



Nutrition Cluster

A Toolkit for Addressing Nutrition in Emergency Situations

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The following agencies and organizations have contributed to the development of the IASC Nutrition in Emergency Situations Toolkit and believe that it will contribute to improved nutrition programming in humanitarian action.

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Save the Children-USA
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Acronyms and Abbreviations

ACF	Action Contre la Faim
AFASS	Affordable Feasible Acceptable Sustainable and Safe
AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral Therapy
CMV	Complex of Minerals and Vitamins
CTC	Community Therapeutic Care
ENN	Emergency Nutrition Network
FAO	Food Agricultural Organisation
FSNWG	Food Security and Nutrition Working Group
FSP	Food Supplementation Products
HFS	Household Food Security
IASC	Inter Agency Standing Committee
IBFAN	International Baby Food Action Network
ICCIDD	International Council for Control of Iodine Deficient Disorders
IEC	Information, Education, Communication
IFE	Infant Feeding in Emergencies
IMCI	Integrated Management of Childhood Illness
IPC	International NGO/CSO Planning Committee for Food Sovereignty
IRA	Initial Rapid Assessment
IYCF	Infant and Young Child Feeding
MCH	Mother Child Health
MI	Micronutrient Initiative
MND	Micronutrient Deficiencies
MNDD	Micronutrient Deficiency Diseases
MOU	Memorandum of Understanding
MUAC	Mid Upper Arm Circumference
NGOs	Non-Governmental Organisations
NIDs	National Immunisation Days
OCHA	UN Office for the Coordination of Humanitarian Affairs
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
OVC	Orphans and Vulnerable Children
PCWG	Protection Cluster Working Group
PHC	Primary Health Care
PLW	Pregnant and Lactating Women
PMTCT	Prevention of Mother to Child Transmission (of HIV)
RDA	Recommended Daily Allowance
RNI	Recommended Nutrient Intake
RUSF	Ready to Use Supplementary Food
RUTF	Ready to Use Therapeutic Food
SCUK	Save the Children UK
SFP	Supplementary Feeding Centre
TB	Tuberculosis
TFP	Therapeutic Feeding Centre
UN	United Nations
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene promotion cluster
WFP	World Food Programme
WFS	World Food Summit
WHA	World Health Assembly
WHO	World Health Organisation

I. Introduction and Purpose of the Toolkit

The basic right to adequate food and nutrition is implicit in any emergency response and is reflected in humanitarian law. The purpose of this toolkit is to provide an easy reference tool for nutritional response during and after an emergency situation. Too often, in the high-pressure context of emergencies, key aspects of nutritional health and well-being are not adequately addressed. Poor decisions are made in the short-term, which have long-term negative impacts on the nutritional stability of the affected populations. Failure to meet the nutritional needs of populations in emergencies jeopardizes the ability to resist and fight infectious diseases. Growth and development, particularly of children and women, is disrupted resulting in increased childhood malnutrition, poor reproductive health and worsening pregnancy outcomes.

The toolkit is intended as an easy-to-use field guide that outlines the key basic interventions for nutritional support to individuals and groups during an emergency situation. In most emergencies, we focus on two key aspects: risk assessment and risk management. This toolkit focuses on risk management. What it takes to ensure that emergency needs are met with tools and approaches representing the current thinking in nutrition. The toolkit does not provide information on measuring nutritional status, rapid assessments, needs assessments, early warning or evaluating interventions.

It provides the what, why, when, and how for different nutrition interventions, including basic monitoring benchmarks and expected standards. The toolkit offers guidance and support for nutritionists and humanitarian workers to ensure that basic guidelines are followed and the basic nutritional needs of populations in emergencies are met. It is not intended to be an exhaustive resource for each intervention presented, but rather an overview for interventions to be considered with references and links to more detailed technical guidance for each issue.

While every attempt has been made to ensure the material in this toolkit is current, the field is rapidly changing. We look to the users of the toolkit to provide feedback on its contents as well as references to new materials that will improve our ability to plan for and respond to emergencies.

II. Background and Development of the Toolkit

During the Inter-Agency Standing Committee Working Group meeting in July 2005, a decision was taken that the various UN agencies would be assigned to lead nine “clusters” intended to fill gaps in international humanitarian response. The leading agencies would be held accountable for the response in that cluster and would also be designated, in principle, as the “provider of last resort.” The IASC Principals meeting in September 2005 endorsed this decision.¹

UNICEF is the lead agency for the Nutrition Cluster under the IASC. Members consist of nutrition professionals from across the globe, working for the UN, NGOs, donor agencies, academic institutions and other nutrition bodies.

Key areas of intervention for the nutrition cluster were selected using the UNICEF causal framework for malnutrition. These include:

1. Infant and Young Child Feeding in Emergencies
2. Treatment of diarrhoea with ORT/Zinc
3. Prevention and Treatment of Vitamin A Deficiency
4. Prevention and Treatment of Micronutrient Deficiencies
5. Management of Moderate Acute Malnutrition
6. Management of Severe Acute Malnutrition
7. Nutrition, HIV and AIDS
8. The Psychosocial Components of Nutrition
9. Nutritional care for Groups with Special Needs
10. The Use and Role of Food Assistance
11. Food Handling, Storage and Preparation
12. Household Food Security and Livelihoods

Cluster members with technical expertise and field experience in each of the above intervention areas were asked to synthesise current guidelines and best practice. Their submissions have been transformed into this toolkit.

Each of the interventions is an essential aspect of population nutritional stability. Independently, the interventions address specific needs that could arise during an emergency; collectively, the interventions represent the work to be undertaken at the country level to ensure timely; predictable; and effective humanitarian response to nutritional needs during an emergency.

Without doubt, some issues have been left out. There are many cross-cutting issues that involve different clusters, such as water quality, assessment, or protection. The Nutrition in Emergency Situations Toolkit has been designed in collaboration with other clusters and guidelines to ensure that the priority issues are addressed, if not in the Nutrition in Emergency Situations Toolkit itself, then within other cluster guidelines or through referral to widely recognised and referenced resources.

III. Who is the Toolkit for and How to Use it?

This toolkit is intended for nutritional programmers during emergency situations. The toolkit aims to offer guidance to nutritionists and humanitarian workers on the various key nutrition interventions to ensure a timely, predictable and effective response to humanitarian nutrition issues. Ideally, the toolkit will serve as a resource tool and practical guideline for field use.

Due to the technicalities of nutrition programming, it is recommended that non-nutritionists using the toolkit for programme implementation closely follow the additional support and technical guidelines referenced in each section.

The field of nutrition is rapidly evolving as new studies and scientific data advances our knowledge and improves our ability to respond effectively to nutritional emergencies. As new information and approaches evolve, this toolkit will be updated to reflect those changes. Each intervention shows the review date to indicate the date of the current information and allow for each specific intervention sheet to be updated and reattached within the toolkit.

IV. Cross-Cutting Cluster Co-ordination

Emergency preparedness and response is undertaken in many ways and with many organizations including families and communities that are directly affected by an emergency. The Cluster Approach has given us an opportunity to pull together lessons learned and tools to ensure that the response is timely, appropriate, inclusive and well targeted. We recognize, however, that in many circumstances, the Cluster Approach, may not be implemented. The materials presented here are equally appropriate in those situations where the Cluster Approach has yet to be implemented or will not be implemented.

The purpose of the cluster approach (Box 1) is outlined in the OCHA-sponsored Humanitarian Reform information², as well as in the Inter-Agency Standing Committee (IASC) Guidance Note issued in 2006 on Strengthening Humanitarian Response³.

Box 1: The Aim of the Cluster Approach

The aim of the cluster approach is to strengthen partnerships and ensure more predictability and accountability in international responses to humanitarian emergencies, by clarifying the division of labour among organisations, and better defining their roles and responsibilities within the different sectors of the response. It is about making the international humanitarian community more structured, accountable and professional, so that it can be a better partner for host governments, local authorities and local civil society.

Source: Cluster Approach Main Page on Humanitarian Reform Website, OCHA, HRSU Copyright 2007
<http://www.humanitarianreform.org/humanitarianreform/Default.aspx?tabid=70>

Whilst developing the Nutrition in Emergency Situations Toolkit, it became rapidly apparent that there are many overlapping sectors in the provision of emergency services when addressing the nutritional health of a population. The causes and consequences of malnutrition are cross-cutting and nutritional issues are often central to the implementation of a variety of interventions, for example, the interplay between clean water, adequate sanitation facilities and diarrhoea to malnutrition and child health. In consultation with other clusters, clear areas of overlap are highlighted below to direct the reader to the appropriate sector and cluster links so that more extensive guidelines and support can be obtained.

GLOBAL CLUSTER/SECTOR LEADS & CROSS-CUTTING ISSUES LEADS

Global sector/ cluster	Global sector/ cluster lead
Agriculture	FAO
CCCM - Camp Coordination Management	UNHCR (Conflict) IOM (Disaster situations)
Early Recovery	UNDP
Education	UNICEF Save The Children UK
Emergency Shelter	UNHCR (IDPs from conflict) IFRC (convenor in disaster situations)
Emergency Telecommunications	OCHA (process) WFP (security) UNICEF (data)
Health	WHO
Logistics	WFP
Nutrition	UNICEF
Protection	UNHCR (IDPs from conflict) UNHCR/OHCHR/UNICEF (Disasters civilians affected by conflict other than IDPs)
WASH	UNICEF
Cross-cutting issue	Cross-cutting issue lead
Age	HelpAge
Environment	UNEP
Gender (Co-Chairs of IASC SWG on Gender)	UNFPA WHO
HIV/AIDS (IASC TF on HIV/AIDS)	UNAIDS OCHA

References:

¹ IASC Real Time Evaluation, Cluster Approach- Pakistan Earthquake Country Draft, Feb 2006

² Cluster Approach Internet Page, Humanitarianreform.org
<http://www.humanitarianreform.org/humanitarianreform/Default.aspx?tabid=70>

³ Inter-Agency Standing Committee (IASC) *Guidance Note on Using the Cluster Approach to Strengthen Humanitarian Response* 24 November 2006

Detailed information on each cluster can be found at <http://www.humanitarianreform.org>

Intervention 1: Infant and Young Child Feeding in Emergencies

What is Infant and Young Child Feeding in Emergencies?

Infant and Young Child Feeding in emergencies, collectively referred to in this section as IFE, refers to a range of nutrition and care techniques that improve child survival and growth. IFE includes a range of issues including breastfeeding, breast-milk substitutes, complementary feeding, care practices, child development, protecting children, and general maternal and child nutrition. The purpose of defining IFE and producing guidelines is to protect and support appropriate feeding practices for infants and young children that will prioritise their needs and enhance their chances of healthy growth and development despite the emergency environment.

Why is Infant and Young Child Feeding key in emergencies?

Disruption and displacement of populations in emergency situations greatly impacts on the health and nutrition status of infants and young children. During emergencies, the rates of child mortality can soar from two to 70 times higher than average and even in previously healthy populations, child morbidity and crude mortality rates can increase twenty-fold¹. Adequate nutrition and care of children has been identified as one of the key factors to promote child health and stability and IFE support has consequently become a major strategy in reducing child morbidity and mortality during humanitarian emergency response.

Malnutrition is a major threat to child survival during an emergency and for those who survive; it can also have tremendous consequences on their cognitive, social, motor skill, physical and emotional development². The best way to prevent malnutrition is to ensure optimal feeding and care for children through supporting exclusive breastfeeding, appropriate complementary foods, and a supportive care environment. In an emergency, other less well recognised influences on infant and young child feeding (IYCF) practices must also be addressed including security, privacy and shelter.

Operational Guidance on Infant Feeding in Emergencies (IFE)

The Operational Guidance for Emergency Relief Staff and Programme Managers on Infant and Young Child Feeding in Emergencies (IFE Operational Guidance)³ is a key material developed through an international interagency collaboration (IFE Core Group)¹ to support the practical implementation of key international frameworks and strategies related to IFE. The International Code for Marketing of Breast milk Substitutes and subsequent relevant WHA resolutions (the Code) is embedded in the guidance. The IFE Operational Guidance should be read as an essential part of this toolkit.

¹ The IFE Core group members comprise UNICEF, WHO, UNHCR, WFP, CARE USA, Fondation Terre des Hommes, IBFAN-GIFA, ENN, ACF

When are IFE interventions implemented during an emergency?

In every emergency context, a minimum or basic level of IFE intervention is indicated, even in areas where economic, nutrition and health indicators are relatively good pre-crisis. Initial rapid assessments (IRA) should always include key information on IFE and be supported by informed observation and discussion. A standardised IRA tool is in the final stages of development by the IFE core group and will give full guidance on assessment with quantitative and qualitative information than can be gathered. It will be available shortly from the nutrition cluster.

Early assessment should establish pre-crisis feeding practices based on standard indicators; exclusive breastfeeding rate in 0-<6months, the proportion of infants currently not breastfed; conspicuous availability of breast milk substitutes, milk products, or bottles; and any reported issues by the population (mothers/caregivers) and health professionals regarding IYCF. It is essential that standard indicators and methodologies be used when assessing IFE practice to allow comparison between programmes. Depending on the findings of the early assessment certain issues may highlight the need for more comprehensive investigation (Box 2).

Box 2: Triggers for further assessment and technical interventions to support IFE⁴

Triggers for further assessment include:

- Increased morbidity reported in infants aged 0-12 months
- Mothers reporting difficulties/ceasing to breastfeed
- A proportion of infants not breastfed before the crisis
- A decline in water and sanitation conditions where a proportion of infants are not breastfed.
- Conspicuous availability of breast milk substitutes.
- Replacement feeding as part of Prevention of Mother to Child Transmission (PMTCT) of HIV has already been established pre-crisis.

More comprehensive assessment of IFE practice will help inform supportive technical interventions. The assessment should be developed by technical staff with experience in IFE, and co-ordinated by a designated agency with a field presence of IFE expertise.

How is IFE implemented?

• *Early emergency response*

The IFE Operational Guidance gives full details on IFE implementation. In the first few days of an emergency, establish immediate links with other sectors, such as reproductive health to provide 'safe havens' for pregnant and lactating women in the early days of an emergency. These 'safe havens' should be easily accessible areas where privacy, security and shelter are provided with access to water and food for pregnant and lactating women. Basic supportive care of breastfeeding mothers and their infants can be offered and peer-to-peer support nurtured.

• *Minimum level of response*

A *minimum response* to support IFE is indicated in all emergencies. This should include nutritional adequacy and suitability of the general food ration for older infants and young children; consideration of supplementary feeding of pregnant and lactating women (PLW); ensuring and easing access for PLW to basic water and sanitation facilities, cooking, food and non-food items; ensuring rest areas for populations in

transit including private areas for breastfeeding if culturally indicated; and establishing timely registration of newborns to support early initiation and exclusive breastfeeding.

- ***Artificial feeding in emergencies***

Any support of artificial feeding in an emergency should be based on a needs assessment by skilled technical staff including a risk analysis on whether it is an acceptable, feasible, affordable, sustainable and safe (AFASS) option in the given context (see box 3). This applies both in the context of HIV where replacement feeding may have been established pre-crisis or in any population where infants may be artificially fed. Interventions that support artificial feeding should meet key criteria on targeting, use, procurement, distribution and management of breast milk substitutes as detailed in the Operational Guidance on IFE. Infants and young children supported in these programmes must be monitored closely and AFASS criteria re-assessed periodically.

Interventions to support non-breastfed infants must always include components that specifically support breastfed infants also. For example, if carers of non-breast fed infants receive infant formula rations, mothers of breastfeeding infants could receive a food ration for themselves so as not to encourage mothers to stop breastfeeding.

- ***Infant feeding and HIV in emergencies***

In the interest of overall child survival, introducing replacement feeding or early cessation of breastfeeding is unlikely to be an AFASS option in most emergency situations⁵. Where HIV status of the mother is unknown or if she is known to be HIV negative, early initiation and *exclusive* breastfeeding for the first six months, continuation of breastfeeding into the second year of life or beyond, and nutritionally adequate and safe complementary feeding for children 6-24 months is recommended⁶. Where a mother is known to be HIV positive, the most appropriate infant feeding option for a HIV-infected mother should depend on her individual circumstances, including her health status and the local situation, but should take great consideration of the health services available and the counselling and support she is likely to receive⁷. For further guidance, consult the latest WHO recommendations and UN guidance⁸.

Box 3: AFASS Criteria

Acceptable: The mother perceives no problem in replacement feeding. Potential problems may be cultural, social, or due to fear of stigma and discrimination.

Feasible: The mother (or family) has adequate time, knowledge, skills, resources and support to correctly mix formula or milk and feed the infant up to 12 times in 24 hours.

Affordable: The mother and family, with community or health system support if necessary, can pay the cost of replacement feeding without harming the health or nutrition status of the family

Sustainable: Availability of a continuous supply of all ingredients needed for safe replacement feeding for up to one year of age or longer.

Safe: Replacement foods are correctly and hygienically prepared and stored, and fed preferably by cup.

Source: IMCI Complementary Course on HIV/AIDS; Module 3; Counselling the HIV Positive Mother. WHO 2007

The following key points, drafted by the IFE Core Group for the *Operational Guidelines*, govern the assessment, implementation and policy regarding IFE⁹.

Box 4: Policy, Assessment, and Implementation of IFE

1. Appropriate and timely support of infant and young child feeding in emergencies (IFE) saves lives.
2. Every agency should develop a policy on IFE. The policy should be widely disseminated to all staff, agency procedures adapted accordingly and policy implementation enforced.
3. Agencies should ensure the training and orientation of their technical and non-technical staff in IFE, using available training materials.
4. Within the United Nations (UN) Inter-agency Standing Committee (IASC) cluster approach to humanitarian response, UNICEF is likely the UN agency responsible for co-ordination of IFE in the field. Other UN agencies and NGOs have key roles to play in close collaboration with the government.
5. Key information on infant and young child feeding needs to be integrated into routine rapid assessment procedures. If necessary, more systematic assessment using recommended methodologies could be conducted.
6. Simple measures should be put in place to ensure the needs of mothers, infants and young children are addressed in the early stages of an emergency. Support for other caregivers and those with special needs, e.g. orphans and unaccompanied children, must also be established at the outset.
7. Breastfeeding and infant and young child feeding support should be integrated into other services for mothers, infants and young children.
8. Foods suitable to meet the nutrient needs of older infants and young children must be included in the general ration for food aid dependent populations.
9. Donated (free) or subsidised supplies of breast milk substitutes (e.g. infant formula) should be avoided. Donations of bottles and teats should be refused in emergency situations. Any well-meant but ill-advised donations of breast milk substitutes, bottles and teats should be placed under the control of a single designated agency.
10. The decision to accept, procure, use or distribute infant formula in an emergency must be made by informed, technical personnel in consultation with the co-ordinating agency, lead technical agencies and governed by strict criteria.
11. Breast milk substitutes, other milk products, bottles and teats must never be included in a general ration distribution. Breast milk substitutes and other milk products must only be distributed according to recognised strict criteria and only provided to mothers or caregivers for those infants who need them. The use of bottles and teats in emergency contexts should be actively avoided.

