GLOBAL NUTRITION CLUSTER
Technical Alliance

Management of wasting during a shortage or absence of specialised nutritious food products

Category: Products and Supply Chain Challenges
Challenge: How to temporarily manage programmes for the treatment of child wasting when ready-to-use therapeutic and supplementary food (RUTF/ RUSF) products are in short supply or absent
Applicability: This Note applies predominantly to situations where specialised nutritious foods (SNF) have been used. It does not replace guidance already existing in national guidelines for the treatment of wasting or where the use of SNF is not indicated, accepted or established. There may be emergency situations where governments may want to consider SNFs where they have not previously been used. *The suggestions included in this Note are not intended to be prescriptive and are only to be adopted if relevant to context and after consultation with Government/ Nutrition Cluster and/ or UN agencies*

Background

Nutritional food products used for the treatment of child wasting[1] have become highly specialised, designed for specific situations. The treatment of severe wasting, in particular, indicates the use of specialised energy-dense, nutrient-rich formulations that should meet WHO specifications[2,3,4]. Products that do not meet these requirements may place the child at increased risk of adverse outcomes, including death, depending on the product used[2]. Regarding moderate wasting, a WHO technical note presents principles on the dietary management and proposes a nutrient composition profile for supplementary foods,[5] typically recommended in settings where available foods will not meet the nutritional requirements[6].

A shortage or absence of specialised nutritious food (SNF) products in contexts where their use is indicated (and is standard practice) threatens the continuation of the programmes with consequent negative outcomes for the children enrolled. Logistical challenges including interruption of supply due to local, regional or global events causing border closures or movement restrictions as well as reduced production capacity, poor stock management or food safety and quality issues may all contribute to these situations.

This information note (hereafter referred to as 'Note') has been prepared to outline actions that can be taken in preparedness to avoid or mitigate situations of shortage as well as to manage the absence of nutritional products when mitigation measures are unsuccessful.

It is emphasised that the measures identified in this Note to mitigate shortages or manage an absence of nutritional products are **exceptional temporary measures of last resort that are to be adopted if relevant to context and must be undertaken only after consultation and coordination with Government/ Nutrition Cluster and/or UN agencies**. The Government with the nutrition stakeholders must agree on **1)** the circumstances that allow for activation of temporary measures **2)** the maximum timeframe during which any of these alternative measures are to be applied and **3)** how the return to the national protocol will be ensured.

Applicability: This Note applies predominantly to situations where SNF have been used. It does not replace guidance already existing in national guidelines for the treatment of wasting or where the use of SNF is not indicated, accepted or established. There may be emergency situations where governments may want to consider SNFs where they have not previously been used. The suggestions included in this Note are not intended to be prescriptive and are only to be adopted if relevant to context and after consultation with Government/ Nutrition Cluster and/ or UN agencies.

Process to compile this note

This note was produced by the Wasting Global Thematic Working Group (GTWG) as an update to the guidance on **Wasting and COVID 19 Programme Adaptations Information Note 1 – Protocols in the absence of products – What to do when RUTF and RUSF are unavailable?** that was issued by the same Group in August 2020.

Overview

The goal of any adaptation is to minimise programme disruption and optimise (as much as possible) individual children's nutritional status during the period of disruption. The success of mitigation measures and reintroduction of standard programming as per the national protocol should be underpinned with adequate preparedness and strong stakeholder engagement that informs frontline health and nutrition workers and the community of the adaptations, expected period of implementation, and of any additional measures that may be needed during programme disruption.

The sections below include suggested measures on: preparedness, mitigation of SNF shortages and management of the absence of nutritional products.

Preparedness

In consultation and coordination with Government/ Nutrition Cluster and/or UN agencies and other relevant partners the following measures should be undertaken to strengthen planning, coordination and supply chain **to minimize risk of SNF supply breaks and ensure preparedness in case of shortfall**. These are examples of good practice in any programming context:

- Strengthen supply chain
  - Prepare mitigation and management plans to make provision for timely and adequate SNF supplies (i.e. estimate wasting caseload over a given period, establish need, conduct supply forecasting, among others). Stakeholder roles and responsibilities and timeframe will be dependent on factors such as context, capacity, programme duration, funding availability
  - Establish and/ or strengthen local, national, regional and global coordination mechanisms for SNF supply chains (e.g. maintain an up-to-date database of SNF suppliers, among others)
  - Strengthen end-to-end SNF supply chain (e.g. demand/ supply planning, ordering, procurement, import agreements, expedited customs clearance, delivery, storage, stock-level management processes, monitoring mechanisms to minimise damage, loss, misuse or theft)
  - Explore options for local production of SNF (that can still keep to CODEX and WHO specifications, where available, for the specific product)
- Pre-position SNF supplies (e.g. at regional level) and maintenance of buffer stock (e.g. 2 months' supply available at field level; more than 2 months' supply at district, regional, national levels to be adjusted according to context. Points to consider include: time needed for import and transport; access constraints; security; storage conditions; product expiry date; funding availability, among others)
- Development of a community engagement plan for SNF shortages and coping strategies, to include:
  - Channels of communication for rapid dissemination of information
  - Sensitization messages
  - Increased screening activities

[1] The term 'wasting' within this document incorporates severe acute malnutrition (SAM) and moderate acute malnutrition (MAM)
[2] WHO guideline on the dairy protein content in ready-to-use therapeutic foods for treatment of uncomplicated severe acute malnutrition. Geneva: World Health Organization; 2021. Licence: CC BY-NC-SA 3.0 IGO.
[3] WHO Community-based management of severe acute malnutrition. A Joint Statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund; 2007 (https://apps.who.int/iris/handle/10665/44295
[4] WHO. Guideline: Updates on the management of severe acute malnutrition in infants and children. Geneva: World Health Organization; 2013.
[5] WHO Technical note: supplementary foods for the management of moderate acute malnutrition in infants and children 6–59 months of age. Geneva, World Health Organization, 2012
[6] WHO Essential nutrition actions: mainstreaming nutrition through the life-course. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO

  - Meal plans / cooking demonstrations. Seek to maximise the energy and nutrient intake from local, home cooked foods. This requires careful analysis of locally available age-appropriate, safe, nutritious foods (energy and nutrient dense with adequate essential fatty acids, protein and micronutrients and a low content of antinutrients)
  - Strengthen wasting prevention activities across systems and sectors (health, social protection, food, WASH)
- Establish and/or strengthen a mechanism for the monitoring and reporting of BMS code violations
- Update contingency plans, tailored to context, with periodic review. This should include planning for emergency increase in capacity needs for inpatient treatment (including staffing, training and supplies such as therapeutic milks and medical equipment).

Mitigation of shortages of SNF products

The strategy used to mitigate SNF shortages will be context specific and should be coordinated through government and/or cluster coordination mechanisms. Such mitigations may include increasing surveillance, stock sharing, prevention strategies, product substitution and in more extreme situations retargeting of programme eligibility criteria and/or rationing of products distributed to current and future beneficiaries. The MAM decision tool provides a framework for programme design, selection of supplementary and therapeutic nutrition products and recommendations for adjustments of nutrition programming during exceptional short-term crises.

Strategies to consider could include one or a combination of the following, which should only be implemented as **temporary measures after assessing the pros and cons according to context**:

- ***Stock sharing*** through local, national or regional coordination mechanisms (contact in-country MoH/ Nutrition Cluster/ UNICEF/ WFP, for support as relevant)
- ***Prevention measures***
  - Introduction or strengthening of programming for the prevention of food insecurity and / or wasting. This could involve strengthening links with partner organisations that are targeting the same beneficiary groups with complementary services.
  - Increased frequency of wasting screening, including family MUAC:
    - If SAM and MAM programming present, identify children with MUAC ≥12.5cm and < 13.5cm and/ or weight-for-height ≥ -2z scores plus any illness or feeding problems for referral to prevention programmes in place or Complementary measures to manage child wasting during temporary SNF shortage and absence below
    - If SAM only programming present, identify children with MUAC ≥11.5cm and < 12.5cm and/ or weight-for-height ≥ -3z scores and < -2z scores and engage/ enroll them in Complementary measures to manage child wasting during temporary SNF shortage and absence, below
- ***Early identification of children and enrolment in treatment*** potentially reduces the length of treatment needed and hence the amount of product required. Should this result in an increased caseload of children with wasting at health centres or community outreach ensure adequate support is provided. In case of SNF shortage, consider the below options listed in this section.
- ***Product substitution*** (see Summary guidance on SNF product substitution below)
- ***Revised targeting and programme design*** (see The MAM decision tool)
- As last resort, implementation of temporary protocol adaptation(s) as relevant to context (in consultation with national governments, Nutrition Cluster and/ or UN agencies and with strong community engagement with consideration of available data). The following suggestions are not intended to be prescriptive nor are they listed in any order of priority:
  - ***Retargeting of supplies to focus on children most at-risk***[7] as relevant to country context
  - ***Reducing the amount of SNF*** given to each child. **However**, there is currently mixed evidence on outcomes with some reports of low rates of recovery among children admitted with mid-upper arm circumference (MUAC) <115mm who receive a reduced dose, depending on context[8]
  - ***Adjustment of admission criteria***: As an example, for severe wasting treatment programmes,

