.							

1. Are there any differences in the weight of the same person measured by different people?

2. If so, what is the reason for the differences?

3. What could have been done to eliminate these differences?

WORKSHEET 2.2. WEIGHT-FOR-HEIGHT Z-SCORE (WHZ)

Use **Job Aid 7. World Health Organization Child Growth Standards: Weight-for-Length/Height for Children from Birth to 59 Months of Age** for girls and boys to find the WHZ and classify the nutritional status of the children in the table below.

ID	Sex	Age (months)	Height (cm)	Weight (kg)	WHZ	Nutritional status
1	F	35	98.2	11.5		
2	M	52	99.5	13.5		
3	M	9	69.9	7.5		
4	F	8	68.2	5.0		
5	M	21	97.2	11.9		
6	M	17	89.7	12.9		

Which of the children are malnourished?

WORKSHEET 2.3. BMI

Use **Job Aid 10. Body Mass Index (BMI) Reference Chart** to find the BMI for the clients in the table below. Write it in the column titled 'BMI'.

ID	Sex	Height (cm)	Weight (kg)	BMI	Nutritional status
1	F	178	50		
2	M	190	68		
3	M	176	48		
4	F	156	102		
5	M	160	38		
6	M	174	84		

Now use the cutoffs below to add the nutritional status of each client in the last column.

Nutritional status according to BMI

BMI < 16.0	=	Severe acute malnutrition
BMI ≥ 16.0 to < 17.0	=	Moderate malnutrition
BMI ≥ 17.0 to < 18.5	=	Mild malnutrition
BMI ≥ 18.5 to < 25.0	=	Normal nutritional status
BMI ≥ 25.0 to < 30.0	=	Overweight
BMI ≥ 30.0	=	Obesity

Source: WHO. 1995. *Physical Status: The Use and Interpretation of Anthropometry. Report of a WHO Expert Committee*. Technical Report Series No. 854. Geneva: WHO.

Use **Job Aid 11. How to Find BMI-for-Age for Children and Adolescents** to find the BMI and BMI-for-age z-score for the children and adolescents in the table below.

ID	Sex	Age	Height (cm)	Weight (kg)	BMI	BMI-for-age	Nutritional status
1	F	6 years, 2 months	111	18.8			
2	M	17 years, 3 months	160	43.2			
3	M	14 years, 7 months	145	38.0			
4	F	8 years, 4 months	125	19.0			
5	F	13 years, 1 month	147	27.0			

Then use the cutoffs below to add the nutritional status of each client in the last column.

WORKSHEET 2.4. BMI-FOR-AGE

Use **Job Aid 11. How to Find BMI-for-Age for Children and Adolescents** to find the BMI and BMI-for-age z-score for the children and adolescents in the table below.

ID	Sex	Age	Height (cm)	Weight (kg)	BMI	BMI-for-age	Nutritional status
6	F	6 years, 2 months	111	18.8			
7	M	17 years, 3 months	160	43.2			
8	M	14 years, 7 months	145	38.0			
9	F	8 years, 4 months	125	19.0			
10	F	13 years, 1 month	147	27.0			

Then use the cutoffs below to add the nutritional status of each client in the last column.

BMI-for-age cutoffs for classification of nutritional status

Group	Severe acute malnutrition	Moderate acute malnutrition	Normal nutritional status	Overweight	Obesity
Children and adolescents 5–18 years	< –3	≥ –3 to < – 2	≥ –2 to ≤ +1	> +1 to ≤ +2	> +2

Source: WHO. 2007. *Growth Reference Data for 5-19 Years*. http://www.who.int/growthref/en/

WORKSHEET 2.5. DAILY REGISTER OF NACS CLIENTS FROM THE MAWINGU CTC

BMI-for-age cutoffs for classification of nutritional status

Group	Severe acute malnutrition (SAM)	Moderate malnutrition	Normal nutritional status	Overweight	Obesity
Children and adolescents 5 to 18 years	< –3	≥ –3 to < – 2	≥ –2 to ≤ +1	> +1 to ≤ +2	> +2

Source: WHO. 2007. *Growth Reference Data for 5-19 Years*. http://www.who.int/growthref/en/

Use the information below on the clients seen during one day at the Mawingu Care and Treatment Clinic (CTC) to fill in the shaded boxes on the **Daily Register of NACS Clients** on the following page.

1. Girl 35 months of age, HIV negative, 98.2 cm tall, weighing 11.5 kg, with no bilateral pitting oedema or other medical complications and MUAC showing normal nutritional status

2. Boy 62 months of age, HIV status unknown, 103.5 cm tall, weighing 13.5 kg, with severe anaemia and bilateral pitting oedema and MUAC showing moderate acute malnutrition (MAM)

3. Boy 9 months of age, 69.9 cm long, weighing 6.7 kg, with no bilateral pitting oedema or other medical complications and MUAC 11.9 cm

4. Girl 8 months of age, HIV status unknown, 68.3 cm long, weighing 5.0 kg, with hypoglycaemia and bilateral pitting oedema and MUAC 10.5 cm

5. Boy 21 months of age, HIV negative, 97.2 cm tall, weighing 11.0 kg, with persistent vomiting but no bilateral pitting oedema and MUAC 10.9 cm