Measuring success/Benchmarks

To determine the impact of IFE and the performance of the cluster response both *outcome indicators*, such as morbidity and mortality, malnutrition rates and trends in breastfeeding rates and *performance indicators*, such as violations of the Code and the IFE Operational Guidance should be monitored.

More precise indicators may include:

- Early initiation rate of breastfeeding in newborn infants. This is a key benchmark of the effectiveness of an emergency response.
- The proportion of infants under six months that are exclusively breastfed compared to pre-crisis rate; this should not go down.
- Non-breastfed infants have access to an adequate amount of an appropriate breast milk substitute, and are provided with the supportive conditions and access to healthcare needed to reduce the risks from artificial feeding.
- Incidence of watery diarrhoea in infants 0-6m, 6-12m, 12-24m.
- Proportion of children aged 6-24 months with access to nutritious, energy-dense complementary foods
- Recorded/reported violations of the Code reported.
- Recorded/reported violations of the IFE Operational Guidance.

Where the cluster response is implemented, a specific evaluation of the response on IFE should be carried out to determine the Cluster performance and to note lessons learned.

Other Issues/Debates

- Current international guidelines for inpatient and outpatient care for severely and moderately malnourished infants and children do not include guidance on breastfeeding support nor do they specifically address infants under six months. Module 2 developed by the IFE Core Group¹⁰ should be considered together with standard national guidelines, until progress is made in integrating these materials.
- Integrated interventions to support both breastfed and non-breastfed infants have not been conducted under trial conditions in emergency contexts.
- A standard evaluation package for IFE is needed to help monitor and evaluate IFE and the Cluster Response.
- There is a lack of accepted outcome indicators to include in surveys for IFE
- Indicators to monitor implementation of the IFE Operational Guidance are being developed by the IFE Core Group, coordinated by the Emergency Nutrition Network. Contact the ENN on <http://www.enonline.net/ife> or email the IFE Core Group at ife@enonline.net

Supplies

- Breastfeeding counsellors
- Shelter for breast feeding corners or tents
- Where infant formula is involved, care must be taken on sourcing supplies. It is essential that all organisations **MUST ADHERE** to The Code (refer to Operational Guidance). UNHCR will source infant formula (refer to UNHCR milk policy). UNICEF and WFP do not supply infant formula.
- Therapeutic milk for re-lactation, cups, nasal-gastric tubes and sterilisation material/chlorine

References:

- ¹ Guiding Principles for Feeding Infants and Young Children During Emergencies, WHO 2004 pxi
- ² Guiding Principles for Feeding Infants and Young Children During Emergencies, WHO 2004 p1
- ³ Operational Guidance for Emergency Relief Staff and Programme Managers on Infant and Young Child Feeding in Emergencies version 2.1. February 2007 <http://www.ennonline.net/ife/>
- ⁴ The Operational Guidance for Emergency Relief Staff and Programme Managers on Infant and Young Child Feeding in Emergencies, IFE Core Group, version 2.1
- ⁵ Section 5.2.8 Operational Guidance on IFE (full reference above)
- ⁶ Section 5.2.8 Operational Guidance IFE
- ⁷ WHO Guiding Principles for feeding infants and young children during emergencies. WHO Geneva, 2004
- ⁸ WHO technical consultation, WHO Update on Infant Feeding and HIV based on Consultation, the UNHCR milk policy and UNHCR Guidance on infant feeding and HIV in refugee and displaced populations (October 2007;Finalised January 2008)
- ⁹ The Operational Guidance for Emergency Relief Staff and Programme Managers on Infant and Young Child Feeding in Emergencies, IFE Core Group, version 2.1
- ¹⁰ WHO/UNICEF/IBAN/ENN Module 2 Infant Feeding in Emergencies for health and nutrition workers in emergency situations. Version 1.0. November 2004. <http://www.ennonline.net/ife/module2/default.aspx>

Further Reading:

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ENN website: <http://www.enonline.net>

<http://www.un.org/documents/ga/res/44/a44r025.htm>

http://www.who.int/child-adolescent-health/New_Publications/NUTRITION/WHO_CDD_SER_91.14.pdf

<http://www.enonline.net/docs/UNHCRMilkProductPolicy.doc>

Full Code and Relevant WHA resolutions at:

<http://www.ibfan.org/English/resource/who/fullcode.html>

Intervention 2: Treatment of diarrhoea with Oral Rehydration Therapy (ORT)/ Zinc

What is ORT?

Oral rehydration therapy (ORT) refers to the replenishment of key electrolytes, including sodium, potassium and glucose to a person suffering from loss of fluids due to diarrhoea, vomiting or other illness and fever.

Oral Rehydration Salts (ORS), a mixture of water, minerals and glucose in specific proportions, was developed in 1968 by researchers in Calcutta and Dhaka as a treatment for cholera. The solution, which could easily be made as a simple home remedy, was found to be the best way to rehydrate a child suffering from diarrhoea. This remains true today and ORS remains the cornerstone of Oral Rehydration Therapy (ORT), which incorporates administration of fluids/ORS, along with continued feeding during the illness and increased feeding for the following week.

For the past 20 years, numerous studies have been undertaken to develop an improved ORS. The goal was a product that would be at least as safe and effective as standard ORS for preventing or treating dehydration but would also reduce stool output or have other important clinical benefits.

What is Zinc?

Zinc is an essential micronutrient for human growth, development and maintenance of the immune system. Studies have confirmed that the use of zinc supplements can considerably reduce the duration and severity of diarrhoeal episodes, decrease stool output, and lessen the need for hospitalisation. Zinc may also prevent future diarrhoea episodes for up to three months.

In May 2004, WHO/UNICEF issued a joint statement recommending the use of zinc and a new formulation of ORS, with reduced levels of glucose and salt, as a two-pronged approach to improved case management of acute diarrhoea in children. The result was a standard treatment protocol for diarrhoea that combines oral rehydration therapy and zinc, referred to as ORT/Zinc.

Why is ORT/Zinc key in emergencies?

Every year approximately 2.2 million people in developing countries, most of them children, die as a result of diarrhoea and dehydration¹. During emergencies, the risk of diarrhoea is exacerbated and transmission rates soar. Poor access to clean water, poor food hygiene practices, introduction to new or unusual foods, disrupted eating patterns and high rates of infectious illness due to overcrowded/insufficient living conditions and moving populations create a perfect environment for diarrhoeal disease. Providing ORT/Zinc in emergencies is a simple and cost-effective intervention that can greatly reduce the length and severity of the diarrhoea preventing severe dehydration, malnutrition and death.

When is ORT/Zinc promotion required?

In emergencies, ORT and zinc supplementation should be used for the treatment and prevention of further occurrences of:

- Acute diarrhoea
- Persistent diarrhoea
- Bloody diarrhoea

How is ORT/Zinc implemented?

For full technical guidance refer to the WHO treatment guidelines for diarrhoea ². The guidelines advise classification of the child's condition leading to two approaches for treatment.

1. Home based care management:

A child should be treated at home according to **Plan A** (WHO/UNICEF standards) if they are well, alert, eyes are normal, drinks normally, not thirsty and the skin pinch goes back quickly. Caretakers should be provided with enough zinc supplements to continue home treatment for 10-14 days and with two 1-litre packets of the new ORS solution for home ORT until the diarrhoea stops.

The caretaker should be informed to:

- Give the child more fluids than usual, to prevent dehydration
- Give 10-20 mg supplemental zinc to the child (10 mg for infants <6months of age) every day for 10 to 14 days
- Continue feeding the child to prevent malnutrition.
- Take the child to a health worker if there are signs of dehydration or other problems such as continued vomiting, inability to drink, or high fever.

In emergency conditions, water purification tablets may also be required if a safe water supply is yet to be established. In an emergency context where a child is being assessed for inclusion in an outpatient treatment programme, ORT tents can be set up for assessment before a decision is made as to whether the child can be treated in a home based or in-patient facility.

2. Clinical Management:

A child should be treated in a health clinic/emergency feeding centre using **Plan B** (WHO/UNICEF standards) if two or more of the following signs are observed: the child is restless, irritable, has sunken eyes, drinks eagerly, is thirsty, unable to drink, or has a skin pinch that goes back slowly.

A child should be treated in a health clinic/emergency feeding centre according to **Plan C** (WHO/UNICEF standards) if he/she has two or more of the following signs: lethargy or loss of consciousness, sunken eyes, drinks poorly, not able to drink, or skin pinch goes back very slowly.

Important Note: The diarrhoea treatment guidelines on the use of ORT/Zinc do **not** cover treatment for severely malnourished children. Severely malnourished children in an inpatient facility should receive ReSoMal and **not** new formula ORS for the treatment of dehydration (see intervention 6)

Measuring success/Benchmarks

Process indicators

- % Population covered with new formula ORS/zinc
- % Emergency health care staff trained in the management of diarrhoea including new formula ORS/zinc.
- Availability of Zinc and new formula ORS (central storage and health facility outlets)
- % Facilities with the revised treatment guidelines available
- % Cases of diarrhoea in children <5yrs prescribed or sold zinc with new formula ORS.

Outcome indicators

- % Cases of diarrhoea in children under the age of five treated with a course of zinc supplementation for 10-14 days, in addition to new formula ORS.

Knowledge, attitude and practices indicators

- % Carers who are aware that zinc is an appropriate treatment for diarrhoeal disease
- % Medical providers who believe that zinc is an effective treatment for diarrhoea in children under the age of five.

Other Issues/Debates:

- Because of the improved effectiveness of the new reduced osmolarity ORS solution, especially for children with acute, non-cholera diarrhoea, WHO and UNICEF now recommend that countries use and manufacture the new formulation in place of the previously used ORS solution.
- Some studies have shown that zinc supplementation for diarrhoea in conjunction with education programmes and ORT could reduce inappropriate antibiotic use and help reduce emerging resistance.
- Zinc sulphate, acetate and gluconate are all acceptable zinc salt formulations. However, zinc sulphate is low cost, efficacious, safe and therefore optimal for emergency and national programmes. It can be given as syrup or in dispersible tablets, which dissolve easily in a tablespoon of clean water or breast milk.
- Printed materials (including text and illustrations) with advice on preventing and treating diarrhoea at home should accompany distribution of new formula ORS and zinc supplement.
- Information Education Communication (IEC) strategies should be implemented alongside ORT/zinc.

Supplies:

- New formula ORS³ and zinc supplements
- Water purification tablets may be required in some emergencies
- Provision of assessment tents for correct referral of care
- IEC materials

References:

- 1 The Rehydration Project, Diarrhoea.org website, Copyright 1996-2007 Rehydration Project
- 2 WHO/UNICEF 2005 "Diarrhoea treatment guidelines for clinic-based healthcare workers", , p 1
- 3 UNICEF Emergency Field Handbook 2005. Calculation of ORS requirements in an emergency p 155

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<http://hetv.org/pdf/diarrhoea-guidelines.pdf>

Intervention 3: The Prevention and Treatment of Vitamin A Deficiency

What is vitamin A deficiency?

Vitamin A is essential for the functioning of the immune system and the healthy growth and development of children. Epidemiological studies have indicated that vitamin A supplementation reduces child mortality and severe morbidity due to the positive effects of reducing the severity of diarrhoea and the incidence and severity of pneumonia associated with measlesⁱⁱ

Globally, it is estimated that 140–250 million children under five years of age are affected by vitamin A deficiency. These children suffer a dramatically increased risk of death, blindness, and illness, especially from measles and diarrhoea. As part of the global call to action, the UN Special Session on Children in 2002 set as one of its goals the elimination of vitamin A deficiency and its consequences by the year 2010. The strategy to achieve this goal is to ensure that young children, living in areas where the intake of vitamin A is inadequate, receive the vitamin through a combination of breastfeeding, dietary improvement, food fortification, and supplementation.

Why is vitamin A key in emergencies?

Vitamin A intake is often limited in emergency situations where the food supply is either inadequate or inappropriate and access to vitamin A-rich foods is reduced. Without proper food support, body reserves of vitamin A become severely depleted. In the emergency context, there is an increase in communicable and infectious diseases due to over-crowded shelter conditions and disruption due to population displacement and the demise of health infrastructures. Transmission of illnesses such as diarrhoea, measles and pneumonia are exacerbated and lead to increased childhood mortality. Measles is especially common in emergencies and can trigger acute malnutrition and aggravate vitamin A deficiency to dangerous levels. Vitamin A provides an essential part of the treatment protocol for children already infected with measles (Table 2) and supplementation during mass measles vaccination campaigns (Table 1) provides protection against further vitamin A deficiency and the severity of potential measles infection.

When is an emergency prevention/supplementation programme required to address vitamin A deficiency?

In emergency settings it is not necessary to conduct vitamin A assessments. If any of the following criteria are met, all children 6 months to 5 years of age, plus post partum women up to 6 months after delivery should be given vitamin A supplements:

- The population originates from an area that is known or presumed to be deficient in vitamin A;
- Vitamin A supplementation programmes were ongoing pre-emergency
- Clinical signs of vitamin A deficiency (night blindness, Bitot's spots, corneal scarring) were present in the population in pre-emergency population surveys
- Malnutrition and/or diarrhoeal diseases are currently prevalent

ⁱⁱ These studies have not shown a similar effect on acute lower respiratory tract infection

- Measles has been identified in epidemic proportions.

How is prevention of vitamin A deficiency/vitamin A supplementation implemented?

The prevention and control of vitamin A deficiency should always be an integral part of relief operations during nutritional emergencies. The main preventive measures are the following:

- Measles vaccination and treatment of measles according to IMCI guidelines including integrated vitamin A supplementation
- High-dose vitamin A supplements
- Encouragement of breastfeeding
- Access to vitamin A rich produce (green leafy/yellow vegetables and fruits, palm oil or animal products)
- Food fortification in the absence of locally available produce and fortified relief rations particularly those destined for vulnerable groups
- Environmental sanitation and food hygiene measures, to prevent diarrhoeal disease

Links with immunization campaigns

In emergency settings where measles vaccination campaigns¹ are implemented, vitamin A supplementation should also be administered as a preventative measure. Dosage of vitamin A supplements should be given as shown in Table 1. Depending on the duration of the emergency, links with other immunisation campaigns can follow after 6 months as per recommendations for non-emergency contexts. See Annex 1 for potential links to immunisation campaigns in prolonged emergencies.

Table 1: High-Dose Preventative Vitamin A Supplementation in Measles Campaigns or Vitamin A Deficient Areas²

Age group	Amount of vitamin A to be administered (IU)	Time of vitamin A supplement administration
0 to 6 months	Exclusive breast feeding (post-partum dose to mother-see Table 2)	
6 to 11 months	100,000 IU as a single dose	At any health or immunization contacts (e.g. measles immunization)
12 to 59 months	200,000 IU as a single dose every 4 to 6 months	At any health or immunization contacts
Post Partum Women	200,000 IU as single dose	Within 6-8 weeks after delivery (see box 5)
	OR	OR
	10,000 IU daily or 25,000 IU weekly	During the first six months after delivery

For those children who have already been infected and diagnosed with measles, vitamin A forms an integral part of their treatment. Doses should be given as shown in Table 2.

Table 2: Vitamin A dosesⁱⁱⁱ for children with measles³

Age groups	Vitamin A dosage (IU)		
	Immediately on diagnosis	Next day ^{iv}	2-4 weeks later
0-5 months	50,000	50,000	–
6-11 months	100,000	100,000	–
12 months and above	200,000	200,000	–
Measles with xerophthalmia^v			
0-5 months	50,000	50,000	50,000
6-11 months	100,000	100,000	100,000
12 months and above	200,000	200,000	200,000

Links with therapeutic feeding programmes

Children with severe acute malnutrition (see intervention 6) are likely to have associated vitamin A deficiency and should be given supplementation as shown in Table 3 as an essential part of their systemic medication⁴.

Table 3: Vitamin A treatment schedule for children with severe acute malnutrition⁵

Age groups	Vitamin A dosage (IU) ^{vi}		
	Immediately on diagnosis	Next day ^{vii}	2-4 weeks later
0-5 months	50,000		–
6-11 months	100,000		–
12 months and above	200,000		–
SAM with xerophthalmia^{viii}			
0-5 months	50,000	50,000	50,000
6-11 months	100,000	100,000	100,000
12 months and above	200,000	200,000	200,000

ⁱⁱⁱ On measles diagnosis Vitamin A supplement should be given irrespective of the previous dose received.

^{iv} Give to mother or caregiver to administer at home the next day if child is unable to return to the health centre or hospital

^v Children with severe malnutrition or/and active xerophthalmia should be referred to hospital immediately on diagnosis

^{vi} Vitamin A supplement should not be given if the child with severe malnutrition has already received the supplement within the past 30 days

^{vii} Give to mother or caregiver to administer at home the next day if child is unable to return to health centre or hospital

^{viii} Children with severe malnutrition or active xerophthalmia should be referred to hospital immediately on diagnosis

Box 5: Vitamin A Supplementation Risk

Risk of overdose of vitamin A supplementation

High-dose vitamin A (200,000IU single dose) should be avoided during pregnancy because of the theoretical risk of tetragenes (birth defects). From a programmatic perspective in non-emergency situations, high-dose vitamin A supplementation must occur during the safe infertile period immediately after delivery and up to six weeks postpartum, when the chance of pregnancy is remote. For breastfeeding mothers, the safe infertile period extends up to eight weeks after delivery.

In emergency situations when supplementation is linked to a measles campaign, the benefits of giving vitamin A outweigh the potential risks and supplementation should be administered.