[7] Most at-risk could include but is not limited to children aged 6 to 23 months, those detected as severely wasted by MUAC and WHZ, those identified as marasmic-kwashiokor, twins, any morbidity (diarrhoea, fever etc), vulnerable or socially-isolated households; in-line with the evidence-base and as relevant to country context

[8] Treatment of wasting using simplified approaches, a rapid evidence review UNICEF 2021

changing the admission criterion of MUAC < 11.5cm to MUAC < 11cm could reduce the number of eligible children screened in the community by up to half. **However**, it is essential that preparedness activities including sensitization and increased screening frequency be conducted, since poor case finding and later enrolment to treatment risks a greater proportion of children presenting with complications, longer lengths of treatment, and greater risk of death[9]. Note that this strategy could result in more children identified as moderately wasted which could result in increased need for supplies/ substitutions for any operating moderate wasting treatment programmes

- ***Adjustment of discharge criteria***: For example, the assigned fixed period of treatment could be reduced (e.g. discharge the child at the first visit that programme exit criteria are met, rather than at the second visit), depending on the situation (e.g. food security, health and care environment). **However**, there is potential risk of adverse outcomes such as 1. regression/ relapse 2. incorrect discharge due to measurement error (the two visit rule increases certainty that the first measurement indicating target weight or MUAC is not measurement error)
- ***Exclusion mitigation:*** In all of the above cases, children previously eligible for treatment that are excluded under adjusted admission criteria should be referred for alternative support see Managing wasting treatment in the absence of SNF products below

Monitoring, reporting, lessons learned (for all of the above measures)

- Ensure any substituted or reduced ration is recorded on the treatment card or register
- Children excluded from treatment due to the adjustment of admission criteria should be entered into the register and followed up with the same frequency as per protocol for MAM / SAM cases
- Defaulters from treatment should be followed up and re-enrolled in treatment if they are eligible under adjusted criteria or under the original enrollment criteria when stock shortages have been resolved
- Defaulters followed up and found to have died should be reported as deaths on the treatment card or register
- When standard SNF, as per national protocol, has resumed, lessons learned should be documented and shared including any difference in treatment programme indicators, length of stock out and buffer stock required to mitigate future shortages as well as the effectiveness of community engagement in maintaining treatment coverage during shortages
- Regular meetings amongst all stakeholders (MoH, Nutrition Cluster, UNICEF, WFP, implementing partners) should take place to monitor progress and support timely decision-making

[9] A Joint Statement by the World Health Organization and the United Nations Children's Fund. 2009. Child growth standards and the identification of severe acute malnutrition in infants and children, Geneva: World Health Organization https://www.who.int/nutrition/publications/severemalnutrition/9789241598163_eng.pdf

Summary guidance on SNF product substitution

When deciding on a SNF substitute it is important to consider product appropriateness, acceptability and availability in consultation and coordination with partners (contact in-country MoH/ Nutrition Cluster/ UNICEF/ WFP, as relevant) and the community. At the household level it is also necessary to understand if there is access to cooking facilities and utensils, safe storage methods and safe water sources and consider need to reinforce household cooking practices through sensitisation and/ or provision of NFI if the product to be substituted requires this support. The table below gives a short summary of potential product substitutions for use in a situation where there is short-term SNF shortage. Amounts of substituted product should aim to replace the energy, macronutrient and micronutrient content of the absent ration as closely as possible so as to meet the specific nutrient needs of the target group to promote recovery or prevent further deterioration until standard SNF product (as per national protocol) supply is restored.