6. Boy 16 years of age, 166.0 cm tall, weighing 50.0 kg, with no bilateral pitting oedema or other medical complications and MUAC 20.0 cm

7. Boy 14 years of age, HIV positive, 178.0 cm tall, weighing 54.0 kg, with appetite, no bilateral pitting oedema or other medical complications and MUAC 15.0 cm

8. Pregnant woman 27 years of age, HIV positive, 166.0 cm tall, weighing 72.0 kg, with appetite, bilateral pitting oedema and MUAC 22.0 cm

9. Man 46 years of age, HIV negative, 160.0 cm tall, weighing 80.0 kg, with no bilateral pitting oedema or other medical complications and MUAC 25.0 cm

10. Woman 19 years of age, HIV positive, 164.0 cm tall, weighing 50.0 kg, with no bilateral pitting oedema or other medical complications and MUAC 22.0 cm

11. Man 26 years of age, HIV positive, 178.0 cm tall, weighing 84.0 kg, with no bilateral pitting oedema or other medical complications and MUAC 24.0 cm

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Daily Register of NACS Clients

No.	Client no.[1]	Date (dd/mm/yy)	Type of visit (tick ☑ appropriate)			Sex	Age group (tick ☑ appropriate)							Pregnant	Up to 6 months post-partum	HIV status (tick ☑ appropriate)				Nutrition assessment results				Nutritional status (tick ☑ appropriate)					Counselling		Amount of specialised food product given				Follow-up status (tick ☑ appropriate)						Next appointment (dd/mm/yy)
			N[2]	R[3]	Ti[4]	M/F	0–6 months	7–11 months	12–23 months	24–59 months	5–14 years	15–17 years	18+ years			+[5]	–[6]	E[7]	U[8]	Bilateral pitting oedema	WHZ	BMI or BMI-for-age	MUAC	SAM inpatient	SAM outpatient	MAM	Normal	Overweight/obese	Counselled on diet	Counselled on IYCF	F-75 (packets)	F-100 (packets)	RUTF (packets)	FBF or RUSF (bags)	Transferred out	Treatment failuer[9]	Graduated[10]	Missed appointment (> 2 weeks)	Lost to follow-up[11]	Died	
Total																																								

[1]Use CTC number. If client is referred from another service, use that service's file number. [2]New [3]Returning [4]Transferred in [5]HIV positive [6]HIV negative [7]Exposed child [8]Unknown status [9]Client's condition deteriorated, requiring medical transfer [10]Client reached target weight, WHZ, BMI, BMI-for-age or MUAC [11]Over 2 weeks late [12]Client missed more than three consecutive visits.

CASE STUDY. IMANI, MUSA AND FARAJA

Part 1

Imani is a 42-year-old man who is HIV positive. He looks thin because he has been losing weight for the past 3 months. Imani is coughing a lot, has oral thrush, diarrhoea and skin problems and has no appetite. He looks pale. He decides to go to a health facility. At the facility he has several tests done and gets his diarrhoea and skin problems treated. His weight, height and MUAC are also measured. He weighs 44 kg, is 168 cm tall, and has a BMI of 16. He is referred to a nearby care and treatment clinic (CTC).

Part 2

Imani goes to the CTC with his son Musa, who is 4 years old. Musa's mother, Faraja, had to stay at home because she is pregnant and tired. Imani tells the health care provider that his son is not eating well, has lost weight in the past 2 months and has had diarrhoea and a cough. Musa weighs 10 kg and is 91 cm tall. He looks thin (his ribs can be seen) and pale. He has oedema on both feet. No blood has been seen in his stool, but he has had a fever for almost a week. He is not taking any medications. His eyes are sunken, and there is a prolonged skin pinch. He is thirsty and has generalised lymphoadenopathy, finger clubbing and parotid enlargement. His respiratory rate is 48 breaths per minute (rapid). In-drawing or bronchial breath sounds can be heard, and both lung fields show coarse crepitations. Musa's growth chart shows he has had all of his immunisations. Imani says Musa was diagnosed with HIV while he was hospitalised the year before.

Part 3

Imani is feeling a bit better and has gained some weight. He now weighs 47 kg, and his MUAC is 19.5 cm. His cough and diarrhoea have disappeared, but he still has skin problems. At the CTC Imani is put on antiretroviral therapy (ART). He is given an appointment to return to the CTC in 2 weeks, but before going home he is referred to the clinic counsellor. He says some friends told him that once he is on ART he will have to eat very well, but he is worried because he does not know how he will buy enough good food. Drinking alcohol has always been part of his life.

Part 4

Musa is now 50 months old. He has been in inpatient treatment for severe acute malnutrition (SAM) for 2 months and has now transitioned to outpatient care. His mother, Faraja, takes him to the clinic. She tells the health care provider that his weight has improved. The health care provider weighs and measures Musa, who is 92 cm tall and weighs 11 kg. He still looks thin, but he has no oedema. No blood has been seen in his stool, and he has not had a fever. He is not taking any medications. He looks pale, and there is a prolonged skin pinch, although his eyes are not sunken any more. He is not thirsty. His respiratory rate is 38 breaths per minute (slightly fast). He still has generalised lymphoadenopathy, finger clubbing and parotid enlargement. There is no in-drawing or bronchial breath sound, but both lung fields show coarse crepitations. He has had all of his immunisations.