Measuring success/Benchmarks

In an emergency setting, the only benchmark is maximum coverage of vitamin A supplementation in the at risk population:

- Children under 5 yrs
- Post partum mothers
- Children with measles
- Children with severe malnutrition

Other Issues/Debates:

In prolonged emergencies, provision of vitamin A supplements every four to six months is an inexpensive, quick, and effective way to improve vitamin A status and save children's lives. The Beaton Report concluded that all-cause mortality among children aged 6–59 months was reduced by 23% through vitamin A supplementation in areas where vitamin A deficiency was a public health problem.⁶ However, comprehensive control of vitamin A deficiency must include dietary improvement, food fortification and improved water and sanitation conditions in the long term

Supplies:

- Where vitamin A supplementation programmes are ongoing, in-country supplies should be checked and additional supplies requested where necessary. Vitamin A is considered an emergency supply item and if necessary can be shipped out within 24-48 hours, even air freighted.
- Vitamin A can be found in the emergency kit (Kit A) and antenatal kit⁷ from UNICEF
- Mobilisation resources in mass supplementation campaigns

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- ² WHO, UNICEF, Micronutrient Forum, Vitamin A supplements, a guide to their use in the treatment and prevention of vitamin A deficiency. 3rd edition. Geneva
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- ⁵ WHO, UNICEF, Micronutrient Forum, Vitamin A supplements, a guide to their use in the treatment and prevention of vitamin A deficiency. 3rd edition. Geneva
- ⁶ Beaton GH, Martorell R, L'Abbé, et al. (1993) *Effectiveness of vitamin A supplementation in the control of young child morbidity and mortality in developing countries*. UN, ACC/SCN State-of-the-art Series, Nutrition policy Discussion Paper No. 13
- ⁷ UNICEF,(2005) Emergency Field Handbook p108

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Intervention 4: Prevention and Treatment of Micronutrient Deficiencies (MND)

What are micronutrient deficiencies?

Micronutrient deficiencies (MND) occur when individuals have inadequate access to essential micronutrients or perhaps are unable to absorb or retain micronutrients due to disease or infection. MND pose a major public health problem with over 2 billion people in the world today estimated to be deficient in essential vitamins and minerals such as, vitamin A, iodine, iron and zinc. Most of these people live in low-income countries and are typically deficient in more than one micronutrient. Deficiencies occur when people do not have access to micronutrient-rich foods such as fruits, vegetables, animal products and fortified foods, usually because they are too expensive to buy or are not locally available. Lack of nutritional education and some cultural practices also have an important role to play. MND increase the general risk of infections and mortality related to diarrhoea, measles, malaria, and pneumonia. These conditions are among the 10 leading causes of disease in the world today.

Why is addressing micronutrient deficiencies key in emergencies?

Like other forms of malnutrition, micronutrient deficiencies are exacerbated by the emergency context due to disrupted or insufficient access to micronutrient-rich foods. Deficiencies can lead to enhanced susceptibility to infectious diseases, which in emergency contexts are often a by-product of over-crowded or poor, unhygienic living conditions after population displacement. If individuals are suffering from MND, there is an increased risk of acute morbidity and death due to common illnesses that arise during emergencies. Experience from past emergencies such as Afghanistan in 2002, has shown how micronutrient deficiency diseases like scurvy can exacerbate mortality rates to frightening and unnecessary proportions.

When is an emergency response required to address MND?

It is important to understand the health and nutritional context that the affected individuals came from before the emergency. If MND are endemic in the pre-emergency context, it is fair to assume that they will be exacerbated during the emergency and a micronutrient response will be necessary.

Combating MND is difficult because there are often no visible signs or symptoms until the deficiency is severe. Biochemical tests can be conducted to measure levels of specific micronutrients in the body, but these surveys are costly, often not feasible during an emergency situation and therefore not recommended. Clinical case definition can also be problematic and in emergencies can often only be determined through individual response to supplementation.

The diagnosis of some MND is possible through simple clinical examination (such as iron-deficiency anaemia and vitamin A). Indicators of these deficiencies can then be incorporated into health or nutritional surveillance systems. Careful training of staff is required to ensure that assessment is accurate.

Deficiencies of micronutrients such as vitamin C (scurvy), niacin (pellagra), thiamine (beriberi) and riboflavin (ariboflavinosis), are the most commonly observed in food

aid dependent populations (see Annex 2). These diseases are avoidable and presentation of any of these deficiencies at health centres is likely to be a result of restricted access to certain types of food and therefore likely to be indicative of a population-wide problem. Consequently, deficiencies should be addressed by population-wide interventions as well as by individual treatment (Annex 3).

In an emergency setting, and the absence of population-wide micronutrient clinical screening or access to biochemical testing, the SPHERE Project has set out a list of key indicators that can assist in assessing the potential micronutrient status of a particular population (see box 6). Dietary inputs are assessed to determine if the population requires general nutrition support. SPHERE suggests using information from various sources gathered using a variety of techniques. This may include monitoring food availability and use at the household level; assessing food prices and food availability in the market; assessing the nutrient content of any distributed food; and assessing any contribution of wild foods¹.

BOX 6: Sphere Indicators for General Nutrition Support Standards²:

- There is access to a range of food
- There is access to vitamins A and C, and iron-rich or fortified foods or supplements
- There is access to iodised salt for the majority (>90%) of households^{ix}
- There is access to additional sources of niacin (e.g. pulses, nuts, dried fish) if the staple is maize or sorghum
- There is access to additional sources of thiamine (e.g. pulses, nuts, eggs) if the staple is polished rice
- There is access to additional sources of riboflavin where people are on a limited diet
- Levels of moderate and severe malnutrition are stable, or declining to acceptable levels
- There are no cases of scurvy, pellagra, beriberi or riboflavin deficiency
- Rates of xerophthalmia and iodine deficiency are not of public health significance (see Annex 2)

Micronutrient losses from food items that can occur during transport, storage, processing and cooking, need to be taken into account when assessing the requirements. If the general indicators for adequate micronutrient requirements are not met, there is a risk for population-wide deficiencies that need to be addressed without delay. In particular, a supplement might be indicated for high-risk groups such as women and children under-five years of age whose additional needs are rarely met in normal situations and who therefore are at high risk when the basic energy needs of the general population are not being met^x.

How are MND programmes implemented?

Some basic points can be outlined when planning to address MND in emergencies³:

^{ix} The provision of iodised salt is standard in emergencies and should be a part of the emergency food basket provided.

^x The minimum average nutritional requirements per person: 2,100 kcals per person per day; 10-12% of total energy provided by protein; 17% of total energy provided by fat; and adequate micronutrient intake through fresh or fortified foods

- Continue any existing MN programmes
- Before giving supplements ensure MN are not being provided from any other sources
- Communicate the benefits of MN to ensure they are understood and used appropriately for the desired impact
- Monitor the delivery of supplements to assess coverage and protect against deficiencies and excessive intakes
- Provide multi-micronutrients until health facilities are re-established and nutrient rich diet is available
- Strengthen food fortification systems, or advocate and support their implementation
- Prevention of MND can also be achieved through the reduction of diseases such as acute respiratory infection, measles, parasitic infection, malaria and diarrhoea, which deplete micronutrient stores.

Prevention and Treatment

Both prevention and treatment of MND need to be considered in emergencies. For population wide MND, which require treatment interventions, the recommended approaches are given in Annex 3.

Possible options for the prevention of MND include improving the nutritional quality of the ration through fortification or inclusion of blended foods or locally purchased commodities to provide missing nutrients, MN supplementation and promotion of appropriate infant feeding (see intervention 1 on IFE). The blended foods that are typically given in an emergency usually contain added vitamin A, thiamine, riboflavin, niacin, vitamin C, folic acid, iron and iodine, all of which can substantially support the micronutrient status of the population. However, it is important to note that blended foods may not fully meet all micronutrient needs due to lack of absorption and dependency on other critical micronutrients such as vitamin B6/B12 and zinc.

The provision of food supplementation products (FSP) for home based fortification such as Sprinkles and spreads like Nutri-butter, is becoming a popular approach for prevention of MND but the efficacy and effectiveness of some of the newer products is yet to be proven. A description of various types of FSP can be found at: <http://www.micronutrient.org>

Foods fortified with micronutrients may also not fully meet the needs of certain nutritionally vulnerable subgroups such as pregnant and lactating women, or young children. For these groups, special supplementation is often needed in addition to a balanced food basket (see section on special needs). UNICEF and WHO have developed the daily multiple micronutrient formula as a preventive measure to meet the recommended nutrient intake (RNI) of vulnerable groups during emergencies (see Table 4). Compared to single supplementation, the multiple micronutrient formula has the advantage of being combined, thus increasing the absorption rates of certain micronutrients, such as non-heme iron.

The Multiple Micronutrient Supplement Protocol

Pregnant and lactating women in emergencies should be given a multiple micronutrient supplement providing one RNI of micronutrients daily, whether they receive fortified rations or not. Iron and folic acid supplements, if already provided to the women, should be continued in addition to the RNI. When fortified rations *are not* being given, children aged 6 to 59 months should be given one dose each day of the micronutrient supplement shown in the table; when fortified rations *are* being given, children aged 6 to 59 months should be given two doses each *week* of the micronutrient supplement shown in Table 4.

Vitamin A supplements should continue to be given to young children and post partum mothers according to existing recommendations. Breastfeeding and appropriate complementary feeding should also continue to be promoted actively.

The multiple micronutrient supplements should be given until the emergency is over and access to nutrient-rich foods is restored. At this time the micronutrient status of the population should be assessed to decide whether further interventions to prevent and control micronutrient deficiencies are needed.

Table 4: The Multiple Micronutrient Supplement Protocol⁴

Target groups	Fortified food rations NOT being used	Fortified food rations ARE being used
Pregnant and lactating women	1 RNI each day	1 RNI each day
Children (6-59 months)	1 RNI each day	2 RNI each week

The effective treatment of MND will involve active case finding and the development of case definitions and protocols for treatment. Diagnosis and treatment of any active MND in an emergency population should be accompanied by a prevention strategy.

Measuring success/Benchmarks

- Reduced prevalence of MND
- No cases of scurvy (vitamin C), pellagra (niacin), beriberi (thiamine), riboflavin deficiency, Bitot's spots etc
- Number of health facilities with supplements in store
- Essential vitamins are on the national essential drug list in areas where there is a known risk of MND
- Monitor the delivery of supplements to assess coverage and protect against deficiencies and excessive intakes
- Existing micronutrient programmes continue as before an emergency.

Other Issues/Debates:

- Basic food rations are usually nutritionally deficient and require the addition of complementary food items such as fresh fruit, vegetables and spices. There is an MOU between UNHCR and WFP for this provision but logistics on delivery of fresh foods in emergency settings can result in poor delivery.⁵

- Iron deficiency caused by poor iron absorption due to vitamin C deficiency is often underestimated or forgotten; emphasis should be given on the use of vitamin C rich foods in order to prevent iron deficiencies, and more emphasis on vitamin C intakes (supplements or foods) when iron-rich food is given.
- MN interventions should be accompanied by public health interventions to reduce common diseases associated with emergencies such as malaria, measles, diarrhoea etc
- If the emergency occurs in an area where malaria (*plasmodium falciparum*) is endemic, then iron supplements should only be distributed to children with confirmed anaemia.
- If iron supplements must be given to children diagnosed with anaemia, the iron should always be administered with food.
- Because folate deficiency is not known to be a public health problem in infants and young children, and folic acid supplements may interfere with the efficacy of anti-folate anti-malarial therapies, supplemental folic acid should not be given to children receiving anti-folate anti-malarial treatment.
- Attention must always be paid to the overlap of micronutrient programmes and the possibility of excess intake, particularly if blanket treatment of the whole population is implemented.
- Continued need for supplements and fortified foods should be assessed periodically during and after the emergency. As the emergency reduces, the general distribution of supplements is likely to be reduced and increasingly targeted to specific groups.
- Further studies are needed to prove the efficacy and effectiveness of food supplementation products in emergencies before routine use can be adopted into programme planning.
- Greater attention needs to be given to quality control in food fortification of general rations.
- Promotion of home gardening and agricultural development may allow better access to nutrients but access to land and water may be limiting constraints in emergency settings.

Supplies:

- Fortified foods (WFP) including those suitable for complementary feeding of children 6-24 months
- Iodised salt
- Multi-micronutrient supplements (Vitamin A/iron and folic-maybe via fortified flour/zinc supplementation)
- CMV for therapeutic feeding programmes
- Logistics and human resources for distribution

References:

- ¹ Micronutrient Initiative Toolkit, Micronutrient Initiative, Ontario, Canada 2005
- ² The Sphere Project (2004), Humanitarian Charter and Minimum Standards in Disaster response.
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Intervention 5: Management of Moderate Acute Malnutrition

What is Moderate Acute Malnutrition?

Malnutrition is not a disease, but rather an outcome of one or more negative factors (insufficient food, insufficient care, poor hygiene and insufficient access to health services) that stress the body. Acute malnutrition (wasting and/or oedema) is caused by insufficient and poor quality food intake, malabsorption or loss of nutrients due to increased metabolic needs associated with illness. Moderate acute malnutrition in children is characterized by one of the following:

- Weight-for-height measurement between minus 3 and -2 Z-scores below the median weight-for-height compared to the reference population
- Weight for height 70% - 80% of the median compared to the reference population^{xi}
- Mid-Upper Arm Circumference (MUAC) measurement between 110mm-124mm^{xii}.

Note: a child with nutritional oedema is always classified as having severe acute malnutrition irrespective of weight for height or MUAC measurement

Why is addressing moderate acute malnutrition key in emergencies?

The UNICEF conceptual framework shown in Annex 4 depicts the causality of malnutrition including primary and underlying causes. In emergency situations, essential services and support structures are often greatly disrupted, increasing the malnutrition risk to the population. Once malnourished, an individual's ability to manage infection is compromised exacerbating the effects of potentially fatal diseases such as malaria, measles, diarrhoeal disease, pneumonia, HIV and AIDS. Moderate acute malnutrition needs to be addressed in the emergency context both to support a child's right to sufficient food, growth and well-being and to prevent more serious illness and death. From a cost perspective, moderate malnutrition is also significantly cheaper to treat than severe malnutrition.

When is an emergency supplementary feeding programme (SFP) required to address moderate acute malnutrition?

An intersectoral approach is necessary to address moderate acute malnutrition: e.g. through the improvement of a general food ration; improving food security^{xiii}; improving access to health care; and improving access to sanitation and potable water. Implementing a supplementary feeding programme (SFP) should be a short-term measure and not be seen as a means of compensating for inadequate household food

^{xi} The % of the median should be compared only to NCHS reference population. Measurement expressed in Z Score can be compared to the WHO reference population.

^{xii} There is no internationally agreed standard for MUAC criteria and cut offs may vary

^{xiii} Improving access to a variety of locally available foods through access to agricultural inputs, micro-credit initiatives etc, improving access to quality food distribution if locally available food not sufficient,

security. The impact of SFP without adequate general food security or an adequate general emergency food ration has proven very limited and not cost-effective.

In order to determine if and how a feeding programme should be implemented, it is essential that an assessment is carried out to give feedback and information on the current nutritional situation and the presence/absence of aggravating factors that can exacerbate nutritional insecurity. Guidance regarding the information needed to consider SFP implementation is provided in boxes 7 and 8.

Box 7: Minimum Information Needed to Consider a Supplementary Feeding Programme

Minimum Information Needed to Consider an SFP

Programme design must be based on the complexity and dynamics of the nutrition situation:

- Pre-crisis prevalence rates including malnutrition, food insecurity, disease, access to health services and micronutrient deficiencies.
- Likely scenarios of change in the nutritional status of the under five population based on a food security assessment.
- Understanding the seasonal dynamics and projecting forward regarding health and social support available during the emergency.
- Social support networks and psychological stress on caretakers.
- Trends of disease and malnutrition (past and projected).
- Likelihood of food sharing.
- Variation in prevalence rates within a given geographical area and the implications these would have on type of intervention and coverage.
- Capacity to implement programmes.

Targeted supplementary feeding programmes are ideally implemented when nutrition/anthropometric surveys have been conducted and where the underlying causes of malnutrition are simultaneously being addressed.

Source: WFP 2007 Nutrition Unit

How is a SFP implemented?

SFP should be implemented alongside an adequate general ration. However, in some cases they may be implemented in the absence of a general ration such as in the early stages of emergencies when the food pipeline is strained and resources are limited. There are two primary types of SFP to address moderate malnutrition so it should be determined which type of programme will be best suited for the given situation.

• ***Targeted SFP***

The main aim of a targeted SFP is to support the moderately malnourished; usually children under five years and pregnant and lactating women. SFP also play a role in continued support for those who have been discharged from therapeutic feeding programmes for the treatment for severe acute malnutrition. Box 8 shows when to implement a targeted SFP.

Box 8: When to Implement a Targeted SFP

Targeted SFP should be implemented when one or more of the following situations occur:

- There are large numbers of malnourished individuals → prevalence of 10-14% global acute malnutrition among children*.
- There are large numbers of children predicted to become malnourished due to factors like poor food security and high rates of disease → prevalence of 5-9% global acute malnutrition plus the presence of aggravating factors**.

*Prevalence of global acute malnutrition reflects the proportion of the child population (6 months to 5 years) with weight-for-height below -2 Z-scores or less than 80% of the median NCHS/WHO reference values, and/or with oedema.

**Aggravating factors are normally defined as absent or inadequate general food ration, crude mortality rate above 1/10,000/day, epidemics of measles or whooping cough, and high prevalence of respiratory or diarrhoeal diseases.

Source: The Management of Nutrition in Major Emergencies, WHO,

• **Blanket SFP**

The main aim of a blanket SFP is to prevent widespread malnutrition and to reduce excess mortality among those at-risk by providing a food/micronutrient supplement for all members of a group (e.g. all children under five years, pregnant and lactating mothers, etc.). Blanket SFP should be implemented where the prevalence of acute malnutrition is extraordinarily high (above or equal to 15% or 10-14% with aggravating factors). Priority, however, should be given to establishing the general ration, given that the entire population and not just targeted groups may be in need of food.

Supplementary food can be distributed in two ways:

▪ On-site feeding ('wet' ration)

The daily distribution of cooked food/meals is provided at feeding centres. The number of meals can vary in specific situations, but usually two to three meals should be provided per day.

▪ Take-home ('dry' ration)

Rations of dry ingredients such as cereal, pulses, sugar and oil are distributed for home preparation. This can be weekly or bi-weekly depending on external factors such a location, logistics and security. It is necessary to increase the ration per person compared to wet feeding to compensate for intra-household sharing. Dry ration SFP can be done from a health centre or through community-based programmes.

