BRIEFING NOTE

WHO guideline on the **prevention and management of wasting and nutritional oedema (acute malnutrition) in infants and children under 5 years**

Management Section

JUNE 2023

World Health Organization

Introduction

The *Global Action Plan on Child Wasting* called upon the World Health Organization to develop and update normative guidance (guidelines, operational guidance, etc.) to support governments in the prevention and management of wasting and/or nutritional oedema (acute malnutrition) in all contexts.

WHO has now completed the management section of this guideline. As the lead agency at a global, regional and national level to update normative guidance, WHO will work with other UN agencies and key stakeholders on the development of operational guidance to aid implementation of these global recommendations, as well as supporting the review and update of national guidelines. Additional work will also be carried out to prioritise future research and policy efforts on wasting and/or nutritional oedema under the Decade of Action on Nutrition (2016-2025).

Purpose of this Briefing Note

This briefing note will cover the main takeaway messages from the management section of the 2023 WHO guideline on prevention and management of wasting and nutritional oedema (acute malnutrition).

Target Audience

National programme managers and organisations responsible for the design of policies or services for the prevention and management of wasting and/or nutritional oedema.

SUMMARY

Main messages from the management section of the guideline

- Nutritional status must not be seen in isolation. Assessment of an infant's or child's health and developmental status (including triage and emergency care) is key for any decision-making for nutritional care and decisions on where this should be delivered.
- Mothers and their infants less than six months at-risk of poor growth and development must be identified early and cared for as an inter-dependent unit. Effective and culturally appropriate care—especially for breastfeeding support—is vital for their current health as well as one of the most important preventative actions to reduce the prevalence of wasting and/or nutritional oedema in later infancy and childhood.
- Not all children with moderate wasting need a specially formulated food to supplement their diet. All children with moderate wasting need a health assessment to rule out medical problems that could be the cause or main driver of the moderate wasting. They also need access to a nutrient-dense home diet to meet their energetic and nutrient needs.
- Some children with moderate wasting are at greater risk of mortality and non-recovery than others. These risk factors are related to whether they live in a high-risk context (such as humanitarian crises) as well as specific individual or social factors. These factors can be used to consider which children should be prioritized over others to receive specially formulated foods (SFFs) which can be ready-to-use therapeutic food (RUTF), ready-to-use supplementary food (RUSF) or an improved fortified blended food to supplement their home diet.
- Children with severe wasting and/or nutritional oedema should receive nutritional treatment with an RUTF that meets the Codex specification. The amount given can be either constant until anthropometric recovery or reduced if it is safe and appropriate to do so.
- Community Health Workers can manage children 6-59 months of age with wasting and/or nutritional oedema in the community as long as they are adequately trained and receive ongoing supervision and support. This includes nutritional supplementation or treatment and medical care as appropriate to the context.

Guiding principles for the development of the WHO guideline on the prevention and management of wasting and nutritional oedema (acute malnutrition)

There was agreement amongst the guideline development group (GDG) during the scoping meetings and GDG meetings to make judgements and decisions based on the evidence that the following guiding principles should be the foundation of all the recommendations and good practice statements within this guideline:

Child health approach—Putting the child's health, growth, and development at the forefront. It is vital to consider that children are part of a family and household and that the impacts on their family must also be taken into consideration. This guideline advocates for services to meet the child's need wherever they present in the health system with appropriate, cohesive, and timely care given throughout the care pathway, to prevent children being siloed in programmes.

Caring for the mother/caregiver-infant pair—Mothers/caregivers and infants, especially those less than 6 months of age, are interdependent. Evidence-informed care that meets the needs of both the mothers/caregivers and their infants is vital and recognizes that the health and wellbeing of one is intimately linked to the other's. We must see their value as individuals and collectively.

