

Health Emergency and Disaster Risk Management

NUTRITION

Key Points

- Risks of undernutrition can be managed by optimising infant and child feeding, improving food security and ensuring access to health care.
- Emergency preparedness is vital for communities in both developed and developing countries to:
 - Minimize nutritional vulnerabilities for infants, e.g. by increasing breast feeding rates.
 - Improve the impact of nutritional responses: e.g. networks of trained personnel ready to act in an emergency.¹
- Nutritional interventions can be either:
 - Blanket e.g. general food distributions, micronutrient fortification of staple foods.
 - Targeted at specific high risk subgroups.
- Scale-up and scale-down of nutritional responses should be informed by assessment of specific situations.²
- Choosing and prioritizing nutritional interventions and nutritional products should be informed by evidence and follow latest best-practice.³
- In developing countries, tackling high risk severe acute malnutrition (SAM) is a priority.^{3,4}
- Appropriate infant and young child feeding saves lives. Operational guidance should be followed.¹ This includes active support for breastfeeding.
- Multisectoral emergency response is coordinated at local and national levels.



Measuring infants for height and weight, Malawi (Marko Kerac)

Why is this important?

Worldwide, almost one billion people are undernourished.⁵

Of 667 million children aged <5 years in developing countries, 50 million are severely wasted; 112 million are underweight; 156 million are stunted.⁶

Maternal and child undernutrition underlies:

- 3.5 million deaths per year.⁶
- 45% of deaths in children aged under 5 years.⁷

Many countries have a “double burden” of over and under-nutrition.⁷ Two billion out of five billion adults are overweight.⁸

Early malnutrition has adverse life-course implications including later predisposition to overweight, obesity and chronic disease.³

At least 12 of the 17 Sustainable Development Goals contain indicators that are highly relevant for nutrition, reflecting nutrition's central role in sustainable development.⁹

Disasters exacerbate malnutrition:⁴

- Globally, 108 million people in 2016 were reported to be facing crisis level food insecurity or worse, and civil conflict is a primary driver in many countries.¹⁰
- Drought is the commonest cause of food shortage in the world. Climate change exacerbates existing adversities. Infants who are not breastfed and reliant on breastmilk substitutes are at risk of morbidity and mortality if supplies are interrupted or clean water unavailable.

What are the health risks?

- Acute malnutrition (low weight-for-height, and/or low MUAC, and/or bilateral pitting edema) increases the risk of infectious diseases like diarrhoea, measles, malaria and pneumonia, and children are at increased risk of dying if not treated appropriately.
- Stunting (low height-for-age) indicates chronic undernutrition and can be exacerbated in a disaster. It is a risk factor for poor health, impaired learning capacity, and reduced adult productivity.

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- Micronutrient malnutrition can cause:
 - Specific problems e.g. iron deficiency anaemia can lead to reduced work capacity and adverse pregnancy outcomes; Vitamin A: night blindness; iodine: reduced cognitive function
 - Non-specific problems e.g. increased mortality with Vitamin A deficiency and increased morbidity with zinc deficiency
- Emergencies can also aggravate diet-related noncommunicable disease, such as heart disease, high blood pressure (hypertension), diabetes and cancer. Healthy foods may not be regularly available and appropriate medical care may not be accessible, leading to the interruption or cessation of treatments for these diseases and an increase in illness and even death.

Vulnerable populations

In a disaster, everybody can be at risk of malnutrition, but some groups are particularly vulnerable:²

- Infants: Suboptimal breastfeeding is estimated to be responsible for 1.4 million child deaths and 44 million DALYs.⁴
- Young children: rapid growth and development requires an adequate diet to achieve full physical and mental potential.
- Pregnant and lactating women: Nutritional conditions in adolescence, at the time of conception and during pregnancy are important for maternal and child health. e.g. maternal folate supplements decrease the risk of infant neural tube defects.¹
- Older people or those with HIV, TB or other underlying chronic conditions.

Risk management considerations

In both developing and developed countries, optimizing infant and young child feeding is a priority action.^{1,3}

- Infants should be exclusively breastfed for the first six months of life. They should continue on breastmilk until at least age two.
- Breastfeeding myths often need to be addressed: e.g. severe, maternal malnutrition or maternal stress have little effect on breastmilk volume or composition.
- Food security interventions and ensuring access to appropriate healthcare play an important role minimizing risk of undernutrition.

Ensuring good food quality and food safety is as important as ensuring adequate food quantity.

Community-based Management of Acute Malnutrition is effective in tackling SAM. Emphasis is on high

programme coverage using appropriate clinical practices including therapeutic milks for inpatient care and ready-to-use therapeutic foods for outpatient care.³

To avoid exacerbation of stunting, early interventions are best: during gestation and the first two years of life (1000 day window).

Management of micronutrient deficiencies can involve fortification of general rations or supplementation.

Example: Food insecurity, droughts and conflicts in Africa and Yemen (2017)

Global hunger levels are at their highest for decades, with four countries – Nigeria, South Sudan, Yemen and Somalia – facing the risk of famine and 70 million people in need of food aid, according to the Famine Early Warning Systems Network.¹¹ Failed rains across parts of the Horn of Africa, following one of the strongest El Niño events on record, has led to a drought affecting Somalia, south-eastern Ethiopia and northern and eastern Kenya.

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