Regardless of which type of program is used (targeted or blanket, wet or dry) clearly defined objectives and criteria for set-up and closure of the programme must be established from the outset. The following points should also be considered:

- More than 90% of the target population should be within <1 day's return walk (including time for treatment) of the distribution centre for dry ration SFP and <1hour walk for on-site SFP.

- Admission of individuals to targeted SFP is based on assessment against internationally accepted anthropometric criteria^{xiv}
- The objectives of the feeding programme are realistic and achievable within a period determined in advance.
- Targeted supplementary feeding programmes are linked to existing health structures and protocols are followed to identify health problems and refer accordingly.
- Supplementary feeding is based on the distribution of dry take-home rations unless there is a clear rationale for on-site feeding.
- Monitoring systems are in place
- Families with children who are moderately malnourished should be given the appropriate information and support needed to care for and feed their children with appropriate practices, using local foods where available. Women with young children need to be encouraged and supported to breastfeed.

When to close a SFP

Closure criteria should be defined at the start of a programme. It is usual practice to close down a programme when there are less than 30 patients. New cases should then be referred to health centres or hospitals.

Targeted SFP can be closed when all the following criteria are satisfied:

- General food distribution is adequate (meeting planned nutritional requirements).
- Prevalence of acute malnutrition is below 10% without aggravating factors.
- Control measures for infectious diseases are effective.
- Deterioration in nutritional situations is not anticipated; i.e. seasonal deterioration.

In some situations where prevalence of acute malnutrition is below 5% (in presence of aggravating factors) or 10% (with no aggravating factors) but the absolute number of malnourished children is still considerable, the closure of targeted SFP may not be appropriate. The same may apply in unstable and insecure situations where these programmes may be maintained as a 'safety net'. However, care must be taken that food supplements are not distributed in an inappropriate context (e.g. where the local food production is potentially sufficient), as it can lead to adverse effects such as sales of SFP products in the market which can affect the local prices; cereals from SFP being used to brew alcoholic beverage etc.

Measuring Success/Benchmarks

Ongoing monitoring should include routine collection of data to analyse the efficiency and effectiveness of SFP in accordance with programme objectives. Feeding centre statistics including rates of recovery, defaulters, deaths and coverage should be recorded. A sample of SFP indicators and acceptable standards are provided in table 3. Wider impact of SFP can be measured through anthropometrical surveys and growth monitoring of the population by using rates of global acute malnutrition and/or MUAC.

^{xiv} While the admission criteria for children 6-59 months old are well established, the entry/exit criteria and the performance indicators for pregnant and lactating women and the elderly are still unclear.

Table 5: SFP Indicators and Acceptable Standards

SFP Indicators	Acceptable	Alarming
	(%)	(%)
Recovery rate	>70	<50
Death rate	<3	>10
Defaulting rate	<15	>30
Coverage	>50% in rural areas >70% in urban areas >90% in a camp situation	
It is essential that Non-Response also be included in the SFP Indicator rates to ensure correct statistical response		
<i>Source: Sphere standards used by WFP/UNHCR UNHCR/WFP 2000. Guidelines for Selective Feeding Programmes in Emergency Situations</i>		

Defaulting continues to be a serious constraint to the effectiveness of supplementary feeding programs. It is essential that the underlying reasons for defaulting are well understood in each context in order to reduce default rates. Opportunity costs for the beneficiary families attending SFP need to be explored to both minimise the costs and to adapt the SFP management to the prioritised needs of the community. Follow-up visits with defaulters to understand the causes of defaulting and the current status of the child, whilst evaluating the effect of different foodstuffs are useful exercises.

Other Issues/Debates:

- Many factors influence nutritional status. It should therefore be kept in mind that interventions must be multi-sectoral and integrate food, health, hygiene, sanitation and care. The impact of services to treat moderate malnutrition will be considerably reduced if appropriate general support such as access to health clinics, clean water, sanitation, appropriate shelter and support for better agricultural and livestock inputs, micro credit initiatives etc. is not in place.
- In order to be effective, SFP in prolonged emergencies need to be integrated into Community Health Programmes, which offer health and nutrition services like Safe Motherhood, immunisations, nutrition and health education and growth monitoring.
- More effort is required to integrate emergency SFP into existing Government structures.
- Criteria for admission and treatment of moderately malnourished children less than 6 months remains unclear.
- The above describes the traditional and still most common approach to run SFP but the poor coverage associated with these types of programmes limits impact at the population level. Newer community-based approaches are used in the treatment of severe malnutrition but it is unclear if this approach would be as effective with the bulkier lower cost commodities available for SFP. The greater prevalence of moderately malnourished children compared to severely malnourished children suggests that community-based programmes would have to be prepared for considerable scaling up if they were to include the treatment of moderate malnutrition.

- Protection rations are a relatively recent development and need additional assessment in light of their objectives (to prevent sharing). They should not be required in the presence of a general ration.
- The nutritional impact and effectiveness of the current *standard SFP* foods used in supplemental feeding programmes has been questioned. Work is underway to produce a ready-to-eat supplemental food (RUSF) as well as experimentation on different formulations of cereal blends to increase the nutritional value.
- There remains little documented evidence to support the general effectiveness of SFP alone to address moderate malnutrition¹ emphasising the importance of diversifying the types of interventions used to address moderate malnutrition.

Supplies:

- Support of nutrition surveys including training expertise and facilities, logistical support (transport) and equipment (height boards, scales, MUAC, stationary and computer analysis support)
- Construction materials (plastic sheeting/ tarpaulin etc).
- Provision of treatment guidelines/monitoring stationary
- Food commodities (CSB/UNIMIX/RUSF/high energy biscuits etc) with SAFE storage or security measures
- Essential drugs and supplements (minimum 2yr shelf life)
- Non food items (blankets/soap/kitchen items/fuel)-OXFAM kits²
- Name bands
- Available transport for distribution of commodities between centres/referrals to TFP
- Health and nutrition education materials

References:

¹SCF, ENN and Navarro-Colorado *A Retrospective Study of Emergency Supplementary Feeding Programmes* June 2007 (Draft)

² UNICEF Emergency Field Handbook 2005, p134

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Intervention 6: Management of Severe Acute Malnutrition (SAM)

What is Severe Acute Malnutrition?

Severe acute malnutrition in children is characterized by one of the following:

- Weight-for-height measurement below minus 3 Z-scores below the median weight-for-height compared to the reference population
- Weight for height below 70% of the median compared to the reference population^{xv}
- Mid-Upper Arm Circumference (MUAC) measurement below 110mm
- The presence of bilateral oedema

Why is the management of severe acute malnutrition a key intervention in emergencies?

Children with SAM have a 10 to 20-fold risk of dying compared to well nourished children¹. SAM can be a direct cause of child death, or it can act as an indirect cause of death by dramatically increasing case fatality in children suffering from common childhood illnesses such as diarrhoea and pneumonia. This is particularly heightened in conditions of poor sanitation, hygiene and poor provision of health services that often characterise emergency situations. Timely and effective interventions for the management of SAM, which achieve high coverage, could prevent hundreds of thousands of child deaths.

When is an emergency therapeutic feeding programme required?

Therapeutic feeding is the specialised treatment to manage severe acute malnutrition. The treatment of SAM through existing services such as hospitals or PHC clinics becomes difficult with the increased numbers of severely malnourished children that occur during an emergency. Programmes are therefore needed to support existing services, and in some cases, additional services must be implemented to meet the needs of the population.

The decision to start a therapeutic feeding programme (TFP) incorporating community-based and inpatient components is based solely on the presence of large numbers of severely acutely malnourished children requiring immediate life saving treatment². The decision is based on the prevalence of global acute malnutrition; >10% of the under-five population, with no aggravating factors, or >5% of the under-five population, with aggravating factors (see SFP Box 8).

Therapeutic feeding programmes should not undermine the capacity of health systems, nor should external programs allow governments to abdicate their responsibilities for providing services. Wherever possible, programmes should aim to build on and strengthen existing capacity to treat severe malnutrition. The decision to scale-up services with emergency programmes should be taken only when necessary. When assessing capacity, available supplies, staff, and resources should be measured against the numbers of severely malnourished children expected from prevalence

^{xv} The % of the median should be compared only to NCHS reference population. Measurement expressed in Z Score can be compared to the WHO child reference population

estimates^{xvi}. If no programme has already been established to support children with SAM in the emergency area, then the programme must be created with the support of the community and the existing health services.

How is a Therapeutic Feeding Programme implemented in an emergency?

Factors that should be taken into account when planning a TFP include the numbers and geographical spread of affected individuals, the security situation, and the capacity of existing services. The purpose of the programme should be clearly communicated and discussed with the target population and the planning of the programme should involve key decision makers from the existing health systems and the community.

There are two distinct components of management for severe acute malnutrition (Boxes 9,10). Combined they offer an effective integrated approach to the management of SAM which can greatly increase coverage potential.

Box 9: Community-Based Management of SAM

Community-Based Management of SAM

This approach aims to maximize coverage and access of the population to treatment for SAM by providing easier access to treatment through outpatient services, closer to homes (within a days return walk). An essential component of the approach is community mobilization techniques to engage the affected population in designing an appropriately structured programme and foster participation for timely identification and referral of cases of SAM in the community.

These factors enable the programme to achieve high coverage, without which impact cannot be achieved. The approach enables cases of SAM to be caught before medical complications take hold but also provides mechanisms of referral for any complicated cases to inpatient care.

The outpatient service should be set up wherever possible in existing health facilities or using existing community-level trained health staff.

The programme should include orientation for caretakers and families to ensure appropriate home treatment with Ready-to-use Therapeutic Food and routine medicines. It should include nutrition/health education and counselling for caretakers and families including appropriate use of locally available foods, to reduce re-admissions.

Source: Valid International Community-based Therapeutic Care (CTC): A field manual. First edition, 2006

^{xvi} Prevalence estimates for SAM can only be obtained from an anthropometric nutritional survey

Box 10: Facility Based Inpatient Management of SAM

Facility-Based Inpatient Management of SAM

This approach caters to the proportion of children with acute malnutrition referred from the community-based programme with anorexia, severe medical complications, severe oedema or for infants less than 6 months of age with SAM.

These children are at the highest risk of death and receive 24-hour care until their condition is stabilized and their appetite returns. Stabilisation may take up to 7 days or longer, including a transition phase for 1-3 days before being referred for rehabilitation in the community.

In emergencies, facility based care can often be provided through additional support to existing hospital paediatric wards or health centres. If numbers are great, specialized centres for inpatient treatment may need to be set up, ideally near to a hospital, in temporary buildings or tents. These should remain small (a maximum of 50 children), should not undermine the capacity of the existing health system and maintain strong links to the community-based programme so that children are smoothly integrated into outpatient care for a full recovery.

The programme should include nutrition/health education and counselling for caretakers and families to reduce re-admissions.

The integrated approach is the combination of these two components in order to maximize the impact of TFP in reducing child mortality. By combining these components some of the limitations noted in TFP approaches that rely solely on either an inpatient or outpatient strategy can be reduced. These limitations have included poor coverage, late referrals, high default rates, cross infection, lack of appropriate treatment of infants <6 months and reduced critical medical care in complicated cases.

The classification of SAM using the integrated approach defines each case through indicators and determines whether a child should be treated in a facility or through outpatient services. This is shown by flow chart in Annex 5.

Measuring Success/Benchmarks

The quality of programmes is monitored with a range of quantitative and qualitative indicators using reporting formats given in international guidelines³⁴. It is preferable to combine the outcomes of inpatient and outpatient components in a given area to assess the quality of the total integrated response. Some of the main indicators can be compared against international Sphere standards for emergency response (Box 11):

The percentage and causes of readmission, defaulting and failure to respond should be investigated and documented on an ongoing basis.

Monitoring and on-site training should be conducted every month after the initial training on the management of SAM.

Box 11: Benchmarks for Emergency SAM Programmes

<u>BENCHMARKS FOR EMERGENCY SAM PROGRAMMES</u>	
Deaths	<10% of exits
Defaults	<15% of exits
Recovered	>75% of exits from outpatient care
Mean weight gain	> 4g per Kg per person per day**
Average length of stay	
In inpatient care	4-7 days (where OTP is in place)
Average length of stay	
Outpatient care	<60 days
Coverage	>50% in rural areas >70% in urban areas 90% in camp situations

** >8g per person per day is recommended by Sphere for inpatient treatment. Lower rates of weight gain are more acceptable in outpatient programmes because the risk of exposure to infection and the opportunity costs for beneficiaries are much lower. This must be explained to carers at the outset to avoid false expectations leading to defaulting.

Source: Sphere Handbook (2004) and Valid International (2006)

Other Issues/Debates:

- Children with SAM and severe dehydration must be treated with ReSoMal (rehydration solution for malnourished) and NOT standard formula ORS. See treatment guidelines for management of dehydration in SAM⁵
- The massive problem of shortage of staff and frequent staff transfers in most developing countries shows the important need for regular on-site training and skills transfer on the management of SAM. It is recommended for integration into national nursing, nutrition and medical school training curricula
- The standards for recovery and the minimum length of stay in the inpatient and outpatient programmes may be difficult to achieve in areas where HIV is prevalent. Activities related to the management of severe malnutrition should be strongly linked to activities related to the prevention and treatment of HIV and AIDS (e.g. promotion of infant and young child feeding practices, mothers' voluntary testing and counselling, and antiretroviral therapy).
- In both facility and community-based care, there is a need to specifically address and improve the guidelines and capacity for the management of severely malnourished infants <6 months, the management of rehydration in SAM, and the management of SAM in HIV positive children.
- Other important points to consider include the continuous availability of supplies such as Complex Minerals Vitamins (CMV), therapeutic milk/RUTF or their components, and essential drugs for the treatment of complicated severe malnutrition
- Socio-cultural aspects including staff behaviour with mothers or caretakers, psychosocial support and the rejection of therapeutic foods by mothers or caretakers need to be factored into programming.
- The potential to integrate community-based care with IMCI services in the post-emergency phase should be explored.
- The emotional and physical stimulation of the child (environment, play activities and physical activities) have very important roles to play in the child's rehabilitation.

Supplies:

Human Resources

Facility-based inpatient management of SAM in a hospital or health centre requires on average, one part-time doctor, three nurses and a nutritionist. The number of health care providers will vary depending on the number of admissions. There should be a minimum of one feeding assistant for 10 inpatients. Some health workers should provide care during the night, as an important proportion of deaths happen at night. The mothers or caretakers of children should continue be involved in feeding, bathing, and giving psychosocial stimulation. They should also be shown how to recognize signs of danger in order to alert a health care provider on time in an emergency.

Community-based management of SAM requires that key resource people within the community are contacted and involved in the programme design, implementation and monitoring⁶. The outpatient service can be implemented by existing clinic/health centre staff, although additional staff will be needed if there are more than 15 children per clinic worker to be treated each day. This may take the form of mobile teams comprising a qualified health worker and 2-3 assistants that travel to multiple existing sites in a week to take measurements, and assist the nurse or set up new satellite sites to meet high demand in specific areas. An overall supervisor working for the district health management team is also required to ensure quality of the programme

Physical Resources

The inpatient facility should be equipped with minimum supplies needed for a severe malnutrition ward including medical formula diets (or locally available ingredients and Complex Mineral Vitamins to prepare them), ReSoMal for the treatment of dehydration in severe malnutrition, hygiene supplies for mothers and staff including mosquito nets, supplies for reference and record keeping, kitchen equipment, and laboratory resources should be accessible either on site or through referral⁷

Both the facility and community-based programs require basic equipment and food supplies including: RUTF (Ready-to-use Therapeutic Food), MUAC bands, medical supplies, soap, weighing scales, height boards, and basic kitchen equipment⁸. All equipment and supplies, including the RUTF, can be either kept and managed at clinics stores if there is capacity, or transported by mobile teams in a strong equipment box.

Transport may also be required for those children identified at the outpatient service who require referral to inpatient care if the inpatient facility is far away.

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- ³ WHO, Training on the management of severe malnutrition, 2002
- ⁴ Valid International Community-based Therapeutic Care (CTC): A field manual. First edition, 2006
- ⁵ WHO: Management of severe malnutrition: a manual for physicians and other senior health workers, WHO, 1999.
- ⁶ Valid International Community-based Therapeutic Care (CTC): A field manual. First edition, 2006 chapter 4.2 and chapter 5
- ⁷WHO, Course Director Guide, Training course on the Management of Severe Cases of Malnutrition, 2002 p5
- ⁸ Valid International Community-based Therapeutic Care (CTC): A field manual. First edition, 2006 Annex 16

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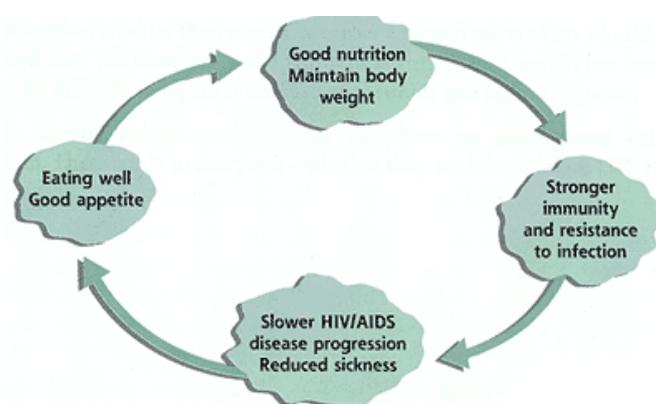
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Intervention 7: Nutrition, HIV and AIDS

What are the special nutritional needs of people living with HIV and AIDS?

The link between HIV and AIDS and nutrition is illustrated below. If a person living with HIV has access to a good diet this will help to stop weight loss and maintain the immune system. If a person living with HIV has a poor diet then weight loss will occur leading to a further lowering of the immune system and higher probability of opportunistic infections, malnutrition and death. It is recommended that those living with HIV have a minimum 10% increase in energy intake even when asymptomatic¹.

Figure 1: Relationship between good nutrition and HIV and AIDS



Source: FAO/WHO. Living well with HIV/AIDS. A manual on nutritional care and support for people living with HIV/AIDS. Rome. 2002

Why is nutrition for people living with HIV/AIDS key in emergencies?

In emergencies there is generally disruption of access to basic food needs, health services including Mother and Child Health (MCH) services and water and sanitation. Whilst this has an affect on the nutrition status of any population, the effects will be felt quicker and have a more deleterious effect among families affected by HIV and AIDS. Childhood malnutrition may prove more complicated to treat requiring additional resources and specific medications and mortality rates in emergency nutrition treatment programmes may not fall within recommended standards. Whilst the prevention and treatment of childhood malnutrition is always considered a priority in emergencies, HIV and AIDS may also increase the prevalence of acute adult malnutrition in the emergency context.