Multisectoral action with the health system at the centre—Health systems take many different forms in different countries and contexts. These can range from health posts to primary health centres to hospitals—the set-up, choice of location, human resources capacity, and differing functions can all vary significantly. The health system needs to be central to where children and their families access services for the prevention and management of wasting and/or nutritional oedema.

The importance of effective referral and utilizing community platforms is also key to the success of this health system-focused approach. However, as reflected in the Global Action Plan on Child Wasting, the prevention and management of wasting and/or nutritional oedema must involve other systems besides the health system, such as the food, water and sanitation, and social protection systems for true and sustainable impact.

The lens of the health system at the centre also relates to a key goal of WHO, that of universal health coverage. Universal health coverage means that all individuals and communities receive the health services they need without suffering financial hardship. It includes the full spectrum of essential health services, from health promotion to prevention, treatment, ongoing recovery and palliative care across the life course.

Nutritious home foods as a priority—Emphasizing the importance of access to diverse, locally available and nutrient-dense foods that constitute a healthy diet as integral to the prevention of wasting and nutritional oedema, management of moderate wasting, and recovery from severe wasting and/or nutritional oedema. Access to these nutrient-dense foods at home needs to be strengthened in many contexts and safeguarded in others to ensure health along with environmental sustainability. Where it is not possible to access nutrient dense foods at home, specially formulated foods may be needed for infants and children with moderate wasting but must be used appropriately and not seen as a long-term solution.

Gender equity—Globally, malnourished children predominantly have women as their primary caregivers. Alongside the mother/caregiver-infant pair approach for infants less than 6 months of age and including older children and other female caregivers, the promotion of gender equality is therefore central to prevention and management of wasting and/or nutritional oedema as laid out in this guideline. This means recognizing and taking into account power structures, gender norms, gender violence, access to and ownership of resources, and experiences with health and nutrition services.

Local adaptation is key—The implementation of the recommendations in this guideline should be informed by the local context, including the prevalence and incidence of wasting and/or nutritional oedema as well as other childhood illnesses, the values and preferences of families and health workers, equity, acceptability, and feasibility of interventions, availability of resources, the organization and capacity of the health system and anticipated cost-effectiveness. Special consideration should be given to how to implement these recommendations in humanitarian crises and the importance of reviewing any adaptations made as crises evolve and/or stabilize.

What is new?

Scope of the Guideline

The 2023 Guideline has a broader scope than the previous 2013 WHO Guideline: Updates on the management of severe acute malnutrition in infants and children.[1] This is summarised in Figure 1 below.