Part 5

Faraja is 28 years old, HIV positive and 1 month pregnant. She tells the health care provider at the CTC that she has lost some weight in the past month. Her MUAC is 18.2 cm. She has had diarrhoea for 2 weeks. She says that she is able to eat food at home. Faraja is tested for tuberculosis (TB), and the sputum test results are positive.

Part 6

Faraja brings Musa back to the CTC on the agreed date (1 month after his second visit). Musa looks better, and Faraja is happier. It has been 3 months since Musa was discharged from inpatient treatment for SAM. He now weighs 10.9 kg, and his height is 92.1 cm. Faraja reports no diarrhoea or other illnesses and says his weight did not change the last two times he was weighed. Five months ago Musa started on first-line antiretroviral medications (ARVs), which Faraja has been collecting every month. The ART site team counselled Faraja on treatment and adherence. The results of Musa's sputum test were negative for TB.

Part 7

It is now 7 months since Musa first arrived at the CTC. He is doing very well. Imani has been going to the CTC for 2 months to collect 6 kg of fortified-blended food per month for Musa. Today he is collecting the last ration. Musa has gained 3.2 kg and now weighs 13.2 kg. His MUAC is now 13 cm. He had diarrhoea last week, which was treated at home. He has few complaints except for side effects of the ARVs, which sometimes make him lose his appetite. He seems to be adhering to the medication. Faraja is now 8 months pregnant and doing very well. Her MUAC is 22 cm. She says her appetite is good and she does not have any medical complications.

WORKSHEET 2.6. NUTRITION CARE PLAN C

1. What nutrition and health criteria qualify children and adults for Nutrition Care Plan C?

2. What specialised food products are given to clients under Nutrition Care Plan C?

3. What other interventions/services do severely malnourished clients receive?

4. How often should health care providers follow up severely malnourished clients?

WORKSHEET 2.7. NUTRITION CARE PLAN B

1. What nutrition and health criteria qualify children and adults for Nutrition Care Plan B?

2. What specialised food product is given to clients under Nutrition Care Plan B?

3. What messages should health care providers give adults with moderate acute malnutrition?

4. How often should health care providers follow up moderately malnourished clients?

WORKSHEET 2.8. NUTRITION CARE PLAN A

1. How much food does a healthy adult who is not pregnant or up to 6 months post-partum need in a day?

2. What snacks can provide 10 percent additional energy for an asymptomatic HIV-positive adult?

3. How many snacks a day should a woman who is pregnant or up to 6 months post-partum eat?

4. What can a caregiver add to porridge to increase a child's energy intake by 10 percent?

3 Nutrition Education and Counselling

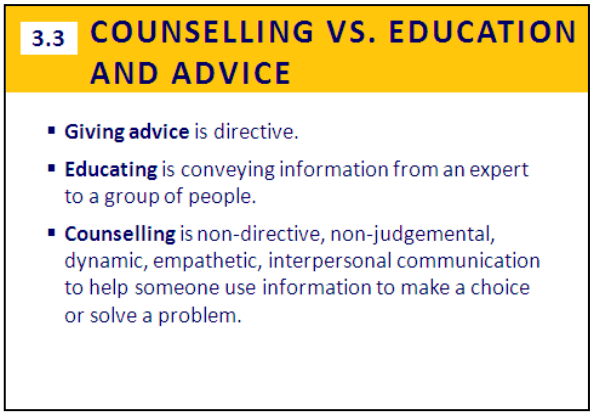
MODULE 3. NUTRITION EDUCATION, COUNSELLING AND REFERRAL

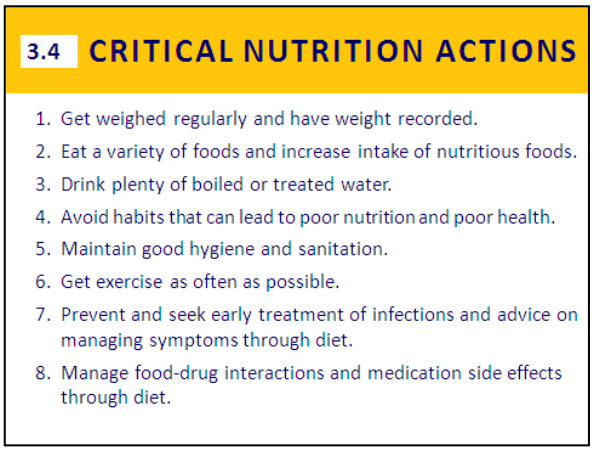
Learning objectives

By the end of this module, participants will be able to:

1. Define counselling.
2. List the skills needed for effective counselling.
3. List considerations for planning a counselling session.
4. Counsel using the GATHER approach.
5. Recognise challenges in nutrition counselling and how to address them.
6. Counsel on the Critical Nutrition Actions (CNAs).
7. Refer clients to other clinical services and community programmes.