When should nutrition programs be implemented for people living with HIV and AIDS?

Wherever there is evidence of high HIV prevalence in a population, the extra impact of the emergency for those living with HIV and AIDS should be taken into consideration. There is currently no consensus on the prudence of targeting benefits to known HIV positive people in emergencies outside of normal targeting criteria but some considerations for programming are given below:

- Household food insecurity should be the main targeting principle, regardless of whether HIV status is known or not.
- Targeting people living with HIV and AIDS may be possible if there is no stigma or discrimination; if the targeting does not increase stigma; if the targeting does not unjustly exclude non-affected households.
- HIV prevention and sensitisation activities should be linked to large-scale food distribution.
- Particular attention should be given to the identification of households whose vulnerability is exacerbated by HIV and AIDS, these may include;
 - Child headed households
 - Orphan hosting households (substitute households)
 - Elderly headed households (caring for grandchildren)
 - Households caring for chronically sick members

How is nutrition programming for people living with HIV and AIDS implemented?

There are a number of key considerations that need to be addressed in emergencies in order to ensure that HIV affected populations maintain nutritional status to reduce morbidity and mortality.

Breastfeeding support and counselling (see intervention 1: IFE)

HIV positive women who are breastfeeding should be encouraged to continue breastfeeding in emergency situations in order to preserve both the physiological and psychological health of the young infant. Replacement feeding is only recommended when it is Affordable, Feasible, Acceptable, Sustainable and Safe (see IFE box 3) otherwise exclusive breastfeeding is recommended for the first 6 months. HIV-positive women should be counselled on feeding options during pregnancy, and helped to be able to implement the chosen option. Counselling and support should continue so that appropriate weaning decisions can also be made and planned for in advance. For infants 6 months and over, if there is insufficient access to appropriate weaning food and an AFASS milk alternative, breastfeeding should continue through to the second year of the child's life.²

Prevention and treatment of HIV related malnutrition

The key intervention is to enable individuals to learn their HIV status. This can be done by community sensitisation along side emergency food distributions, through MCH services and by providing easy access to HIV counselling and testing within the emergency setting. For those identified as HIV positive, preventive Cotrimoxazole can be given where access to ART is not available and links to functioning health services can be ensured for early treatment of infections to help prevent severe infections and malnutrition. Pregnant mothers should be especially targeted for counselling and testing to enrol those who test positive in prevention of mother to child (PMTCT) programmes and to advise them on appropriate infant feeding to help reduce transmission of HIV and associated malnutrition. Any child or adult with HIV who becomes malnourished should receive therapeutic or supplementary feeding just the same as those with unknown or negative HIV status (as detailed in interventions 5 and 6). At the beginning of nutritional treatment it is important to ascertain whether the child is taking ART so that this can be incorporated within the therapeutic/supplementary programmes. Medical staff should familiarize themselves with the dietary and nutrition implications of ART in order to ensure the correct

management of the patient. Consideration should be given to continuing access to ART services particularly in unstable populations and careful thought given to the planning of ART in populations that will be returning to sub-optimal health systems after re-settlement.

At present the question of adult malnutrition in emergencies is under developed and increasingly there are suggestions that BMI (Body Mass Index) should be routinely used to measure adult under nutrition. The considerable experience of community based therapeutic care (CTC) and the use of ready-to-use therapeutic foods (RUTF) in the management of child malnutrition could serve as a model for the management of severe adult malnutrition for people living with HIV in emergency settings.

Food aid ration composition

If there are feasible ways of providing modified rations to people living with HIV and AIDS the following should be taken into consideration

- An increase of 10% in energy requirements is needed to maintain body weight and physical activity in asymptomatic HIV-infected adults. This proportion can rise to 20-30% for symptomatic adults and to as high as 50-100% for children with acute weight loss and infection.³
- Protein, vitamins and minerals are particularly important for people with HIV/AIDS^{xvii}.
- Ensure micronutrient intakes at RDA levels (2)
- Milled cereal/flour/meal is preferable to un-milled cereals because of ease of preparation, consumption and digestion, and because it reduces the burden on the caretaker travelling to a mill or pounding grain.
- The choice of distribution site and its distance to households is important, particularly for child- and elderly-headed households, as carrying a large (monthly) ration can be difficult. Where feasible, smaller (2 week) rations should be considered in order to reduce the quantity to be carried.
- Refer to Box 14 in the special needs section for suggestions that may also be applicable for chronically sick beneficiaries

Treatment and Care of People Living with HIV and AIDS

In emergencies, maintaining or establishing health care systems that can provide support to people living with HIV and AIDS is essential to maintain their health and nutrition status. In emergencies, maintaining or implementing a functioning home-based care programme will help to reduce severe adult and child malnutrition. A functioning home-based care system provides a safe conduit for resources to be channelled to households with chronically sick members. This may include the provision of blended fortified foods or fortified cereals combined with a balanced food basket for optimal nutrition; or cash benefits for purchase of additional foodstuffs for a balanced diet. Access to a full and enriched diet or food ration must be an integral part of HIV and AIDS management.

Home-based care programmes should **never** focus solely on people living with HIV and AIDS but provide support for all bed-ridden chronically ill patients and home bound people living with severe disability who are affected by the emergency. Home

^{xvii} Although protein is important, the increase in energy needs should be given in the normal ratio for protein/carbohydrates/lipids to maintain a balanced diet.

based care services can be set up using volunteers and in close collaboration with the affected community.

Food hygiene, sanitation and potable water

It is recommended that precautions should be taken for all populations who are vulnerable in an emergency. However, some of the following points should be given careful consideration in the HIV context:

- The risk of cooked food contamination when communal kitchens are established
- The possibility of poor storage facilities leading to insect infestation, mould/fungus and rodents.
- Support for easy access to latrines, and water for hand washing
- Control of stagnant water (reduce malaria risk).
- Distribution of home made commodes for those too weak to squat over latrines
- Ensure sufficient water supplies in health facilities and home-based care programmes
- Ensure sufficient access and supply of safe drinking water

Protection

In areas where there are high levels of HIV prevalence protection of vulnerable populations from violence and sexual abuse is essential, as failure to explicitly face these issues will result in increased HIV infection rates. Whilst this is not directly related to malnutrition, it can be considered as prevention of malnutrition in the long run and should be considered in the planning stage of emergency nutrition programmes so that the programme design does not add to any risk of violence or sexual assault for the participating beneficiaries.

Measuring success/Benchmarks

Infant Feeding Support:

- Number of HIV positive pregnant women identified through ante natal care and HIV testing.
- Number of HIV positive mothers receiving infant feeding counselling
- Number of HIV-positive mothers who chose to breastfeed receiving breastfeeding support
- Number of infant feeding counsellors trained in options for HIV-positive women
- Assess the sustainable availability of complementary foods for infants from 6 months old (in food ration and locally available).
- Number of infants of breastfeeding and non-breastfeeding HIV positive mothers growing appropriately (monitoring indicator).
- Number of young children with sufficient access to appropriate weaning foods

Prevention and treatment of HIV related malnutrition

- Number of sensitisation sessions held
- Numbers of individuals counselled and tested for HIV
- Number of pregnant women identified with HIV
- Number of pregnant women enrolled in PMTCT programmes
- Number of children and adults enrolled in TFP/SFP with known HIV

- Mortality rates of children and adults under TF/SF treatment
- Numbers receiving ART or Cotrimoxazole prophylaxis

Food aid ration composition

- Numbers attending accessible sites
- Access to fortified rations or micronutrient supplements
- Numbers of defaulters (can be used as indicator of beneficiary satisfaction with ration type)

Treatment and Care of People Living with HIV and AIDS

- Links with sustainable home-based care services
- Links with health services

Food hygiene, sanitation and potable water

- Number of hygiene education sessions
- Number of people sharing latrines
- Extra latrines built
- Cases of diarrhoea

Other Issues/Debates:

- Consider the inclusion of > 6 month old children of HIV positive mothers in supplementary feeding programmes if sufficient complementary feeding is unavailable.
- BMI screening should be instituted for detecting adult severe malnutrition in areas of high HIV prevalence

Supplies Available for the Intervention:

Resource management

If there is high prevalence of HIV in the emergency affected area it may be necessary to increase resources for the management of severe malnutrition. It is necessary to take into consideration longer treatment periods for HIV positive children and the additional numbers from adult malnutrition.

- Increased costs in terms of therapeutic foods and additional medications.
- Additional staff time.
- Additional time for the carer to remain in the facility
- Additional space for longer duration of stay for inpatients.

Where HIV testing is encouraged and initiated, there must be sufficient tests available for the maximum uptake and sufficient systems and human resources provision for counselling and support after diagnosis.

References:

- ¹ WHO (2003) Nutritional care and support for people living with HIV/AIDS. WHO. Geneva
- ² WHO technical consultation (2007) Update on Infant Feeding and HIV based on Consultation, the UNHCR milk policy and UNHCR Guidance on infant feeding and HIV in refugee and displaced populations (October 2007;Finalised January 2008). Who. Geneva
- ³ WHO (2003) Nutritional care and support for people living with HIV/AIDS: a short counselling course. WHO. Geneva
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HIV and Infant Feeding: New evidence and programmatic experience:

http://www.who.int/child_adolescent_health/documents/9789241595971/en/index.html

HIV transmission through breastfeeding: A review of available evidence.

http://www.who.int/child_adolescent_health/documents/9241562714/en/index.html

UN Framework for priority action on HIV and Infant Feeding.

http://www.who.int/child_adolescent_health/documents/9241590777/en/index.html

Intervention 8: The Psychosocial Components of Nutrition

What are the psychosocial components of nutrition?

The psychosocial components of nutrition include the psychological, emotional, social and spiritual dimensions of a child's health and well-being. Nutrition has extremely close links with care practices and a child's nutritional status is often determined as much by feeding practices, home environment and the attention received from the primary caretaker as by the food he/she eats.

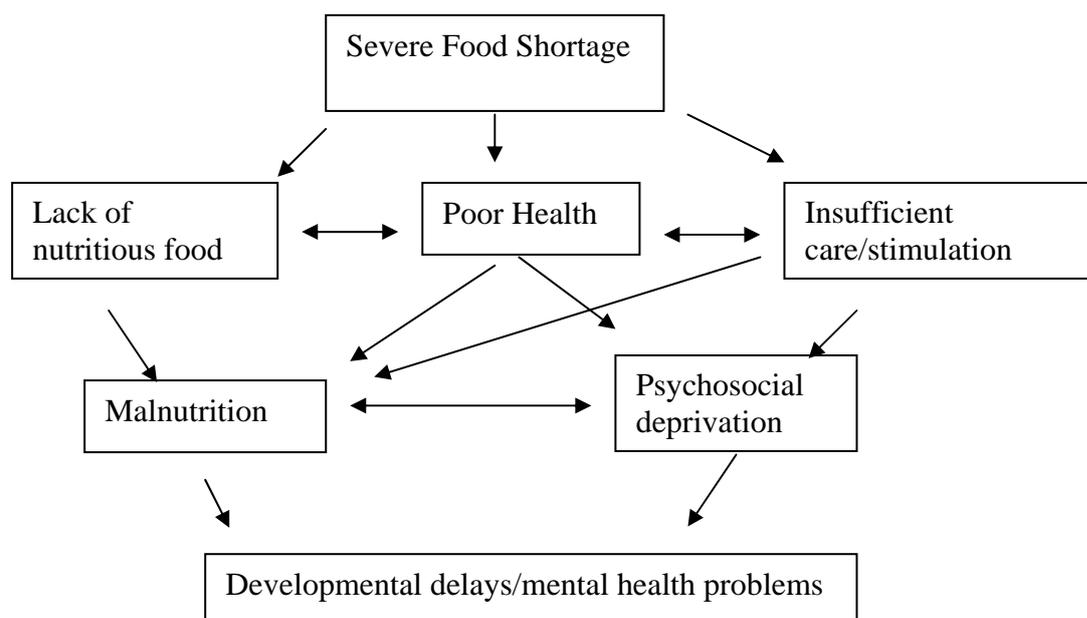
Why are psychosocial issues key in emergencies?

In emergency situations, the social destruction and physical violence suffered by the population have an impact on psychological well-being and family structure. Families may have experienced acts of violence and extreme distress, such as witnessing death, family separation, rape (which may have resulted in unwanted pregnancies), loss of possessions and shelter and disrupted food and survival systems.

This psychological trauma together with the physical impact of hunger, and the dependence on humanitarian aid for survival, produces changes in behaviour and emotions, which impact on feeding practices. These difficulties may disrupt patterns of effective parenting and mother-child interactions and can create a sense of apathy or loss of dignity affecting ability to face the new situation (such as their capacity and desire to provide food, prepare meals, or work to nourish their families). The poor nutritional, mental or physical health of caregivers in an emergency context may render them unable to provide psychosocial stimulation to their children. Similarly, the capacities to care for children or any other vulnerable groups within the population might be overwhelmed, increasing the risk of malnutrition and potentially limiting the efficiency of nutrition treatment. As a result, emergencies can provoke and aggravate cases of chronic or acute malnutrition and micronutrient deficiencies through the impact they have on psychosocial well-being.

Research has shown that stimulation and interaction are key components for promoting effective feeding for a malnourished child and feeding programmes should accordingly devote time and attention to teaching mothers how to engage with their children to ensure that the psychosocial components of nutrition are addressed alongside the feeding¹. A lack of psychosocial stimulation has adverse consequences for children's development and mental health (see figure 2).² Considering these risk factors, the approach to the treatment of malnutrition should integrate a psychosocial component in order to protect and stimulate child development.

Figure 2: Relationship of Malnutrition, Psychosocial Stimulation and Development



Source: WHO Mental Health and Psychosocial Well-Being among Children in Severe Food Shortage Situations, 2006 p2

When should psychosocial issues be addressed?

Psychosocial issues should be addressed in all emergency programmes wherever possible. Support for child stimulation and the mother-child relationship should be systematically included in all programmes for the prevention and treatment of malnutrition. When assessing the nutrition and food security situation, the existing care practices, coping strategies, stress factors, mental health and social structure of the population should be taken into consideration thinking in terms of both risks and resources. This information can be obtained through formal and informal interviews, focus group discussions, direct observations or surveys.

It should also be noted that psychosocial components (including care practices, breastfeeding, child development and mental health) are strongly linked with cultural contexts and practices and events that occur during emergencies will affect communities and individuals differently. Finally when considering when to address psychosocial issues, it must be remembered that psychological time is not directly correlated with chronological time; people may still be affected 2 years after the end of the war by a specific and traumatic event.

How are psychosocial issues implemented during nutrition programs?

Feeding programs are an excellent way to identify vulnerable groups or individuals. Care practices should be integrated into an understanding of the causes of malnutrition based on the conceptual framework of nutrition (Annex 4). During interventions, nutrition and food services should not impede or distract from existing care practices. Participation to time consuming programmes might impede on women's time and availability for their family and young children. A focus on lending support and strengthening the traditional care system in the community, even in emergency settings, can be ideal in terms of cultural appropriateness, empowerment

and sustainability. Solutions within the families can often provide the best opportunities to support care practices and survival.

Within emergency nutrition programmes, different activities to support the psychosocial aspects of nutrition may be put in place. These can include:

- Stimulating the children and helping the families to favour the child's development, including the psychological and emotional aspects.
- Supporting play-sessions for mother and child, and ensuring that a play area with toys is available to parents and staff to interact with malnourished children.
- Offering social and psychological support to the families
- Staff training in psychosocial issues to improve their knowledge, understanding, and attitude towards patients and their families.
- Offering breastfeeding corners for pregnant and breastfeeding women to provide mothers with a space to share experiences, receive advice and reinforce self-esteem.
- Collaborating and networking with local services and/or specialised organisations to assist and support especially vulnerable groups
- Facilitating discussions between the families and the staff when a severely malnourished child has to be treated in an inpatient facility to clarify who will take care of the rest of the family and the household in the absence of the mother. This emphasizes the need for processes that support mothers and family structures.

Even if some activities target the caregiver and/or the child specifically, it is essential to work closely with the whole family. Caregivers may have difficulty accessing services or nutritional activities with malnourished children if there is not sufficient support for other children at home. As the caregiver is not always the decision-maker of the household, involvement of the whole family (or at least the mother and the decision-makers), is sometimes necessary to obtain changes in care practices and feeding practices at home or to participate in nutrition programmes. All emergency nutrition programmes with psychosocial components should identify and mobilize local support mechanisms, such as family and community support³ and make use of community empowerment models.

Measuring success/Benchmarks

- Psychosocial components cover a large spectrum of elements. Most of the monitoring and evaluation of the psychosocial components are based on activity monitoring (i.e. number of play-sessions, number of individual interviews proposed, etc.) rather than impact evaluation. Monitoring and assessment should consider qualitative and quantitative data.
- It is possible to do pre- and post-intervention surveys in some very specific contexts and for some specific points, for example for Knowledge, Aptitude and Practices (KAP) surveys for assessing the impact of psychological care and breastfeeding promotion in a camp for example.
- Regarding breastfeeding and feeding practices, standards exist for assessing exclusive breastfeeding, ideal attachment and the introduction of timely and appropriate complementary feeding. .
- For child development and mental health, tests are possible but are very time-costly and not culturally standardised. For care practices, some attempts at

developing standards have been proposed but very few have been experimented.

Other Issues/Debates:

- Very few interventions in nutrition in emergencies integrate psychosocial components. This limits the knowledge and experiences and lessons-learned on care practices and psychological support components in nutrition programmes. Standardisation of best practices in this domain will be difficult due to cultural differences that necessitate an adaptation of the psychosocial approach to each specific context.
- Monitoring and evaluating the psychosocial components of programs requires looking at both the process and the outcome of nutritional results.

Supplies:

Health and nutrition education materials

Play materials and resources to set up designated play areas

Breastfeeding counsellors and trained psychologists

References:

¹ Grantham-McGregor, S.M., C.A. Powell, S.P. Walker, and J.H. Himes. 1991. "Nutritional Supplementation, Psychosocial Stimulation and Mental Development of Stunted Children: The Jamaican Study." *Lancet* 338:1-5

² WHO (2006) Mental Health and Psychosocial Well-Being among Children in Severe Food Shortage Situations. Who, Geneva. p2

³ IASC Action sheets 5.1 & 5.2 IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings, 2007

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Indicator 9: Nutritional Care for Groups with Special Needs in Emergencies

What is nutritional care for groups with special needs in emergencies?