Short Term Product Substitutions*		
RUTF paste	⟹	**1st line: BP100™ RUTF** **2nd line: RUSF[10]** **3rd line: MQ-LNS[10]**
RUSF	⟺	**FBF i.e. Super Cereal (SC) plus[11]**
RUSF	⟹	**1st Line: MQ-LNS[12]** **2nd Line: RUTF[9]**
Other options to be considered include: • **High energy biscuits (BP5)[13]**		

*RUTF – ready to use therapeutic food ; RUSF – ready to use supplementary food ; FBF – fortified blended food ; MQ-LNS-medium quantity lipid nutrient supplement

- Following consultation with MoH/ Nutrition Cluster/ UNICEF/ WFP, as relevant, prior to implementation of any planned SNF substitute, ensure there is adequate stock and clearly communicate details to all concerned stakeholders including the cooperating partners, local leaders and target groups as necessary. This includes the rationale for the substitution, directions on appropriate and safe usage of the substituted SNF, anticipated duration of the substitution and any other relevant information.
- Where product substitution is implemented, monitor the child's condition, keeping accurate records and evaluate the safety of the approach at regular intervals for any indication of increased rates of morbidity and mortality during treatment. Ensure adequate reporting and document lessons learned (See box on monitoring, reporting and lessons learned above).

[10] Global Nutrition Cluster. Moderate Acute Malnutrition: A Decision Tool for Emergencies, 2014 (updated 2017). Online at: http://nutritioncluster.net/resources/ma/Gera T, Pena-Rosas JP, Boy-Mena E, Sachdev HS.)

[11] Both RUSF and Super Cereal plus are formulated according to the WHO 2012 Technical note: supplementary foods for the management of moderate acute malnutrition in infants and children 6–59 months of age. Unlike RUSF, FBF needs to be prepared into a porridge before consumption and therefore requires access to cooking facilities and safe water

[12] MQ-LNS - Medium Quantity Lipid Nutrient Supplement. RUSF and MQ-LNS formulations are the same, but the quantities differ. RUSF is provided in sachets of 100 g/d and LNS-MQ in 50 g/d, which means that 2 sachets of LNS-MQ can replace 1 of RUSF

[13] Note that this product is not developed to treat child wasting and is not recommended for the treatment of severe acute malnutrition. https://www.gcrieber-compact.com/products/preparedness-and-emergency/bp-5/

Managing wasting treatment in the absence of SNF products

Outpatient case management

In all eventualities, ensure strong communication, emphasizing the importance of caregivers continuing to attend wasting services in case of no supplies/reduction in quantity; and if capacity permits, increase community outreach activities (e.g. home visits, group meetings as applicable to context)

- Enroll the child in the relevant programme by completing a treatment card / register noting the absence of therapeutic/ supplementary products
- Conduct an anthropometric and feeding assessment to identify nutritional status and repeat at each follow up visit
- Provide a full clinical assessment and case management as per protocol (e.g. IMNCI)
- Provide a full feeding assessment and counseling on age-appropriate breastfeeding and complementary feeding for children 0-23 months and nutrition counselling for older children. Consider other complementary measures to manage child wasting during temporary SNF shortage and absence below
- For children with uncomplicated SAM (including those excluded through adjustment of admission criteria) provide the following in-line with national protocols:
  - Broad-spectrum antibiotics
  - Deworming
  - High-dose Vitamin A
  - Folic acid
  - Micronutrient powders 1 RNI per day (start after concurrent infections have been treated, e.g. malaria). The multiple micronutrient supplements should be given until the access to SNF is restored
    OR
    Iron tablets/syrups (start after concurrent infections have been treated, e.g. malaria), if MNPs not available or child needs treatment dose iron for anaemia not covered by MNPs (see guidance below in Annex 2)[14]
  - LO-ORS or ReSoMal[15] and zinc for diarrhoea as per protocol (use protocol for zinc as for non-malnourished children or those not receiving SNFs meeting the Joint Statement specifications)
  - Referral of those at significant risk to inpatient care if available / sufficient capacity
- For children with moderate wasting (including those excluded through adjustment of criteria) provide the following in-line with national protocols:
  - systematic treatment and micronutrient supplements (i.e. vitamin A)
  - Micronutrient powders 1 RNI per day (start after concurrent infections have been treated, e.g. malaria). The multiple micronutrient supplements should be given until the access to SNF is restored.