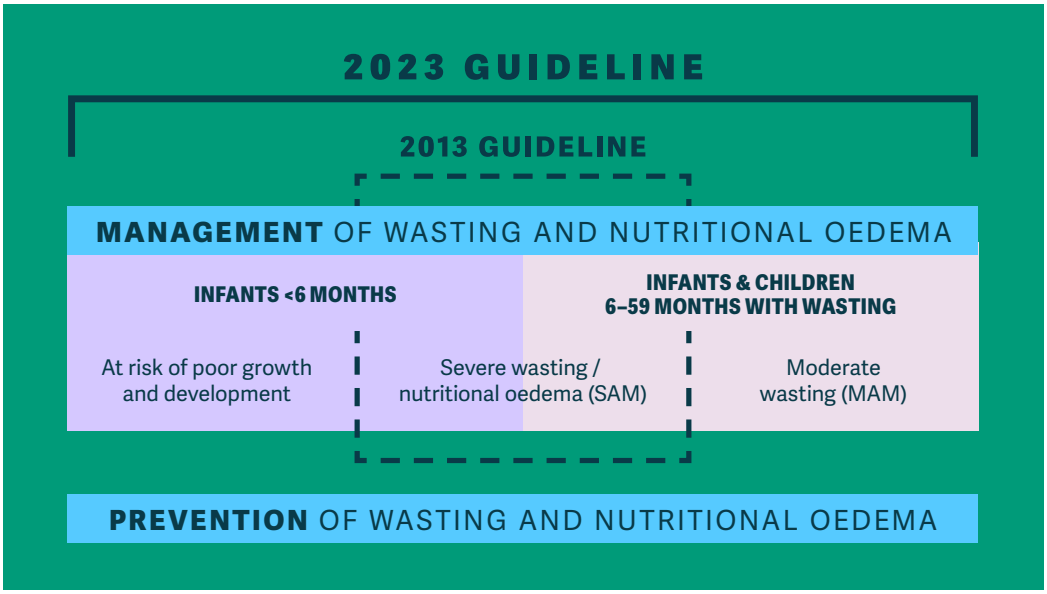

Figure 1

The 2023 guideline is divided into **four main sections**:

a. Management of infants less than 6 months of age at risk of poor growth and development
b. Management of infants and children 6-59 months with wasting and/or nutritional oedema
c. Post-exit interventions after recovery from wasting and/or nutritional oedema
d. Prevention of wasting and/or nutritional oedema

- The first three sections on **management (A, B, C)** will be released in June 2023 on *MAGICapp*, an online publication platform and the main messages from these sections is summarized below.
- The final section on **prevention (D)** will be released in quarter three of 2023 along with a full PDF document of all the sections.

1 *https://www.who.int/publications/i/item/9789241506328*

A. Infants less than 6 months of age at-risk of poor growth and development

- The guideline covers infants less than 6 months who are not growing well, **before they meet criteria for wasting and/or nutritional oedema**. These infants will now be referred to as 'infants at-risk of poor growth and development'. Figure 2 below summarises the categories of criteria that will be used to identify these infants.
- The **mother and infant** should be cared for as an **interdependent unit**.
- Problems must be **identified early** and then **appropriate care or referral** ensured for both the infant and the mother/caregiver—this has two functions of providing immediate needed care AND **preventing** later wasting and/or nutritional oedema.
- **Follow-up (with possible reduced frequency of visits) should continue until 6 months of age** followed by **referral** to appropriate services (versus previous guidance to 'exit' care according to certain anthropometric and clinical criteria).
- **Comprehensive assessments of breastfeeding** are important and subsequent support is key for the health and wellbeing of these infants and their mothers/caregivers. **Supplemental milks** may be needed and must be prescribed correctly and cautiously.