Nutritional care for groups with special needs recognises groups such as the elderly, pregnant and lactating women, orphans and other vulnerable children, single men and disabled people with chronic disease who have special nutritional needs due to their physiological or social status. In order to meet the needs of these groups, special consideration needs to be given to particular issues such as the types of ration commodities; distribution methodologies; and key micronutrient and macronutrient composition of the food.

Why is nutritional care for groups with special needs key in emergencies?

Emergencies are often characterized by a high prevalence of acute malnutrition and micronutrient deficiency disease, which in turn lead to increased risk of death among the affected population and in particular among vulnerable groups. Different groups have different needs and these needs must be taken into consideration to undertake effective nutrition programming.

When should nutrition programs be implemented for groups with special needs?

Nutrition programmes to meet the needs for groups with special needs must be formulated at the conception of the emergency response. Special needs issues must be addressed from the initial needs assessment to ensure that the subsequent programming is effective and directly supports these groups. Gender-sensitive, age-sensitive, disability-sensitive and need-sensitive programming is a fundamental right of people being supported during an emergency and must be treated with respect and appropriate consideration throughout the emergency response.

How should nutrition programmes for groups with special needs implemented?

There is no current standard protocol for addressing the special needs of different groups, because the actual needs differ greatly depending on the type, duration, and cause of the emergency and the type of assistance being utilised. Within groups with special needs, there is no homogeneity and different individuals will have different needs that must be assessed and supported. The single most important objective in implementing nutrition programming for specific groups is to ensure that all aspects of programming are sensitive to the particular needs that *could* arise and that special care is taken to ensure that the nutritional programs are inclusive and supportive to the needs of all beneficiaries. To be implemented in a sustainable way, nutrition support for people with special needs should be integrated into other programmes such as HIV and AIDS, child and adolescent health, management of chronic disease etc. Some potential groups with special needs are highlighted below:

Vulnerability related to gender

Women, girls, boys and men face different risks in relation to deterioration in their nutritional status in emergency contexts¹. These different vulnerabilities can be related to differing nutrition requirements or to differing socio-cultural factors. Gender programming has become very sophisticated and streamlined in recognising how to ensure gender issues are addressed at the outset of assessment and programming decisions. Boxes 12 and 13 highlight the different vulnerabilities and the gender-positive actions that can be considered. Similar sensitivity and understanding should be used in addressing the needs of all groups with special needs.

Box 12: Gender and Nutritional Issues

How does Gender Affect Nutritional Status?

- In crisis situations where food is in short supply, women and girls are more likely to reduce their food intake as a coping strategy in favour of other household members.
- In some traditions, men and boys may be favoured and fed better than women and girls.
- Women, especially those who are pregnant or lactating, may be disproportionately affected by under-nutrition due to increased physiological requirements.
- While remaining the main caretakers, women may take on additional activities to support household food security especially in situations where male heads of households are absent. This often leads to disruption in infant and young child feeding practices and reduced caring capacities.
- Men who are single heads of households and boys who suffer separation may be removed from their normal support structures during emergencies. If they do not know how to cook or care for young children, this will result in greater risk for under-nutrition for those children.

Source: IASC *Gender Handbook* “Gender and Nutrition in Emergencies”, 2007

Box 13: Actions to Ensure Gender Programming in Nutrition

Actions to Ensure Gender Programming in Nutrition

- Conduct a rapid participatory assessment with women, girls, boys and men of diverse backgrounds to ensure the integration of gender perspectives in the initial nutritional status analysis to identify groups most at risk, including age/sex aggregated data on health and nutrition indicators.
- Consult with key at-risk groups (e.g. pregnant and lactating women) to identify an effective and accessible supplementary feeding programme. Set up monitoring systems to evaluate processes and impact.
- Support and promote exclusive breastfeeding and appropriate young child feeding practices addressed to both women and their partner.
- Ensure equal coverage of vaccination and vitamin A campaigns and of fortification of food aid commodities to ensure equal access to micronutrient-rich foods for girls, boys, women and men.
- Involve women, girls, boys and men in the design and control of supply distribution; in participatory assessment; in defining health and nutrition priorities; in training and capacity building; and in staffing of health and community programmes.
- Ensure that all health staff and nutrition workers are aware of gender-sensitive service delivery.
- Review national guidelines on various aspects of nutrition to ensure gender sensitivity.
- Ensure gender-balanced nutrition assessment teams, including female translators.

Source: IASC *Gender Handbook* “Gender and Nutrition in Emergencies”, 2007 (Excerpted)

Vulnerability related to age

Older people can be particularly affected by disasters. Risk factors that reduce access to food and yet increase nutrient requirements include disease and disability, psychosocial stress, cold and poverty. These factors can be exacerbated when normal support networks, either formal or informal, are disrupted. While the average planning figures for general rations take into account the energy requirements of older people, special attention should be paid to their nutritional and care needs. Specifically: older people should be able to easily access food sources (including relief food); foods should be easy to prepare and consume, and foods should meet the additional protein and micronutrient requirements of older people². Older people are often important caregivers to other household members and may need specific support to continue this function. For addressing the special needs of the elderly regarding nutrition, box 14 offers some practical steps that can be implemented during an emergency.

Box 14: Practical Steps to Approach Nutrition for the Elderly

Nutrition for the Elderly: Practical Steps

- Provide food that is digestible for older people (such as maize flour rather than whole grain maize), and that takes account of digestive disorders and a common lack of teeth.
- Food should be familiar and culturally acceptable.
- Provide support for feeding programmes to enable the inclusion of older people.
- Ensure that food for work programmes do not exclude older people
- Ensure that older people have the resources, such as fuel, water and utensils, to cook their food ration.
- Ensure utensils available to older people are manageable; smaller cooking pots or even two smaller water containers rather than one large one.
- Link older people with supporting families for joint preparation of meals
- Understand the particular risk factors and issues affecting the nutritional status of older people.
- Ensure that older people have access to food distribution.

Source: UNHCR/Help Age International *Older People in disasters and humanitarian crises: Guidelines for best practice*, 2000 p6

The other end of the age spectrum for vulnerability is of course infants and young children. Refer to intervention 1 for guidance on infant and young child feeding in emergencies.

Vulnerability related to Disability

Very little has been drafted that discusses the specific considerations of the disabled in emergencies in terms of food and nutrition. Food issues must be considered, especially in relation to access to food distributions; provision of appropriate non-food items for cooking and water gathering; the acceptability of food stuffs for people with reduced physical abilities in terms of pounding grain or chewing bulky cereals; and finally the special support needed for disabled individuals without caretakers or family support.

According to the SPHERE Handbook³, disabled people may face a range of nutritional risks, which can be further exacerbated by the environment in which they are living. Nutritional risks include difficulties in chewing and swallowing, leading to reduced food intake and choking; inappropriate position/posture when feeding;

reduced mobility affecting food access and access to sunlight (affecting vitamin D status); discrimination affecting food access; and constipation, particularly affecting individuals with cerebral palsy. Disabled individuals may be at particular risk of being separated from immediate family members (and their usual care givers) in an emergency. Efforts should be made to determine and reduce these risks by ensuring physical access to food (including relief food), developing mechanisms for feeding support (e.g. provision of spoons and straws, developing systems for home visiting or outreach) and access to multi-nutrient and energy-dense foods.

Vulnerability linked to loss of parents

Orphans and vulnerable children (OVCs) often need special consideration and support during emergencies to ensure that their basic needs are being met. Up to this point, no clear guidelines have been drafted and issues such as whether the children will be fostered and then given food aid as a member of the new family or whether the child will be considered an individual head of household and obtain food aid/support independently have not yet been put into policy. These issues are currently being studied and updates will be reflected in this toolkit as they emerge. In most cases, these children should be placed where possible with caretakers or relatives in order to assist them with food acquisition, preparation and meals. Box 15 explores some of the issues to consider in developing nutrition programs in relation to OVCs.

Box 15: Issues to Consider Regarding OVCs and Nutrition⁴

Orphans and Vulnerable Children (OVC)

- Orphans in emergencies face higher risks than orphans in non-emergency situations because they are not always able to access key services including food, shelter and protection.
- The survival of young children (age 0-3 years) is at stake when their mother's are dying or have recently died. Children of this age group are 3.9 times more likely to die during the two years surrounding their mother's death (UNICEF 2004)
- If a child is orphaned during an emergency, special provisions must be made to ensure he/she has access to services in the immediate term while arrangements are made for his/her care.
- OVCs' basic rights to food and health care need to be upheld during emergencies, especially for older children who are not fostered into another household.

Vulnerability related to pregnancy and lactation

During pregnancy and lactation, a women's nutritional needs become greater than at other times in her life. Pregnant women with a normal weight before pregnancy require an additional 285kcal/day, and lactating women require an additional 500kcal/day. Both pregnant and lactating women have increased needs for sufficient micronutrient intake; adequate intake of iron, folate, vitamin A and iodine are particularly important for the health of women and their infants⁵. As well as nutrition supplementations health interventions can be implemented to prevent related micronutrient deficiencies. In areas where malaria is endemic, malaria prophylaxis can be administered through clinics at the beginning of the second and third trimesters. Women should be encouraged to use an impregnated bed net during pregnancy and advised to seek immediate medical attention for episodes of fever. Prophylaxis should also be taken for the management of intestinal parasites; 500mg Mebendazole can be given in the second and the third trimester.

The key recommended actions to be taken to prevent malnutrition during pregnancy and lactation in emergencies are:

- Adequate food intake during pregnancy and lactation
- Adequate nutrient and micronutrient intake during pregnancy and lactation (fortified food commodities if necessary)
- Reduction of malaria infection in pregnant women in endemic areas
- Reduction of hookworm infection in pregnant women in endemic areas
- Unrestricted access to drinking water
- Nutrition counselling
- Ensure newborns are registered to support extra ration entitlement to mother
- Birth spacing of three years or longer

Measuring success/Benchmarks

- Information collection, analysis and subsequent programming takes into account the needs of all groups with special needs.
- Nutritional support programmes are designed according to the food culture and nutritional needs of all vulnerable groups.
- Access to services is routinely monitored to ensure equality to all groups with special needs.
- Women and men of all ages and status are equally and meaningfully involved in decision-making and programme design, implementation and monitoring.
- Training courses on nutrition and gender issues are held for women, girls, boys and men.
- Food distribution is safe; security and instances of abuse are monitored; special arrangements are made to safeguard the vulnerable to and from the distribution points.
- Food distribution is done by a sex-balanced team
- Inequalities of intra-household food distribution and malnutrition are analysed and issues of discrimination are addressed
- Sex and age disaggregated data on nutrition programme coverage is collected.
- Actors in the nutrition sector liaise with actors in other sectors to coordinate gender issues and on other groups with special needs.

Other Issues/Debates:

- Within the emergency context there is a need to identify groups/agencies responsible for the needs of special groups
- There remains a need for guidelines be drafted to detail the specific needs of different groups, such as the specific nutritional needs of the elderly, OVCs or people living with specific disabilities

Supplies:

- Alternative non-food items (smaller more manageable items for cooking, water collection, extra hygiene resources)
- Community human resources for identification of those in need
- Adapted food commodities

References:

¹ IASC *Gender Handbook* “Gender and Nutrition in Emergencies”, 2007

²The Sphere Project, *Humanitarian Charter and Minimum Standards in Disaster response*, 2004 Edition.

³ The Sphere Project, *Humanitarian Charter and Minimum Standards in Disaster response*, 2004 Edition.

⁴ *UNICEF/UNAIDS (2006) Children Affected by AIDS*. UNICEF. New York.

⁵ WHO, WFP & UNICEF (2006) Preventing and controlling micronutrient deficiencies in populations affected by an emergency. Multiple vitamin and mineral supplements for pregnant and lactating women and for children aged 6-59 months. Joint statement of the World Health Organisation, the World Food programme and the United Nations Children’s Fund.

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Intervention 10: The Use and Role of Food Assistance

What is food assistance in emergencies?

In emergency settings people are often unable to meet their own food needs, either due to reduced availability of food (drought, poor land quality or insect infestation), reduced access to food (forced migration, fleeing from war/persecution or movement due to natural disaster) or due to any other crisis causing severe food insecurity. Food assistance plays a role in supporting the immediate food needs of a population in order to prevent short-term hunger and malnutrition. According to the UN drafted Food and Nutrition Needs in Emergencies (2002)¹, the overall goals and operational objectives of food assistance are:

- To save lives
- To maintain or improve health/nutritional status with special attention to children, pregnant and lactating women and other groups at high risk
- To preserve productive assets
- To prevent mass migration
- To ensure access to an adequate diet for all populations groups
- To establish conditions for and promote rehabilitation and the restoration of self-reliance
- To minimize damage to food-production and marketing systems due to the emergency situation

Why is food assistance key in emergencies?

During an emergency situation, when it is often difficult for people to meet their own food needs due to disruption and disaster, it is important to reaffirm the fundamental right of everyone to have access to adequate and safe food. Malnutrition is a common by-product of an emergency and the most vulnerable groups often suffer high rates of morbidity and mortality associated with the lack of adequate food.

When is emergency food assistance required?

Food assistance is primarily intended to address food insecurity and thus prevent and alleviate malnutrition and mortality. It is required in any situation where the population, or segments of the population, are at risk of malnutrition or are already malnourished. In emergency situations, food assistance is necessary when individuals are not able to meet their own food and nutritional needs.

A rapid assessment is necessary to inform decision-makers about the type, extent and severity of the current malnutrition or food insecurity situation. Once an initial assessment is undertaken, food assistance needs to be provided as a matter of urgency.

How is food assistance implemented?

Responding to the nutritional needs of an emergency-affected population requires a commitment to a coordinated approach among all the key actors: United Nations agencies, bilateral donors, local governments, NGOs, and the community, women in particular². Planning of the food ration should be carried out with the participation of the affected community. Women in particular should be consulted during the process of determining the appropriate food and nutritional needs of the affected population³.

Food assistance can take the form of a general distribution, supplementary feeding or therapeutic feeding as shown in table 6.

Table 6: Types of Food Assistance and Objectives

Intervention⁴	Description	Objectives
General Distribution	Free distribution of a combination of food commodities to the affected population as a whole. If the population is cut off from its own food supply, or suffers abnormally high rates of malnutrition, food rations should meet nutritional needs.	<ol style="list-style-type: none"> 1. Meet the immediate food needs of populations cut off from their normal sources of food. 2. Famine prevention or livelihood protection; preventing the adoption of damaging coping strategies. 3. Livelihood recovery; supporting agricultural activities or livestock recovery.
Supplementary Feeding (see intervention 5)	The provision of food aid- additional to the general distribution- to nutritionally vulnerable groups (e.g., children under 5yrs, the malnourished, pregnant and lactating women) and to those excluded from social networks (e.g., unaccompanied minors) or unable to look after themselves (e.g., the disabled and elderly)	<ol style="list-style-type: none"> 1. Nutritional support for moderately malnourished to save lives, where exposure to disease is high. 2. Prevent severe malnutrition. 3. Prevent malnutrition in those with high requirements. 4. Prevent malnutrition in under fives.
Therapeutic Feeding (see intervention 6)	The rehabilitation of severely malnourished children by providing special foods that meet their entire nutritional requirements combined with medical treatment	<ol style="list-style-type: none"> 1. Medical and nutritional support to save lives.

After an initial assessment about the extent and severity of the current food situation, the general ration needs to be calculated and planned. An appropriate ration that is adequate for the population must be tailored to the demographic, cultural and physical needs of that group and may require adjustments of the starting figure of 2100 kcal/person/day. Issues such as the preferred staple, the acceptance of beans or fish, and the normal food practices pre-emergency need to be considered. The demographic characteristics of the population including issues of the proportion of youths, children under five, women and children and the elderly should also be considered. Different ages have different documented caloric needs that must be taken into account. Physical issues to be considered include the location of the emergency, the climate, the health and nutritional status of the population and the anticipated activity load (for example, for firewood collection, house building etc.). All of these issues should inform estimation of the caloric needs and the composition of the food basket. Box 16 shows an overview of the process necessary to plan and estimate the food and nutritional needs in emergency situations.

Box 16: Emergency Phases and Planning of Food Assistance

Emergency Phases and Planning of Food Assistance

Phase I of the Emergency (from the outset and during initial stages of the emergency, during initial rapid assessments)

- Adopt 2100 kcal/person/day as a reference figure.
- Adjust the 2,100 kcal figure based on information available immediately.
 - Temperature: if temperature is below 20C, adjust energy requirements upward by 100 kcal for every 5 below 20.
 - Health or nutritional status of the population: if either of these is extremely poor, adjust the energy requirements upwards by 100-200 kcal.
 - Demographic distribution of the population: if the demographic distribution is not typical, there may be a need to adjust the energy requirements upwards or downwards.
 - Activity levels: if the population is engaging in medium to heavy activities, there may be a need to adjust the energy requirements higher.
- Ensure that the food ration is adequate to address the protein, fat and micronutrient requirements of the population. The energy from fat should be at least 17% and the energy from protein 10-12%.
- Ensure that the food ration is adequate to address the nutritional needs of all sub-groups of the population, (including elderly, young children, pregnant and lactating women and the sick).
- Outline strategies for collecting information to make further adjustments.
- Consider food-management issues.
- Consider food-related conditions such as food habits, preferences, cooking arrangements etc.
- Establish a monitoring system to ensure adequacy of the ration

Phase II of the Emergency (situation stabilized)

- Through periodic reassessment, further revise and adjust the reference figure based on additional information on all factors affecting energy requirements specific to the situation.
- Plan for longer-term assistance or phase-down and phase-out strategies.

Source: WFP/UNHCR/UNICEF/WHO, Food and Nutrition Needs in Emergencies p3-11, 2002

Measuring success/Benchmarks

Monitoring mechanisms must be in place to assess the adequacy of the established ration according to changing circumstances and to target sub-populations at relatively higher risk on the basis of food need and/or vulnerability to food insecurity. A strategy for monitoring the adequacy of the ration requires the use of a number of different quantitative and qualitative tools (e.g. joint food assessment missions, vulnerability analysis and mapping, and household food economy assessments)⁵. Traditional nutritional surveys, while useful tools for determining nutritional status of the under-five population, do not offer a full picture about the use and adequacy of the food aid ration. This requires more holistic analysis taking into account the various underlying causes of malnutrition and the various components involved in nutritional security and food security.