PowerPoint slides





Notes

3.5 SKILLS THAT FACILITATE COUNSELLING

- Using helpful non-verbal communication
- Showing interest
- Showing empathy
- Asking open-ended questions
- Reflecting back what the client says
- Avoiding judgement
- Praising what a client does correctly
- Giving a little relevant information at a time
- Using simple language
- Giving practical suggestions, not commands

3.6 GATHER COUNSELLING STEPS

G – Greet

A – Ask

T – Tell

H – Help

E – Explain

R – Reassure/Return date

3.7 CHALLENGES IN COUNSELLING ON NUTRITION

1. Inability to find or buy nutritious foods
2. Feeling that nutrition is not important compared to other problems
3. Inexperienced counsellors
4. Stigma related to HIV
5. Belief that illness is caused by supernatural forces

Notes

Notes

3.8 ADDRESSING COUNSELLING CHALLENGES

1. Refer clients to food or economic support.
2. Counsel on the importance of nutrition to prevent and recover from illness, perform better at school and work and help medicines work effectively.
3. Learn more about nutrition and counselling methods.
4. Counsel people living with HIV in private and assure them that their information will be kept confidential.
5. Show evidence of improvement from nutrition interventions.

3.9 THE IMPORTANCE OF SAFE FOOD AND WATER

- Food- and water-borne illness can decrease appetite and nutrient absorption, lower resistance to infections and increase the body's need for nutrients to fight infection.
- People living with HIV are at high risk of infection, have more severe symptoms of food- and water-borne illnesses and can have a hard time recovering from diarrhoea.
- Good sanitation and hygiene can prevent infections that cause malnutrition.

3.10 DRUG-FOOD INTERACTIONS

- Drug side-effects can reduce appetite, nutrient absorption and drug adherence.
- Some foods can reduce the effectiveness of drugs.
- Antiretroviral therapy (ART) can cause changes in body composition (haemoglobin, lipodystrophy, fat redistribution).
- Prolonged use of ART can result in diabetes, hypertension, osteoporosis or dental problems.

Notes

3.11 FALSE ADVERTISING OF HIV CURES

Photo: positivenation.co.uk

False claims that a compound called Rooperol in the African potato can fight HIV

Nutrition supplements sold as HIV treatment

Photo: wb3.indo-work.com

Photo: Avert.org

3.12 AIMS OF COMMUNITY OUTREACH

- Find malnourished people early and refer them for treatment before they develop serious complications.
- Increase awareness of the importance of nutrition and the causes, signs and treatment of malnutrition.
- Increase awareness of available nutrition services.
- Increase coverage and follow-up of clients.
- Link prevention and treatment of malnutrition.

3.13 CHANNELS OF COMMUNITY OUTREACH

- **Home-based care (HBC) and most vulnerable children (MVC) services:** Measure MUAC to screen for malnutrition, refer malnourished people to health facilities and counsel people on the CNAs.
- **Local leaders:** Mobilise communities to seek NACS services.
- **Networks and support groups for people living with HIV:** Encourage members to practice the CNAs, measure MUAC and refer members to NACS services.
- **Local media:** Inform communities of NACS services and entry and exit criteria.

3.14 COMMUNITY CASE-FINDING OF SAM

- Growth monitoring and promotion
- MUAC measurement during home visits
- MUAC measurement in meetings with MVC as they come for other services
- MUAC measurement as part of home-based care
- MUAC measurement in support group meetings

3.15 NUTRITION SERVICES IN HOME-BASED CARE AND CARE OF MVC

- MUAC measurement
- Dietary assessment
- Assessment of food availability and use
- Demonstration to caregivers of how to prepare locally available foods to make nutritious meals
- Demonstration to caregivers of how to prepare and feed specialised food products
- School feeding
- School gardens

Notes

WORKSHEET 3.1. BINGO SHEET FOR MODULE 2 REVIEW

Fortified-blended food (FBF)	Mid-upper arm circumference (MUAC)	Normal
Severe acute malnutrition (SAM)	Bilateral pitting oedema and wasting	SAM with medical complications and no appetite
Strong appetite and loss of fat on the buttocks and thighs	Stabilisation	< 11.5 cm

WORKSHEET 3.2. REFERRING NACS CLIENTS TO COMMUNITY SERVICES

Nutrition services that community health workers can provide

1. Nutrition assessment using MUAC and assessment of oedema and anaemia
2. Simple dietary assessment (is the client eating enough?)
3. Assessment of household food availability and use
4. Demonstration of how to prepare foods and feed sick family members (e.g., sip feeding)
5. Advice on the importance of food and water safety
6. Advice on backyard gardens
7. Advice on how to improve the nutrient quality of food by germination and fermentation

Most vulnerable children

- Most vulnerable children (MVC) are HIV-exposed children. Some are orphaned or abandoned and some are HIV positive, but all are vulnerable because HIV has affected them and their families.
- Thirty to forty percent of MVC seen in health facilities are HIV positive.
- Services for MVC can be clinical or community based (for example, support for education).

1. Discuss in your group how NACS clients in your workplace can be linked with home-based care providers or services for MVC. List possible actions that are feasible and practical (for example, distributing specialised food products to eligible bedridden clients).

2. Then fill out Part A of the **Health Facility NACS Client Referral Form** on the next page using the information below.