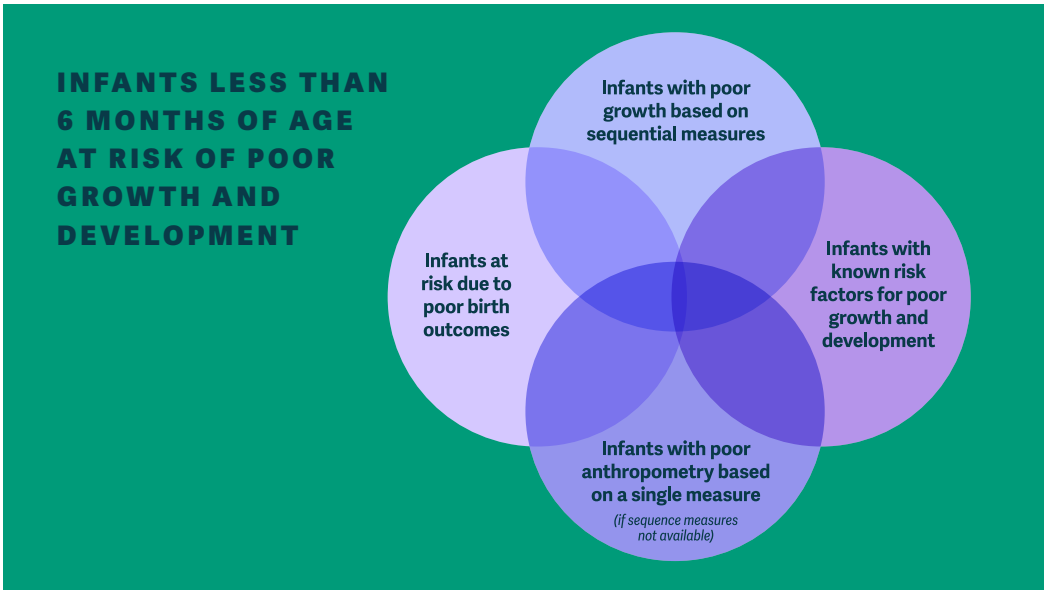

Figure 2

B. Infants and children 6-59 months with wasting and/or nutritional oedema

Moderate wasting

TOPIC	MAIN TAKEAWAY MESSAGES
Overarching approach	• Not all children with moderate wasting need specially formulated foods (SFFs) to supplement their home diet, but they all need access to a **nutrient-dense home diet to recover** and grow healthily as well as **medical and psychosocial assessment and appropriate care**. • If children with moderate wasting are given SFFs it must be acknowledged that this will only meet a proportion of their total daily nutrient needs and that their families must be able to **access home foods to meet their remaining needs**.
WHICH children to prioritize for SFFs— **Individual and Social factors**	• Some children with moderate wasting are more at risk of mortality and not recovering (from moderate wasting) than others. • Clear **individual** and **social risk factors** are recommended to help determine which children with moderate wasting are most appropriate to be **prioritized for SFFs** to supplement their home diet: Individual child factors: • Mid-upper arm circumference (MUAC) 115-119mm • Weight-for-age z-score (WAZ) <-3 SD • Age <24 months • Failing to recover from moderate wasting after receiving other interventions (e.g. counseling alone) • Having relapsed to moderate wasting • History of severe wasting • Co-morbidity (serious or chronic), such as HIV, TB, or a physical or mental disability Social factors: • Severe personal circumstances, such as mother died or poor maternal health and well-being. These factors can be used in all contexts, including humanitarian crises if further prioritization is needed (in addition to the context they live in).

WHICH children to prioritize for SFFs—Contextual factors	• Where there is the combination of a **recent or ongoing humanitarian crisis** and a **high-risk context**, **ALL** children 6-59 months of age with moderate wasting should be considered for a SFF along with counseling and the provision of home foods for them and their whole family. • **High-risk contexts are defined as:** – High rates of food insecurity; and/or – Poor water quality and sanitation (or poor WASH indicators); and/or – Low-income status / low socioeconomic status; and/or – High incidence/prevalence of wasting and/or nutritional oedema, which could be seasonal
What TYPE of SFF to give	• If a SFF needs to be given, a hierarchy of which SFFs is recommended: 1. Lipid-based nutrient supplements (LNS) are the preferred type. 2. When LNS are not available, Fortified Blended Foods (FBF) with added sugar, oil, and/or milk (improved FBFs). 3. FBF with no added sugar, oil, and/or milk. • This hierarchy may be adapted for different contexts taking into account feasibility, acceptability and equity considerations. • LNS refers to formulations that adhere to the technical specifications for RUSF or RUTF.
What QUANTITY of SFFs to give	• All children 6-59m with moderate wasting need **approximately 100-130 kcal/kg/day to recover** from moderate wasting (non-malnourished children of the same age have total daily energy needs of ≈ 80kcal/kg/d). • If a SFF needs to be given, they should provide **40-60% of the total daily energy requirements** to achieve anthropometric recovery. • The **decision on what proportion** of the total daily energy requirements which should be supplied through supplementary foods (i.e 40%, 50% or 60%) needs to be made at country, sub-country or program manager level depending on the **context** and may well change over **time** i.e. related to the season, occurrence of humanitarian crisis etc.
Rehydration fluids	• **ORS** should be used for children with MAM as per protocols for non-malnourished children.
Management by CHWs	• Children with moderate wasting can be managed by community health workers (CHWs) in the community with the condition that **adequate training and ongoing supervision** can be ensured. • This recommendation will need to be adapted to context and especially in terms of what medical treatment CHWs are allowed to deliver according to national protocols for Integrated Community Case Management (iCCM) etc.