Other Issues/Debates:

- Groups with special needs (see intervention 9) have specialised food needs that are not always addressed by the general ration.
- Distribution of the ration: The method of distribution of the ration is important and must be developed to closely meet the needs and constraints of the given community. Close monitoring and support of the distribution is essential to ensure that best practices are in use and that the beneficiaries receive their full ration entitlement.
- Ration sufficiency: The ration must be adjusted to meet the specific demographic, cultural and physical needs of the intended beneficiary population. If the beneficiaries have no access to additional food sources, the ration must be sufficient in both macro and micronutrients to meet their full needs.
- Children <3yrs and appropriate complementary foods: There is not currently a foodstuff available in the normal ration package that sufficiently supports the needs of children <3yrs. Fortified blended foods are used, but their composition and energy density are not ideal for young children.
- Food commodities should be easy to prepare with a minimum use of fuel. This is of particular importance for areas where environmental constraints do not allow for basic firewood foraging. All items in the general food aid basket require cooking (with the exception of oil, salt and sugar) and so it is essential that fuel sources are taken into consideration.
- NutVal: NutVal is a computer program produced by UNHCR/WFP/ICNI that can be used to calculate the nutritional value of the foods traditionally included in food aid baskets. It should be made available (see reference section) and used to help with food aid computations.

Supplies:

Food commodities

Food monitors

Safe and appropriate storage

References:

¹ WFP/UNICEF/UNHCR/WHO, Food and Nutrition Needs in Emergencies, 2002

² WFP/UNICEF/UNHCR/WHO, Food and Nutrition Needs in Emergencies, 2002 p4

³ WFP/UNICEF/UNHCR/WHO, Food and Nutrition Needs in Emergencies, 2002 p5

⁴ Source: WFP Food and Nutrition Handbook, p56

⁵ WFP/UNICEF/UNHCR/WHO, Food and Nutrition in Emergencies, p5

NutVal Excel Spread Sheet, UNHCR/WFP/ICNI 2006

E-References:

Food and Nutrition Technical Assistance (FANTA) Project and World Food Programme (WFP). Food Assistance Programming in the Context of HIV. Washington, DC: FANTA Project, Academy for Educational Development, 2007.

HIV/AIDS: A guide for nutritional care and support. 2004
<http://www.fantaproject.org/publications/HIVguide.shtml>

<http://whqlibdoc.who.int/hq/2004/a83743.pdf>

<http://www.fantaproject.org/focus/emergtable.shtml>

<http://www.fantaproject.org/downloads/pdfs/pubsList.pdf>

<http://www.UNHCR.org/nutrition>

Intervention 11 : Food Handling, Preparation and Storage

What are Food Handling, Preparation and Storage interventions?

Food handling, preparation and storage consider how food aid is packaged, delivered, prepared and stored. Standards that detail the quality of food commodities and a system of quality control for all commodities must be implemented to ensure that food distributed to beneficiaries is of good quality; safe for human consumption; and meets the required specifications¹.

Food handling also refers to whether the food is stored, prepared and consumed in a safe and appropriate manner at both household and community levels. It includes issues such as access to clean and safe water, availability of appropriate cooking supplies, and information campaigns on the use and safe storage of food.

Why are Food Handling, Preparation and Storage interventions key in emergencies?

In the emergency context, displaced or devastated communities are often dependent on the provision of food aid to meet their basic nutritional requirements. When food aid is provided, issues around food handling, preparation and storage are highlighted because the normal food systems, including cooking facilities and access to fuel and water are often disrupted and yet food must continue to be prepared and eaten. In an emergency, food-borne illnesses are common due to inadequate hygiene and poor infrastructures. The link between food safety and malnutrition is very clear with poor food handling leading to diarrhoea and other gastro-intestinal complaints.

The ease of preparation of food aid commodities is especially important during the early stages of an emergency. People are often weak and malnourished due to the emergency situation and need rapid access to appropriate food that is easy to prepare and consume despite the potential lack of fuel and cooking facilities.

When should Food Handling, Preparation and Storage interventions be undertaken?

Whenever food aid is provided, aspects of food handling, preparation and storage must be addressed.

How are Food Handling, Preparation and Storage interventions undertaken?

Adequate supplies of essential non-food items must be ensured to allow for proper preparation and consumption of items in the food aid basket. Every household should have access to at least one cooking pot, enough fuel for food preparation, water containers (for collection and storage) and soap. Other basic non-food needs are cooking stoves, family cooking sets, emergency shelter, tarpaulin material, and plastic sheeting. Storage containers or plastic bags may need to be distributed where people receive milled cereals or blended food, which, once contaminated, cannot be cleaned (unlike whole grain cereals). The type of food in the ration and the availability of essential non-food items have a significant impact on the demand for cooking fuels².

The following points are extracted from the section on Food Standards from the Sphere Handbook³:

Food quality:

Foods must conform to the food standards of the recipient government and/or the Codex Alimentarius standards with regard to quality, packaging, labelling, shelf life, etc. Samples should be systematically checked at the point of delivery by a third party who is not the supplier to ensure their quality is appropriate. Whenever possible commodities purchased (either locally or imported), should be accompanied by phytosanitary certificates or other inspection certificates that confirm their fitness for human consumption. Random sample testing should be carried out on in-country stocks to ensure their continued fitness for consumption. When large quantities are involved or there are doubts and could be disputes about quality, independent quality surveyors should inspect the consignment. Information on the age and quality of particular food consignments may be obtained from supplier certificates, quality control inspection reports, package labels, warehouse reports, etc.

Genetically modified foods:

National regulations concerning the receipt and use of genetically modified foods must be understood and respected. External food aid should take such regulations into account when any food aid programme is being planned.

Complaints:

Recipients' complaints about food quality should be followed up promptly and handled in a transparent and fair manner.

Packaging:

If possible, packaging should allow direct distribution of goods, without the need for repacking.

Storage area:

Storage areas should be dry and hygienic, adequately protected from climatic conditions and uncontaminated by chemical or other residues. They should also be secured, as far as possible, against pests such as insects and rodents. (See also food aid management standard 2 in Sphere handbook)

Food hygiene:

Changed circumstances may disrupt people's normal hygiene practices. It may therefore be necessary to promote food hygiene and actively support measures compatible with local conditions and disease patterns, e.g. stressing the importance of washing hands before handling food, avoiding contamination of water, taking pest control measures, etc. People should be informed about how to store food safely at the household level, and care-givers should be provided with information on the optimal use of household resources for child feeding and safe methods for food preparation (see hygiene promotion standard in Sphere handbook).

Sources of information

These may include programme monitoring systems, focus group discussions with recipients and rapid household surveys.

Household items and fuel:

Each household should have access to at least one cooking pot, water storage containers with a capacity of 40 litres, 250g of soap per person per month, and

adequate fuel for food preparation. If access to cooking fuel is limited, foods requiring a short cooking time should be distributed. If this is not possible, then external sources of fuel supply should be established to bridge the gap (see water supply standard 3 and non-food items standards 2-4 in Sphere handbook).

Access to grinding mills

Access to mills and other processing facilities, and access to clean water, are very important in that they enable people to prepare food in the best form of their choice and also save time for other productive activities. Care givers spending excessive amounts of time waiting for these services could otherwise be preparing food, feeding children or engaging in other tasks that have a positive effect on nutritional outcomes and/or long-term self-reliance. Household-level food processing (including grinding) can reduce the time (as well as the quantities of water and fuel) required for cooking.

Special needs:

Although not an exhaustive list, the special vulnerabilities of groups such as children, the elderly, and people living with HIV/AIDS need to be taken into consideration to ensure that these groups have access to appropriate non-food items to assist in their handling, preparation and storage of food aid items. Issues such as appropriate food stuffs, manageable container sizes, and special susceptibility to food-borne illnesses need to be addressed.

Measuring Success/Benchmarks

According to the Sphere Handbook, the following basic indicators should be assessed:

- Food commodities conform to national (recipient country) and other internationally accepted standards
- All imported packaged food has a minimum six-month shelf life on arrival in the country and is distributed before the expiry date or well within the 'best before' period
- There are no verifiable complaints about the quality of food distributed
- Food packaging is sturdy, convenient for handling, storage and distribution, and not a hazard for the environment
- Food packages are labelled in an appropriate language with, for packaged foods, the date of production, the 'best before' date and details of the nutrient content.
- Storage conditions are adequate and appropriate, stores are properly managed and routine checks on food quality are carried out in all locations
- There are no adverse health effects resulting from inappropriate food handling or preparation at any distribution site
- Recipients of food aid are informed about and understand the importance of food hygiene
- There are no complaints concerning difficulties in storing, preparing, cooking or consuming the food distributed
- Every household has access to appropriate cooking utensils, fuel and hygiene materials
- Individuals who cannot prepare food or cannot feed themselves have access to a carer who prepares appropriate food in a timely manner and administers feeding where necessary

- Where food is distributed in cooked form, staff have received training in safe storage, handling of commodities and the preparation of food and understands the potential health hazards caused by improper practices.

Other Issues/Debates:

- Need for specific guidelines on how to manage/handle food during emergencies, especially in the absence of non-food items.
- Research needs to be undertaken about the possible health risks of eating food cooked hours before, with specific attention on whether food should be reheated and if so, the timing, and fuel implications.

Supplies:

- Hygiene resources for food handling and preparation
- Appropriate storage and packaging equipment
- Secure location for safe storage environment

References:

¹ WFP (2005) *Food and Nutrition Handbook*, p67-68

² WFP (2005) *Food and Nutrition Handbook*, p67-68

³ The Sphere Project, (2004) *Humanitarian Charter and Minimum Standards in Disaster response*. Geneva.

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<http://www.unhcr.org/doclist/publ/3bdeb8064.html>

http://www.who.int/nutrition/publications/nut_emergencies/en/index.html

Intervention 12: Household Food Security (HFS) and Livelihoods

What is Household Food Security (HFS)?

Household food security (HFS) has many definitions and many conceptual models¹. According to the World Food Summit (WFS) “**food security** exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”. Household food security is the application of this concept at the family level, with individuals within households as the focus of concern.

A livelihood “comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base”². Livelihood strategies “are the range and combination of activities and choices that people make in order to achieve their livelihoods goals. On the basis of their personal goals, their resource base and their understanding of the options available, different categories of households – poor and less poor – develop and pursue different livelihood strategies. These strategies include short term considerations such as ways of earning a living, coping with shocks and managing risk, as well as longer-term aspirations for children’s future and old age. Livelihood strategies can be positive, helping households become more resilient and less vulnerable, or negative when they result in the further erosion and decrease of the asset base”³.

Why is Household Food Security and Livelihoods key in emergencies?

The underlying causes of malnutrition, including micronutrient deficiencies, often rest, inter alia, in poverty and insufficient agricultural development, leading to food insecurity at national and household levels. Actions that promote an increase in the supply, access and consumption of an adequate quantity, quality and variation of foods for all population groups are central. During crisis and recovery, it is vital to support sustainable food-based programmes and strategies to improve nutrition with the aim that all people can obtain, through a variety of different foods, a diet providing energy and all macro- and micronutrients in order to achieve a healthy and productive life.

Ensuring the food, nutrition and livelihood security of affected and vulnerable households and individuals is therefore both a key element of disease prevention and protecting and promoting good nutrition in emergencies.

When is a Household Food Security programme implemented?

Vulnerability to food insecurity is determined by the degree of exposure to risk factors and the ability to cope with or withstand stressful situations. During an emergency, households that were vulnerable and food insecure and those with malnourished individuals before a crisis are less resilient to stress being less able to cope with or withstand the shock of the emergency.

Household food security and livelihood information must be gathered alongside

nutritional information at the beginning of an emergency to ensure an appropriate and effective response. This allows programmers to determine the multi-sectoral needs of a population for maximum nutritional impact. The challenge is to respond to the immediate humanitarian needs of an emergency while, at the same time, ensuring that the livelihoods of affected populations are protected from both the present crisis and future threats. This calls for appropriate complementary and timely interventions, which need to be implemented flexibly in order to respond to the changing dynamics of a situation.

Household food security indicators that should be considered in terms of the nutrition implications during emergencies include:

- Availability of agricultural tools, seeds and other inputs at the household level.
- Availability of other household assets including livestock, household goods and cooking supplies.
- Access to land, water, seeds and tools after displacement for household gardens.
- Livelihood system before emergency and access to cash, credit or income.

In complex protracted emergencies whose causes are related to both natural disasters and conflict, population groups living in conditions of structural poverty can be exposed to various natural and/or socio-political “shocks”. Areas and households may spiral backwards and forwards between periods of acute crisis and relative stability. The impact of and ability to cope with a shock differ, depending on structural factors and the socio-economic, gender and ethnic characteristics of the population. Population sub-groups within an area may therefore have a range of different needs. Reliable and integrated food insecurity and vulnerability information systems at national and sub-national levels are necessary to provide better information for cross-sectoral analysis of the underlying causes of food insecurity, malnutrition and vulnerability.

How are HFS interventions implemented?

Identifying solutions and interventions requires a good understanding of how households and individuals attempt to meet their food and other essential needs and how people cope with and recover from stress and shock situations. The solutions must be underpinned by regional and national political and policy interventions, peace initiatives and the realization of human rights. This will allow people to return to their homes or to resettle/re-establish themselves in areas that are stable and/or protected from conflict, where supportive economic, political and social activities can start again as quickly as possible.

The planning and implementation of HFS programmes should aim to:

- Promote better inter-institutional collaboration on strategies and actions for household food security, nutrition and livelihoods, particularly in relation to emergency prevention, relief, and rehabilitation.
- Promote and support better targeted, pro-poor, participatory and coordinated community-based programmes that improve household food security, nutrition and livelihoods

- Pursue an inclusive approach to development that benefits all rural households within a community, raising levels of nutrition and standards of living whilst reducing vulnerability.
- Place the welfare of individuals and communities at the heart of social and economic development.
- Strengthen the capacity of service providers and rural households to respond to changes in policy, market conditions and the vagaries of climate through capacity building and support.
- Monitor and analyse locally-tailored implementation strategies, drawing lessons and identifying cluster-relevant best practices.

Effective HFS programming will emphasize clear linkages and areas of programming collaboration between nutrition interventions and household food security interventions in all stages of the process from the first needs assessments to the initial emergency response, to the stabilisation period. Sustained improvement in nutrition and food security requires a combination of activities in a number of different sectors including support to agriculture and community-centred food-based strategies to increase the consumption and utilisation of food and other complementary activities in other sectors that can support the achievement of the programme objectives. These should include:

- Community participation
- Agriculture and food-based interventions
- Direct nutrition and health actions
- Partnerships
- Capacity building
- Institution strengthening
- Ensure a supportive policy framework.

Measuring success/Benchmarks

Key indicators for presenting existing household food security situations and their livelihoods, as well as allowing for setting benchmarks and measuring success against them are core to formulating, implementing and monitoring food security-enhancing interventions.

The focus of programming monitoring should be placed on community and household-level indicators that cover outcomes and on impacts resulting from the achievement of food security, nutrition and livelihoods. It is important not only to document the processes, methodologies and lessons learned, but also to evaluate the effectiveness and impact of specific interventions. Although it is clear that the strategies discussed have the potential of addressing many of the problems of household food insecurity and malnutrition, information gaps still exist in relation to their effectiveness and long-term impact on the diets and nutritional status, (especially micronutrient malnutrition) of at-risk populations. To this end it is envisaged that additional partnerships be developed with academic or research institutions to analyse the effectiveness of the intervention, as well as the spill-over effects and the short-term and long-term costs that influence the sustainability and reliability of such interventions.

Other Issues/Debates:

- Responding to the particular needs of population sub-groups and formulating appropriate interventions requires careful characterization of the food insecure and vulnerable population groups.
- The interplay between human disease and rural agricultural production is now being studied, especially in terms of food insecurity and HIV/AIDS, malaria and other endemic diseases. This is central to emergency response because a population's ability to weather a *shock* is greatly influenced by food security status before the crisis began. Understanding the correlation between food and livelihood security, disease and malnutrition during an emergency can greatly inform programme and policy.
- National and international development institutions working in emergencies are being provided with the technical skills to take due account of food security, nutrition and livelihood aspects in emergency preparedness, response and rehabilitation. Mechanisms for coordinated nutrition interventions in emergency situations are being identified.

Supplies:

Agricultural inputs (seeds, tools, fertiliser)

IEC materials

Advocacy - human resources and materials

References:

¹ Maxwell and Smith Household Food Security: A Conceptual Review

² Chambers, R. & Conway, G (1992) Sustainable rural livelihoods: practical concepts for the 21st century. IDS Discussion Paper No. 296. Institute of Development Studies (IDS). Brighton, UK,

³ FAO Guidance Note – Sustainable Livelihoods and Emergencies

Further Reading:

Chambers, R. & Conway, G Sustainable rural livelihoods: practical concepts for the 21st century. IDS Discussion Paper No. 296. Brighton, UK, Institute of Development Studies (IDS). 1992

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FAO/FSAU. Various reports. Food Security Assessment Unit (FSAU) for Somalia. 2000-2006

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Protecting and promoting nutrition during crisis and recovery. FAO <http://www.fao.org/docrep/008/y5815e/y5815e00.htm>

FAO, *Guidance Note- Sustainable Livelihoods and Emergencies*

E-References:

The FANTA Project website has extensive materials on food security and livelihoods: <http://www.fantaproject.org/downloads/pdfs/pubsList.pdf>

www.ifad.org/gender/tools/hfs/hfspub

www.unsystem.org/scn/

www.fao.org/ag/agn/nutrition/households_emergencies_en.stm

Making FIVIMS Work For You: Tools and Tips
www.fivims.net/static.jsp?lang=en&page=toolsandtips

V. Concluding Remarks

This toolkit is intended to offer guidance and support to nutritionists and humanitarian workers addressing nutritional needs in emergencies. The process of creating the toolkit is ongoing, as management standards change and nutritional advancements occur. It is the sincere hope of the IASC Nutrition Cluster that this toolkit will allow quick access to key information in the emergency context, support relevant and necessary interventions to support nutritional security and alleviate malnutrition and suffering.