   You are a nurse in the OPD in Central Hospital. The date is October 4, 2015. Tatu Kebwe is 35 years old and pregnant with her second child. She has just graduated from outpatient treatment of SAM. Her husband has lost his job, and the family doesn't have enough money to buy nutritious food. You are afraid Tatu will relapse into severe malnutrition unless she gets some support. You refer her and her husband to an NGO in the community called Jua that trains people in income generating activities. This is referral number 24 from your facility.

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Health Facility NACS Client Referral Form

- *Health facility/department: Fill out Part A and ask the client to take it to the receiving organization.*
- *Fill out one form per service/referral.*
- *Receiving organization/department: Fill out Part B and ask the client to return it to the referring organization on the next health facility visit.*

Part A. To be completed by the referring health facility

Referral no._____ Date _____

Client name _____	Date of birth or age _____	Sex _____

Referred from: Facility name _____

Department _____

Telephone _____

Service(s) needed:

Additional notes:

Name of person making the referral _____

Designation _____ Signature _____

Part B. To be completed by the receiving organisation

Services provided:

Organization _____ Tel. _____

Date _____ Name _____ Signature _____

4 Nutrition Support

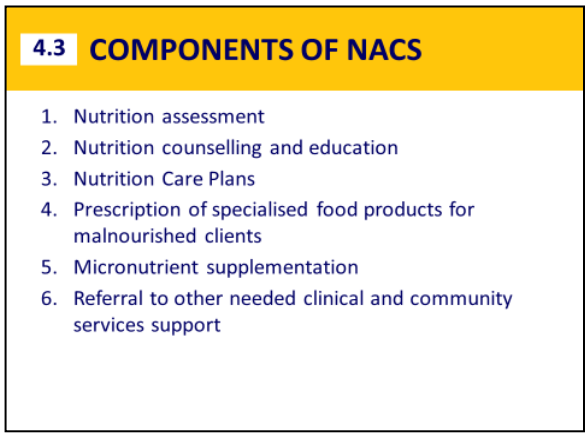
MODULE 4. NUTRITION SUPPORT

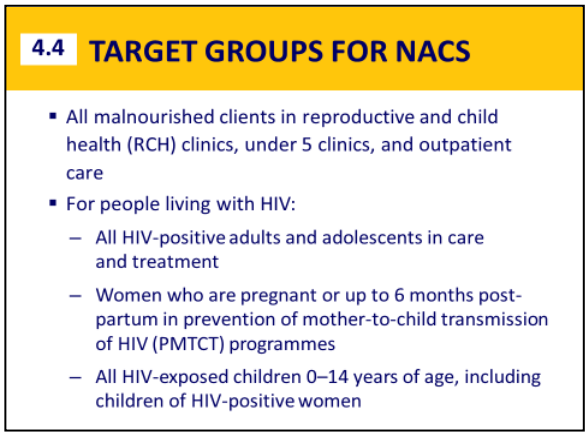
Learning objectives

By the end of this module, participants will be able to:

1. Explain why it is important to treat acute malnutrition.
2. Describe the purpose and types of specialised food products.
3. List entry and exit criteria for specialised food products.
4. Correctly complete specialised food product forms and registers.
5. Manage specialised food products.

PowerPoint slides





Notes

Notes

4.5 NACS STEPS

1. Provide nutrition education in the waiting area.
2. Assess and classify nutritional status.
3. Counsel client and/or caregiver based on client's nutritional status.
4. Prescribe specialised food products if the client is acutely malnourished and counsel on their use.
5. Continue monitoring the client's nutritional status and counselling on follow-up visits.

4.6 SPECIALISED FOOD PRODUCTS

- Nutritionally dense fortified products used to treat acute malnutrition
- Prescribed as medicine in clinic services based on strict criteria for a limited time
- Individual take-home rations to help the malnourished client recover
- Not to be shared with other family members

4.7 PURPOSE OF SPECIALISED FOOD PRODUCTS

1. Prevent and treat acute malnutrition.
2. Improve medication effectiveness and adherence.
3. Improve the efficacy of ART or TB treatment and help manage side effects.
4. Improve birth outcomes and promote infant and child survival.
5. Provide continuity of care.
6. Improve functioning and quality of life.

Notes

4.8 WARNING: SPECIALISED FOOD PRODUCTS AND INFANTS

- Therapeutic foods (except for F-75 and F-100) and supplementary foods are not appropriate or nutritionally adequate for infants under 6 months of age.
- Children this age should receive only breast milk (or replacement milk if it can be provided safely), unless they are in inpatient treatment for SAM.

Photo: Quality Assurance Project

4.9 SPECIALISED FOOD PRODUCTS VS. OTHER FOOD SUPPORT

- Food support aims to increase food security, providing household food rations that often consist of staple foods.
- Specialised food products are prescribed as medicine to treat acute malnutrition or supplement the diets of people with clinical malnutrition identified through nutrition, health or vulnerability assessments.