Severe wasting and/or nutritional oedema

TOPIC	MAIN TAKEAWAY MESSAGES
Admission/ Enrollment, Transfer and Exit from nutritional care	• Clear **admission** into inpatient and **enrollment** into outpatient care laid out as well as the addition of an extra step in the care pathway of an **'in-depth assessment'**. Inpatient admission poses large risks and costs to patients and families so this extra step can be used to assess if children may be safely managed as outpatients. • **Exit** criteria clarifies that WHZ and MUAC should both be normalized (≥ -2 SD and ≥125mm, respectively) before a child exits treatment. The GDG acknowledged that children who are clinically well with one measurement normalized and not the other (despite comprehensive treatment) **can** be considered to be safe to exit care after full clinical evaluation and a follow up visit planned.
Hydrolyzed milks—inpatient care	• There is insufficient evidence to recommend switching to hydrolyzed formulas for children with severe wasting and/or nutritional oedema experiencing signs and symptoms of intolerance of F-75 or F-100.
Quantity of RUTF—outpatient care	Infants and children 6-59 months of age with severe wasting and/or nutritional oedema who are enrolled in **outpatient care** should be given ready-to-use therapeutic food (RUTF) at a quantity that will provide: • 150-185 kcal/kg/day until anthropometric recovery (WHZ ≥ -2 SD and MUAC ≥125mm) and resolution of nutritional oedema (previous recommendation was to give 150-220 kcal/kg/day); OR • 150-185 kcal/kg/day until the child is no longer severely wasted and does not have nutritional oedema, then the quantity can be reduced to provide 100-130 kcal/kg/day, until anthropometric recovery and resolution of nutritional oedema. The decision as to whether to reduce the quantity of RUTF, must be made by program managers taking into account: • **Capacity of the health workers** who deliver the nutritional treatment to safely and efficiently follow a reducing-quantity protocol and • **Food security context**, for example, if there is widespread food insecurity then reducing the quantity may not be appropriate, especially in areas with a known higher risk of sharing RUTF with other family members which could be even more prevalent with less food at home for the rest of the family.

Identifying dehydration and rehydration fluids	• Existing tools should be used for identification of dehydration and provision of rehydration fluids. Being able to do this assessment needs specific training and ongoing supervision. • **ReSoMal** is still the preferred fluid, but **ORS is now recommended if ReSoMal is not available.** ORS can be given **at home** (unlike ReSoMal) so it can also be given to children with SAM and diarrhea to prevent dehydration (those with some or severe dehydration should be admitted into inpatient care).
Management by CHWs	• Children with severe wasting and/or nutritional oedema can be managed by community health workers (CHWs) in the community with the condition that **adequate training and ongoing supervision** can be ensured. • This recommendation will need to be adapted to context and especially in terms of what medical treatment CHWs are allowed to deliver according to national protocols for iCCM etc.

C. Post-exit interventions after recovery from wasting and/or nutritional oedema

TOPIC	MAIN TAKEAWAY MESSAGES
Overarching approach	After nutritional treatment, children should be followed-up with post-exit interventions including: Counseling and education (on infant and young child feeding practices, recognition of common childhood illnesses and appropriate health-seeking behaviors); support to provide responsive care; and safe water, sanitation and hygiene interventions.
Psychosocial stimulation	Psychosocial stimulation should continue to be provided by mothers/caregivers after transfer from inpatient treatment and exit from outpatient treatment, with psychosocial stimulation interventions as part of routine care to improve child development and anthropometric outcomes.
Cash Transfers	In infants and children with severe wasting and/or nutritional oedema, cash transfers in addition to routine care may be provided to decrease relapse and improve overall child health during outpatient care and after exit from treatment depending on contextual factors such as cost.

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