Annex 1: Target Groups, Immunization Contact and Vitamin A Dosage in prolonged emergencies

Target group	Immunization contact	Vitamin A dose (by mouth)
All mothers irrespective of their mode of infant feeding within 6-8 weeks of delivery (see box 5)	BCG, OPV-0 or DTP-1 contact up to six weeks	200 000 IU (Single dose)
Infants aged less than 6 months (if not breastfed)	Measles vaccine contact	50,000 IU single dose (Encourage breastfeeding)
Infants aged 9–11 months		100 000 IU
Children aged 1–4 years	Booster doses* Special campaigns* Delayed primary immunization doses*	200 000 IU

Source: WHO *Vitamin A supplementation, Immunization, vaccines and biologicals*. WHO, updated May 2003.

In non-emergency situations, a dose should not be given too soon after a previous dose of vitamin A supplement. The optimal interval between doses is four to six months. The minimum recommended interval between doses for the prevention of vitamin A deficiency is one month (the interval can be reduced in order to treat clinical vitamin A deficiency and in measles campaigns).

Annex 2: Clinical or Biochemical Signs and Severity of Selected MND

Source: Compiled from WHO/UNICEF/ICCIDD (see references in Micronutrient section)

Type of micronutrient deficiency	Indicator/Clinical Signs	Severity of Public Health Problem (Using % of population of age group at risk)		
		Mild	Moderate	Severe
Niacin (Pellagra)	Biochemical: Urinary excretion of niacin metabolites Clinical: Initial signs of redness like sunburn then dermatosis, diarrhoea and dementia	<1	1 - 4%	≥5%
Vitamin C (Scurvy)	Biochemical: Level of serum ascorbic acid, leukocyte ascorbic acid, whole blood ascorbic acid. Clinical: Swollen and bleeding gums, brittle hair, intraocular haemorrhage, slow healing wounds, diffuse petechial haemorrhage	<1	1 - 4%	≥5%
Thiamine (Beriberi)	Biochemical: Urinary thiamine excretion; erythrocyte transketolase levels; breast milk thiamine levels as a measure of both maternal and infant thiamine status Clinical: Cardiac and neurological symptoms. Oedema, anorexia, increased pulse rate, loss of feeling in feet and legs Population: Raised monthly mortality rates among infants aged 2 to 5 months.	<1%	1 - 4%	1 - 4%
Vitamin A	Biochemical: Serum retinol levels Clinical: Prevalence of night blindness, Bitot's spots, dryness, dullness or clouding of the cornea	Night blindness: 1% of population Bitot's spot: 0.5% of population Corneal ulcerations: 0.01% of population		
Iodine Deficiency disorders	Biochemical: Median urinary iodine (UI) level (µg/l); TSH thyrotropin and thyroglobulin Clinical: Total goitre rate (TGR), hypothyroidism, increase in stillbirths etc ^{xviii}	In school aged children 6-12 yrs: UI <100µg/l TGR: 5-19.9%	UI 20-49µg/l TGR: 20-29.9%	UI <20µg/l TGR: ≥30%
Iron (Iron deficiency anaemia)	Biochemical: Levels of haemoglobin and haematocrit Clinical: Paleness of conjunctivae, nail beds, gums, tongue, lips and skin; tiredness; headaches; breathlessness	5-19.9%	20.0 - 39.9%	>40%

Note: It is important to respect the type of indicator when using the above public health cut off; the public health cut-off points while using biological or clinical indicators are different

^{xviii} WHO/UNICEF/ICCIDD Assessment of iodine deficiency disorders and monitoring their elimination. 3rd edition. Geneva. 2007 (WHO/NHD/01.1) page 7

Annex 3: Recommended treatments for some important micronutrient deficiency diseases

Disease	Recommended treatment	
Anaemia	<i>Remember to also look for and treat non-nutritional causes of anaemia such as sickle cell, hookworm, schistosomiasis, and malaria.</i>	
Severe iron deficiency anaemia	Children < 2 years: 25 mg iron and 100 - 400 µg folic acid per day for 3 months Children 2-12 years: 60 mg iron and 400 µg folic acid per day for 3 months Adolescents and adults: 120 mg iron and 400 µg folic acid per day for 3 months (including pregnant women)	1
Moderate iron deficiency anaemia	See the section on prevention of anaemia	
Xerophthalmia (Vitamin A deficiency)	<ul style="list-style-type: none"> - Give 3 doses of oral vitamin A at day 1, day 2, and 2-4 in weeks later Curative doses of vitamin A 0-5 months 50,000 IU 6-11 months 100,000 IU 12 months and above (including adults) 200,000 IU - With the 1st dose, give topical antibiotic eye ointment (e.g. tetracycline 1% or chloramphenicol 1%) x3 daily for 3-5 days. - If the cornea is involved, close the eye and gently cover with an eye pad. Refer the patient to a specialist. - NB: High dose vitamin A supplementation of pregnant women risks teratogenic effects (birth defects) in their unborn child. However, if there are severe signs of active xerophthalmia it becomes essential to weigh this risk against the possible serious consequences for both mother and foetus of vitamin A deficiency. In these circumstances the high dose treatment schedule given above may be followed for pregnant women. 	1 2
Rickets (Vitamin D deficiency)	Oral administration of 5000 IU of vitamin D daily for 4-6 weeks followed by 1000IU daily for 6 months the supplements are usually given in capsules and are commonly derived from fish liver oils	1

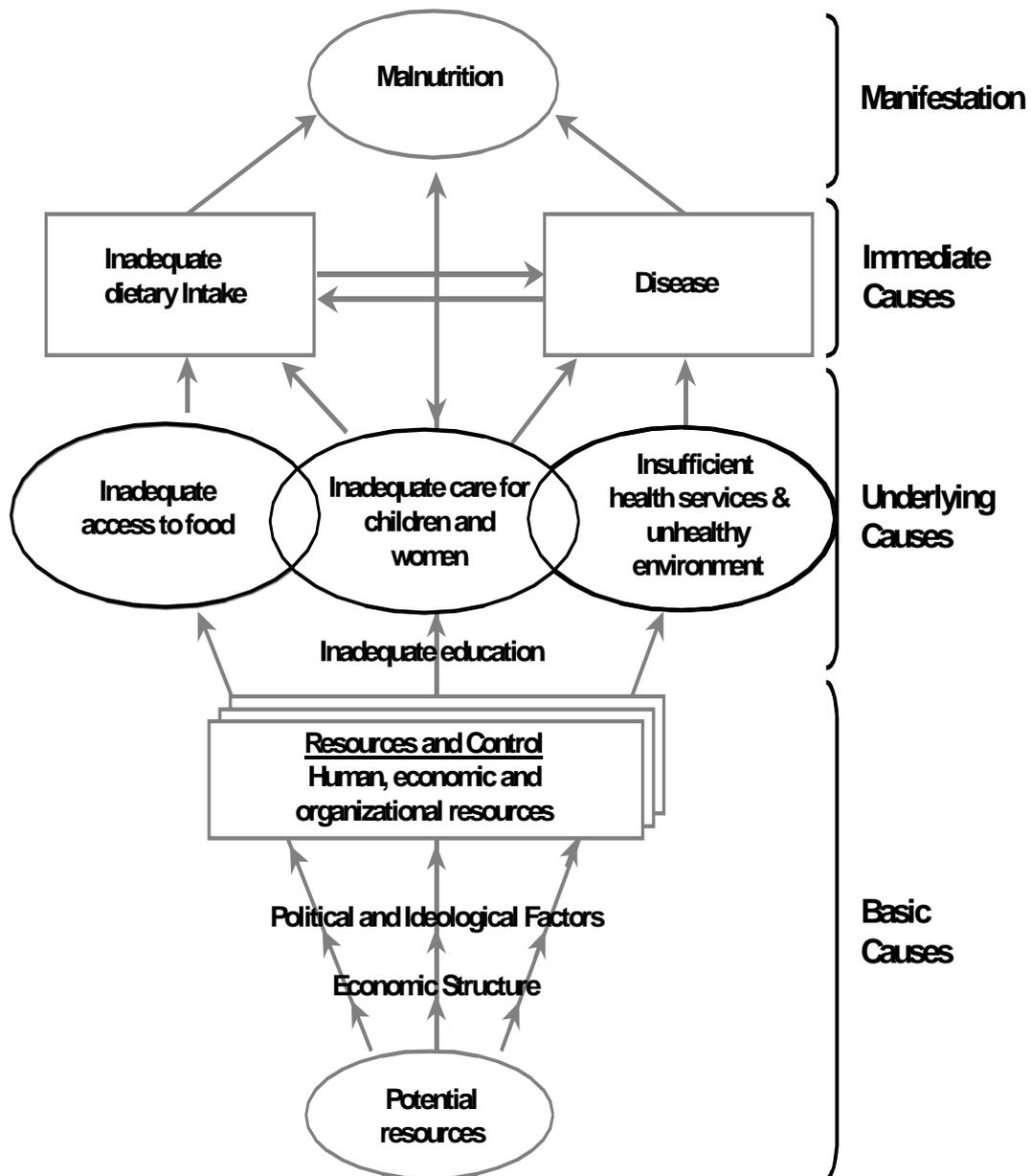
Annex 3 (contd):

Disease	Recommended treatment	Ref
Beriberi		
Adult	Critically ill adults should be given 50-100 mg thiamine very slowly intravenously followed by 3-5 mg per day orally for at least 6 weeks	1
Infantile	In the case of severe heart failure, convulsions, or comma 25-50 mg thiamine should be given very slowly intravenously, followed by a daily intra muscular dose of 10 mg per day for about 1 week. In less severe cases give 10 mg thiamine per day orally or intramuscularly for one week followed by 3-5 mg per day orally for at least 6 weeks.	1
Lactating women	Symptomatic women with mild beriberi should receive 10 mg thiamine per day orally for 1 week, followed by 3-5 mg per day orally for at least 6 weeks to prevent the development of acute beriberi in their infants.	1
Ariboflavinosis	Give 2–5 mg of riboflavin orally per day until symptoms resolve.	2
Pellagra	Give a daily dose of 300 mg nicotinamide orally for 2 – 4 weeks NB: Try to avoid using nicotinic acid as this may cause flushing of the skin, nausea, vomiting, tingling and numbness.	1
Scurvy	Give ascorbic acid divided in 3 oral doses for 2 weeks: infants 50 mg/day; children 150 mg/day; adults 500 mg/day. Followed by preventive treatment: children and adults: 50–100 mg/day. A larger dose of 1 gram per day ascorbic acid for 2 – 3 weeks is also recommended by WHO but may not be appropriate in children.	1, 2

IU - International Unit

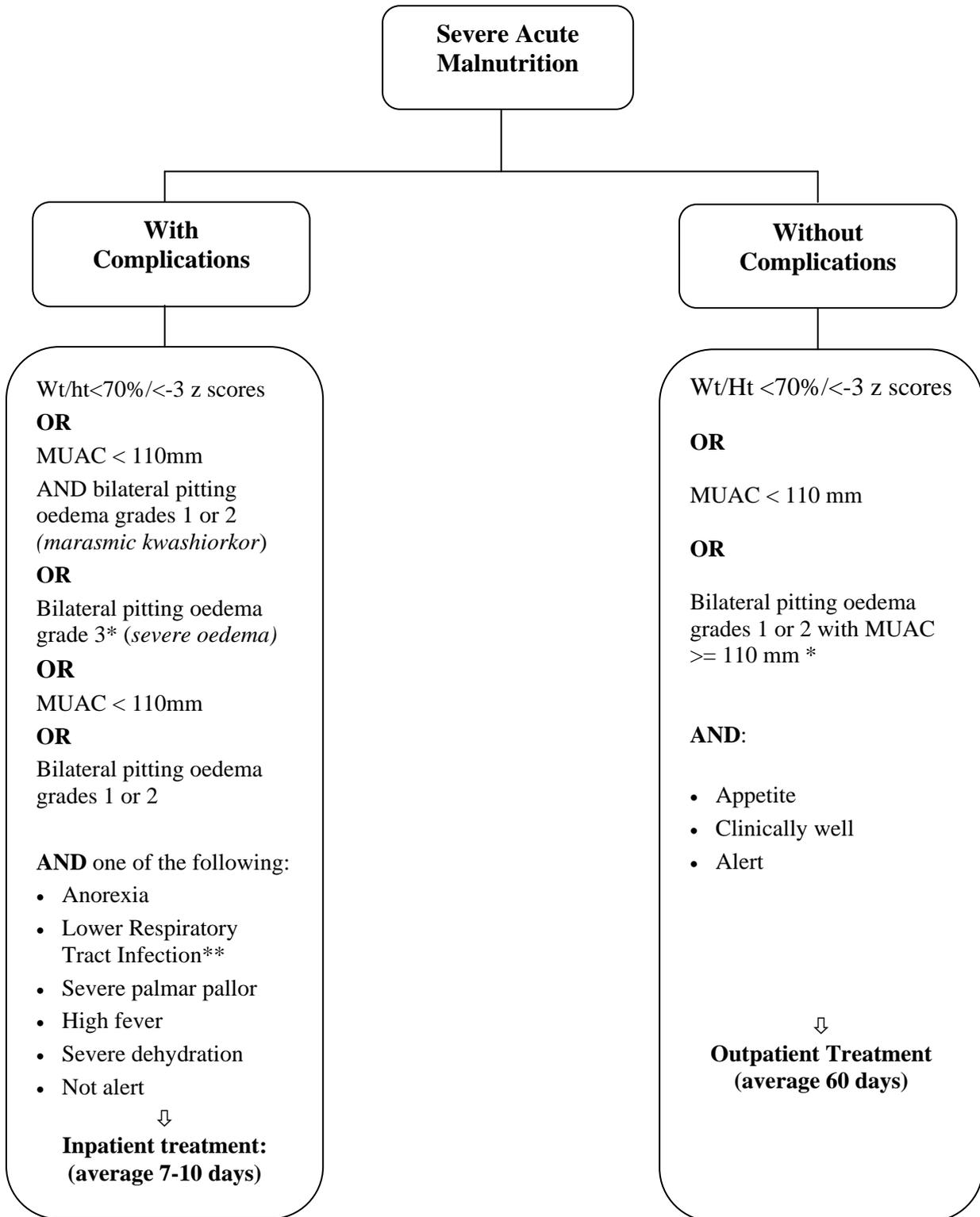
¹ Management of Nutrition in Major Emergencies, World Health Organisation, Geneva (2000)² Oxford Handbook of Tropical Medicine

Annex 4: UNICEF Conceptual Framework for Malnutrition



Source: UNICEF. Strategy for Improved Nutrition of Children and Women in Developing Countries. UNICEF Policy Review. New York, UNICEF. 1990.

Annex 5: Classification of Severe Acute Malnutrition using an Integrated Approach



Source: Adapted from Valid International Community-based Therapeutic Care (CTC): A field manual. First edition, 2006 For full treatment guidelines at inpatient and outpatient facilities refer to WHO 2002/Valid International 2006

*Oedema grades are: Grade 1 is mild oedema on both feet/ankles; grade 2 is moderate oedema on both feet, plus lower legs, hands, or lower arms and grade three is severe oedema generalized oedema including both feet, legs, hands, arms and face (children under five years of age).

Annex 6: Working group outcome 'healthy diets and lifestyles'

The promotion of healthy diets and lifestyles in emergency and humanitarian settings

Guidance note for review by consultation participants

Introduction

In order to achieve the best results in managing chronic diseases, the strategies that are applied need to recognize the essential role of the three most important lifestyle factors:

- smoking and other tobacco use;
- unhealthy diet; and
- lack of physical activity.

However, often due to a lack of information, patients suffering from chronic diseases, even in affluent societies, are not always aware of the impact of their behaviour on their own health. Poor lifestyle choices can lead to serious physical problems like high blood pressure (hypertension); high blood sugar (diabetes); and high blood fats (hyper-lipidaemia).

When a disaster strikes the nutritional status of the population becomes even more compromised if there is, in addition to a lack of variety of foods, a lack of information on healthy diets.

General recommendations on healthy diets and lifestyles

A healthy diet means a varied diet in adequate amounts, for instance three meals if possible, divided over every day. Healthy foods consist of:

- Cereals and grains such as rice, maize, bread, noodles, cassava and yams.
- Plenty of vegetables, such as dark green leafy and orange-coloured vegetables.
- Beans, peas, nuts and if possible, small amounts of meat and fish. Use oily fish as much as possible when available.
- Some dairy products, such as milk, eggs, yoghurt, sour or fermented milk, and cheese.
- Fat (preferably vegetable oil) in moderate amounts added to relishes, stews and soups adds flavour
- Fruits several times a day if possible.

A healthy diet is composed of portions of food from each of these groups. Sweets and sugary foods and drinks should be limited, as well as alcoholic beverages.

How to have a healthy diet while being dependant on food aid items?

Even in emergencies, there are settings where healthy diets are possible based on locally available foods. However, there are situations when some emergency-affected populations are fully dependant on food aid. The foods distributed during humanitarian emergencies usually consist of cereals, pulses, and oil and sometimes a fortified cereal/legume blend. Animal products, fruits and vegetables are usually missing due to logistical limitations and cost. As much as possible, affected populations should be encouraged to grow fruits and vegetables and raise livestock

(e.g. poultries) where appropriate. In addition, food aid donors should be aware of the limitations of their current practices, and aim at improving the variety of food provided.

High blood pressure (hypertension)

Some people have high blood pressure because 'it runs in the family'. Blood pressure also tends to increase with age. But lifestyle factors can also cause high blood pressure, or make it worse. These factors include:

- being overweight or obese;
- consuming too much salt; or
- drinking too much alcohol.

Patients with high blood pressure should therefore try to maintain a healthy body weight, stay physically active, eat a healthy diet, avoid adding extra salt in their food, or drink too much alcohol (2 drinks per day maximum).

High blood sugar (diabetes)

Lifestyle changes can often help to control blood sugar levels. These changes include eating a healthy diet; taking only small amounts of sugar, sweet foods or drinks, preferably as part of a healthy meal but avoiding excess; eating meals at regular intervals, not skipping any; eating whole grain foods and/or pulses when possible; drinking less alcohol (maximum 2 drinks per day); maintaining a healthy body weight; and staying active. If lifestyle changes do not reduce the blood sugar levels adequately, there will be a need to treat with medicines.

Physical activity

Undertaking moderate-intensity physical activity for at least an hour a day.

Tobacco use

Stopping tobacco use reduces the chance of heart attack or stroke from the moment you stop.

References:

1. Avoiding Heart Attacks and Strokes. Don't be a victim - Protect yourself. World Health Organization with World Heart Federation, International Stroke Society and the World Self Medication Industry, 2005, ISBN 92 4 154672 7
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