Photo: WFP

Photo: Julie Pudlowski

4.10 TYPES OF SPECIALISED FOOD PRODUCTS

Therapeutic food

- F-75 and F-100 therapeutic milks for inpatient treatment of SAM
- Plumpy'nut® in 92 g packets that provide 500 kilocalories each (or 543 kilocalories per 100 g of Plumpy'nut®) for inpatient and outpatient treatment of SAM

Supplementary food

- FBF or RUSF to treat SAM and MAM

4.11 PRESCRIBING AND MONITORING SPECIALISED FOOD PRODUCTS

1. Classify the client's nutritional status.
2. Do a medical assessment.
3. Decide whether to treat the client as an outpatient or refer to inpatient care.
4. Prescribe specialised food products as needed.
5. Counsel the client or caregiver on how to use the specialised food products.
6. Record all specialised food products given to the client.
7. Exit the client when the target weight, MUAC or BMI is reached.

Notes

WORKSHEET 4.1. NACS CLIENT FLOW AND STAFF ROLES

Draw a diagram of the client flow in your workplace by looking at the arrangement of your group's index cards. Label each step and include the nutrition assessment, counselling and support (NACS) activities and staff titles for each step.

WORKSHEET 4.2. SPECIALISED FOOD PRODUCTS

Question	RUTF	FBF
1. Name of the specialised food product		
2. Number of grams in the packet		
3. Total calories per packet		
4. Micronutrients		
5. Level of Recommended Dietary Allowance (RDA) of most of the micronutrients		
6. Is water needed for preparation? (Y/N)		
7. Is water needed when you eat the food? (Y/N)		
8. Taste, consistency and texture		
9. Expiry date		

1. If water is needed to prepare or eat these foods, what problems might clients face?

   What are the possible solutions?

2. What challenges might clients face in using these foods at home?

   What are the possible solutions?

3. What other supplementary foods do clients receive in your area?

   Do you think they provide the same amount of energy and micronutrients as the RUTF and FBF?

5 NACS Monitoring and Reporting

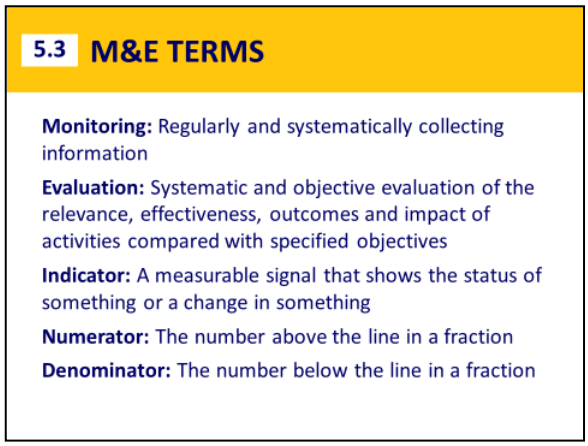
MODULE 5. NACS MONITORING AND REPORTING

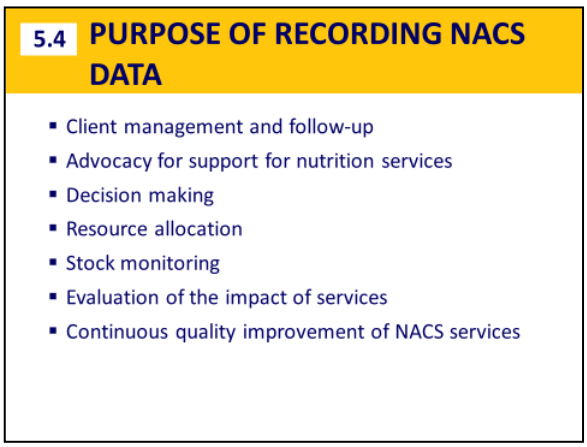
Learning objectives

By the end of this module, participants will be able to:

1. Explain the purpose of collecting NACS data.
2. Complete NACS data collection forms accurately.
3. List the requirements for quality NACS services.
4. Assess the quality of NACS services in their workplaces.
5. Discuss NACS client flow and integration of services.
6. Practise nutrition assessment, counselling and NACS data collection in a health facility.

PowerPoint slides





Notes

Notes

5.5 NACS INDICATORS

1. # and % of clients that received nutrition assessment
2. # and % of clients that received nutrition counselling
3. # and % of clients that were identified as malnourished (disaggregated by SAM, MAM or overweight/obese)
4. # and % of clients > 6–12 months of age with acute malnutrition
5. # and % of malnourished clients that received specialised food products
6. # and % of clients that transitioned from SAM to MAM
7. # and % of clients who graduated from SAM or MAM to normal nutritional status

5.6 CHALLENGES IN COLLECTING AND RECORDING DATA

1. Collecting data takes a lot of time.
2. Poor data could be useless for decision making.
3. The facility might not receive feedback on the data it sends to higher levels.
4. Clients might be registered in more than one facility.
5. Clients might be lost to follow-up.
6. Clients might not attend the clinic regularly.

5.7 ADDRESSING NACS DATA COLLECTION CHALLENGES

1. Fill out forms regularly to become familiar with them.
2. Collect and record data as accurately as possible.
3. Ask the site in-charge to coordinate with TFNC for feedback on reports.
4. Write client identification numbers on all forms.
5. Ask community health workers to make home visits to defaulting clients to collect missing information.
6. Counsel clients on the importance of regular follow-up visits.

WORKSHEET 5.1. FILLING IN THE MONTHLY SPECIALISED FOOD PRODUCT REPORT AND REQUEST FORM

The following information on prescription of specialised food products is from Mawingu Care and Treatment Clinic (CTC) for each day clients received NACS services during the month of April 2015.

- The site had 4 cartons (each carton contains 150 packets) and 10 packets of ready-to-use therapeutic food (RUTF) (Plumpy'nut®) and nine bags of fortified-blended food (FBF) at the end of March.

- In March the site saw 102 clients with moderate acute malnutrition (MAM) and eight clients with severe acute malnutrition (SAM). None of the adult clients were pregnant or postpartum.

- At the end of March, the site ordered 350 bags (9 kg each) of FBF and 30 cartons of Plumpy'nut® (one carton contains 150 packets).

- On 9 April the site received 300 bags of FBF and 30 cartons of Plumpy'nut®.

Dates	Clients with MAM receiving food (FBF)	Clients with SAM receiving food (RUTF and FBF)
02/04	5	1
04/04	9	0
06/04	8	0
09/04	12	0
11/04	7	1
13/04	10	0
16/04	9	2
18/04	4	1
20/04	11	2
23/04	7	4
25/04	5	1
27/04	9	0
30/04	10	0

- Use this information to fill in the **Monthly Specialised Food Product Report and Request Form** on the next page for the month of March.

Will the current supply last until the end of June? (Assume no damages or expired products during the month.) Why or why not?

United Republic of Tanzania

Ministry of Health, Community Development, Gender, Elderly and Children

Reporting period: Month [ ][ ] Year 20[ ][ ]

Monthly Specialised Food Product Report and Request Form

Region_____ **District**_____ **Facility name**_____ **Code** _____

MSD product code	Product	Unit	Total no. of clients receiving specialised food products during the month	Balance at beginning of month	Additional specialised food products received this month		Total in store this month *(A+B)*	Amount dispensed this month		Loss/ wastage*	Total dispensed + losses *(D+E)*	Ending balance (closing stock) *(C–F)*	Maximum stock quantity *(D x 2)*	Client needs for the site *(D x 3)*	Quantity requested *(I–G)* Max: 2 Min: 1
				A	From MSD	From other sites	C	To clients	To other sites	E	F	G	H	I	J
					B			D							
	F-75	102.5 g packet													
	F-100	114.0 g packet													
	RUTF	92.0 g packet													
	FBF	4.5 kg bag													
	RUSF	92.0 g packet													

Remarks_____

_____

*Provide information on food losses (damaged, missing, theft, rodents or expired).

Prepared by (name) _____ **Signature**_____ **Date** _____ **Telephone** _____

Submitted by (name) _____ **Signature**_____ **Date** _____ **Telephone** _____

WORKSHEET 5.2. CLIENT INFORMATION FROM MAWINGU CTC FOR APRIL 2016

Visit no.	Sex	Age	HIV status	Pregnant? Y/N	Height *(cm)*	Weight *(kg)*	Medical complications? Y/N	Bilateral pitting oedema? Y/N	Counselled on diet? Y/N	MUAC *(cm)*	WHZ or BMI	Nutritional status					Received (type)☑				Exit (reason)☑				
												SAM inpatient	SAM outpatient	MAM	Normal	Overweight/ obese	F-75	F-100	RUTF	FBF	Graduated	RUTF side effects	Lost to follow-up	Died	Transferred
1	F	35 mos.	_	N	98.2	11.5	N	N	N	Green	WHZ ≥ –3 to < –2			✓						✓					
2	M	59 mos.	U	N	103.5	13.5	Y	Y	N	Yellow	WHZ ≥ –3 to < –2			✓						✓					
3	M	9 mos.	U	N	69.9	6.7	N	N	N	11.9	WHZ ≥ –3 to < –2			✓						✓					
4	F	8 mos.	U	N	68.2	5.0	N	Y	N	10.5	WHZ < –3	✓					✓	✓							
5	M	21 mos.	–	N	97.2	11.0	y	N	N	10.9	WHZ < –3	✓													
6	M	16 yrs.	+	N	166.0	64.0	N	N	N	20.0	__			✓											
7	M	14 yrs.	+	N	178.0	54.0	N	N	Y	15.0	__		✓						✓						
8	F	27 yrs.	+	Y	166.0	72.0	N	Y	Y	22.0	BMI 26	✓							✓						
9	M	46 yrs.	–	N	160.0	80.0	N	N	Y	25.0	BMI 31					✓									
10	F	19 yrs.	+	N	164.0	50.0	N	N	Y	22.0	BMI 19				✓										
11	F	37 yrs.	+	Y	156.0	42.0	N	N	Y	18.0	BMI 17				✓										
12	M	26 yrs.	+	N	178.0	84.0	N	N	N	24.0	BMI 27					✓									

Use this information to fill out the Monthly Summary Form for NACS Services copied below.

United Republic of Tanzania

Ministry of Health, Community Development, Gender, Elderly and Children

Monthly Summary Form for NACS Services

Region _____ **District**_____ **Facility name**___ _____ **Facility code** _____

Type of service *(tick one √):* ☐ RCH ☐ PMTCT ☐ CTC ☐ Inpatient ☐ OPD ☐ TB/DOTS ☐ MVC ☐ Other_____

Client category	Sex	Number of clients			Number of clients by nutritional and HIV status on entry																	Number of clients receiving specialised food products						Number of clients exiting, by reason				
						HIV status					HIV status					HIV status					HIV status												
		Assessed	unsellled on diet	unsellled on IYCF	SAM	+[1]	–[2]	E[3]	U[4]	MAM	+[1]	–[2]	E[3]	U[4]	Normal	+[1]	–[2]	E[3]	U[4]	Overweight/obese	+[1]	–[2]	E[3]	U[4]	F-75	F-100	New RUTF	Continuing RUTF	New FBF or RUSF	Continuing FBF or RUSF	Treatment failure[5]	Graduated[6]	Missed appointment	Lost to follow-up[7]	Died
0–6 months	F																																
	M																																
7–11 months	F																																
	M																																
12–23 months	F																																
	M																																
24–59 months	F																																
	M																																
5–14 years	F																																
	M																																
15–17 years	F																																
	M																																
18+ years	F																																
	M																																
Pregnant/≤ 6 mos. post-partum	F																																
Total number of clients during the month	F																																
	M																																

Specialised food products dispensed during the month: 1. Total no. of 102.5 g packets of F-75 ____ 2. Total no. of 114 g packets of F-100 ____ 3. Total no. of 92 g packets of RUTF ____ 4. Total no. of cartons of RUTF (1 carton = 150 packets) ____ 5. Total no. of 4.5 kg bags of FBF or 92 g packets of RUSF____ 6. Total no. of boxes of FBF (1 box contains 45 packets of 300 g each) or cartons of RUSF (1 carton = 150 packets)____

Name of person reporting _____ Position _____ Date _____ Signature_____ Telephone _____ Remarks

[1]HIV positive [2]HIV negative [3]HIV exposed [4]Status unknown [5]Client's condition deteriorated, requiring medical transfer [6]Client reached target weight, WHZ, BMI or MUAC [7]Client did not return for 3 consecutive visits

WORKSHEET 5.3. NACS DATA COLLECTION, MONITORING AND REPORTING

Table 1 lists the NACS indicators, where to find the information and how to report it.

NACS indicators						
	Indicator	**Numerator**	**Denominator**	**Source**	**Disaggregation**	**Frequency**
1.	# and % of clients that received nutrition assessment	# of clients that received nutrition assessment	# of clients that visited the health facility	Monthly Summary Form for NACS Services	< 18, 18+, male or female, non-pregnant/ post-partum, pregnant/ post-partum)	Monthly to TFNC, quarterly to PEPFAR
2.	# and % of clients that received nutrition counselling	# of clients that were identified as malnourished	# of clients that received nutrition assessment	Monthly Summary Form for NACS Services	Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum	Monthly to TFNC, quarterly to PEPFAR
3.	# and % of clients that were identified as malnourished	# of clients that were identified as malnourished	# of clients that received nutrition assessment	Monthly Summary Form for NACS Services	Under 18 years, 18 years and over, male and female, non-pregnant/post-partum, SAM, MAM, over-weight/obese	Monthly to TFNC, quarterly to PEPFAR
4.	# and % of children > 6–12 months of age with acute malnutrition	# of children > 6–12-months of age that were identified as acutely malnourished	# of children > 6–12-months of age	Monthly Summary Form for NACS Services		Quarterly to PEPFAR
5.	# and % of clients that received specialised food products	# of clients that received specialised food products	# of clients that were identified as acutely malnourished	Monthly Summary Form for NACS Services, Monthly Specialised Food Report and Request Form	Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum	Monthly to TFNC, quarterly to PEPFAR

6.	# and % of clients that transitioned from SAM to MAM	# of clients that transitioned from SAM to MAM	# of clients that were identified as severely malnourished	Monthly Summary Form for NACS Services	Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum	Quarterly
7.	# and % of clients that transitioned from SAM or MAM to normal nutritional status	# of clients that graduated from SAM or MAM or normal nutritional status	# of clients that were identified as severely malnourished	Monthly Summary Form for NACS Services	Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum	Quarterly

For each NACS indicator, write who will collect and report the data.

	Indicator	**Who will collect the data?**	**Who will report the data?**
1.	# and % of clients that received nutrition assessment		
2.	# and % of clients that received nutrition counselling		
3.	# and % of clients that were identified as malnourished		
4.	# and % of children > 6–12 months of age with acute malnutrition		
5.	# and % of clients that received specialised food products		
6.	# and % of clients that transitioned from SAM to MAM		
7.	# and % of clients that transitioned from SAM or MAM to normal nutritional status		

WORKSHEET 5.4. SITE PRACTICE VISIT REPORT

Record your observations on the following:

1. What nutrition services does the site provide?

2. How is nutrition integrated into other services?

3. What nutrition messages are given to clients?

4. What nutrition data are collected? When and by whom?

5. How are the data analysed? When and by whom?

6. What indicators are reported and to whom?

7. What links does the site have with other services or programmes?

8. What challenges does the site face in providing nutrition services? How does the site address the challenges?

9. What changes could improve the quality of nutrition care and support?

10. What were the results of anthropometric assessments during the site visit? (Record in the table below. Include children if available).

Results of anthropometric assessment

Age	Height	Weight	WHZ	BMI	MUAC