Inpatient case management

- In the absence of commercially prepared F75 / F100, use locally prepared F75 & F100 therapeutic milks (if CMV is available https://supply.unicef.org/s0000238.html - see Annex 1)
- If inpatient treatment for SAM is available and accessible; and therapeutic supplies are adequate for all cases with complications who need it, consider referring children with SAM without medical complications for treatment, ensuring those most at risk are prioritised. Discharge criteria should be discussed and agreed with Government/ Nutrition Cluster
- If inpatient treatment capacity for SAM is severely limited, prioritise the referral of children with SAM with complications or a minor illness for treatment
- If inpatient treatment for SAM is NOT available, refer children with complications to the paediatric ward, ensuring appropriate support for SAM management and regular follow-up is available

[14] In malaria-endemic areas, the provision of iron in any form, including micronutrient powders for point-of-use fortification, should be implemented in conjunction with measures to prevent, diagnose and treat malaria. Provision of iron through these interventions should not be made to children who do not have
access to malaria-prevention strategies (e.g. provision of insecticide-treated bed nets and vector-control programmes), prompt diagnosis of malaria illness, and treatment with effective antimalarial drug therapy. http://apps.who.int/iris/bitstream/handle/10665/252540/9789241549943-eng.pdf

[15] ReSoMal should only be used in a health facility under observation of a health care worker and not given to a caregiver to use at home

Complementary measures to manage child wasting during temporary SNF shortage and absence

The following are complementary temporary measures to be considered for children > 6 months in exceptional circumstances during SNF shortage and absence in consultation with national governments, Nutrition Cluster and/ or UN agencies. Once SNF become available, revert back to standard programming guidance, as per national protocol, as soon as possible.

For all of the below measures, health and nutrition staff and volunteers will play a vital role in ensuring caregivers are sensitised on good maternal, infant and young child nutrition (MIYCN) that align with national and/ or international recommendations and should be supported to scale-up social and behaviour change communication (SBCC). Strengthened inter-sectoral coordination will also be required.

- Where SNF substitution is not possible, locally sourced, safe, age-appropriate alternatives providing the energy and nutrient intake suitable for moderate or severe wasting could be considered.
- Seek to promote dietary diversity and maximise the energy and nutrient intake from local, home cooked foods. This requires careful analysis of locally available age-appropriate, safe, nutritious foods (energy and nutrient dense with adequate essential fatty acids, protein and micronutrients and a low content of antinutrients) according to the seasons as well as any barriers to access, challenges with preparing food within the home (knowing how to cook; access to utensils, water, fuel) or consumption by the child (food preferences or intra-household sharing). Suggestions include:
  - encourage increased nutritious food intake for children > 6 months (for example +10% for moderate wasting and +30% for severe wasting).[16] Simple ideas for fortifying porridge include the addition of mashed fruit, vegetables or oil which should be offered to the child in small quantities at regular intervals. Aim to align with principles from WHO complementary feeding guidance (i.e. increase food consistency and variety for older infants, adapting to the infant's requirements and abilities. Infants can eat pureed, mashed and semi-solid foods beginning at 6 months. By 12 months, keep in mind the need to further increase nutrient-dense foods, including animal-sourced foods like dairy products, eggs, meat, poultry, fish)[17].
  - the Positive Deviance Hearth (PDH) model which recommends the following (for treatment of underweight) in terms of nutrient requirements for a meal:

    Calories: 600–800 (500–600)
    Protein: 25–27g (18–20g)
    Vitamin A: 300 µg RAE (RAE=retinol activity equivalent)
    Iron: 8–10mg
    Zinc: 3–5mg
    Vitamin C: 15–25mg

    Local menus are developed using food tables, to design a menu meeting these requirements. (https://www.wvi.org/sites/default/files/PDH%20MTManual%20EnglishRound4Final1web.pdf)

  For all options:
  - **breastfeeding** should be promoted and access to breastfeeding counselling support made available for caregivers of infants and young children aged up to 23 months or beyond.
  - caregivers should take active care in the feeding of infants by being responsive to the child's clues for hunger and also encouraging the child to eat.
- If necessary, provide cooking demonstrations (ensure adequate supply of cooking equipment and fuel; and when formulating recipes or meal plans consider using nutritional software, or similar)
- Consider setting up or reinforcing mother-to-mother type support groups or similar, as appropriate to context (with IPC measures in place in covid-19 context)
- Ensure community engagement to consider household food preferences and food sharing practices
- Consider cash transfer / voucher programming with accompanying nutrition SBCC
- Link with food security programmes where available
- Ensure improved WaSH facilities / practices

For all of the above, implement IPC measures in the context of covid-19 or other infectious disease outbreaks for example:

- Advice on breastfeeding if covid-19 is suspected / confirmed

[16] Kenya national IMAM guidelines
[17] https://www.who.int/health-topics/complementary-feeding#tab=tab_2

https://www.nutritioncluster.net/Resources_FAQ_Breastfeeding_COVID-19

- Advice on breastfeeding if Ebola is suspected / confirmed https://www.who.int/news/item/10-02-2020-pregnancy-and-breastfeeding-during-an-ebola-virus-outbreak

Annex 1: Preparation of F75 & F100 Therapeutic Milk with CMV[18]

Table 2.14: Recipes for F-75 Formula

Type of milk	Milk (g)	Sugar (g)	Oil (g)	Cereal flour* (g)	CMV** red scoop = 6.35g	Water (ml)
Dry Skim Milk	50	140	54	70	1	Up to 2000
Dry Whole Milk	70	140	40	70	1	Up to 2000
Fresh cow milk	560	130	40	70	1	Up to 2000
Fresh goat milk	560	130	40	80	1	Up to 2000

* Cereal flour is cooked for about 10 minutes and then the other ingredients added.

** CMV = Special Mineral and Vitamin mix adapted to severe acute malnutrition treatment (® Nutriset)

To prepare the F75 diet, add the dried skim milk, sugar, cereal flour, and oil to some water and mix. Boil for 5 to 7 minutes. Allow to cool, then add the mineral mix and vitamin mix and mix again. Make up the volume to 1000ml with water.

Table 2.15: Recipes for F-100 Formula

Type of milk	Milk (g)	Sugar (g)	Oil (g)	CMV** red scoop = 6.35g	Water (ml)
Dry Skim Milk	160	100	120	1	Up to 2000
Dry Whole Milk	220	100	60	1	Up to 2000
Fresh cow milk	1800	100	50	1	Up to 2000
Fresh goat milk	1800	100	60	1	Up to 2000

[18] Kenyan IMAM national guidelines

Annex 2

Iron

All severely malnourished children have vitamin and mineral deficiencies. RUTF should cover daily supplementation needs for iron for most children with SAM. In the temporary absence of RUTF, provide this iron via the dosing and formulations below in Table 1, note this is an intervention given for 3 consecutive months within a year. For children with non-severe anaemia, (Hb is < 9.3 g/dl for children aged < 6 years or clear clinical signs in the absence of Hb tests and NO signs of severity), begin treatment with iron at 3mg/kg/day using Table 2 below for dosing. Ask the parent to return with the child in 14 days. Treat for 3 months when possible, as it takes 2–4 weeks to correct anaemia and 1–3 months to build up iron stores

IMPORTANT: for both supplementation and treatment of non-severe anaemia, infections such as malaria or any suspected bacterial infections (e.g. urinary tract infections) should be treated FIRST before starting the iron, for at least 3 days. For cases where it cannot be distinguished if it is a viral or bacterial infection (e.g tonsilitis) then make sure the child has shown some clinical improvement before starting iron.

Supplementation of iron

Daily iron supplementation is recommended as a public health intervention in infants and young children, living in settings where anaemia is highly prevalent[19], for preventing iron deficiency and anaemia.[20]

Table 1

Age category	Elemental iron dosing	Frequency	Duration	Iron formulation	
				Iron folate tablets (200mg ferrous sulphate +250mcg folate = 60mg elemental iron)	Syrup (ferrous fumarate 100mg per 5ml = 20mg/ml elemental iron)
6-23m	10-12.5 mg	Once a day	3 consecutive months in a year	-	1ml
24-59m	30 mg	Once a day	3 consecutive months in a year	(preference syrup) ½ tab	1.5ml
5-12y	30-60 mg	Once a day	3 consecutive months in a year	½ - 1 tab	1.5-3ml

Source: WHO (2016) Guidelines on Daily Iron Supplementation in Infants and Children

Treatment of non-severe anaemia

Table 2

Weight category	Iron formulation	
	Iron folate tablets (200mg ferrous sulphate +250mcg folate = 60mg elemental iron)	Syrup (ferrous fumarate 100mg per 5ml = 20mg/ml elemental iron)
3-<6 kg	-	1ml
6-<10 kg	-	1.25ml
10-<15kg	½ tab	2ml
15-<20 kg	½ tab	2.5ml
20-29 kg	1 tab	4ml

Source: WHO (2013) Pocket Book of Hospital Care for Children, Second edition.

[19] Where the prevalence of anaemia is 40% or higher in this age group. For the latest estimates, please refer to the Vitamin and Mineral Nutrition Information System (VMNIS) hosted at WHO https://www.who.int/vmnis/en/

[20] In malaria-endemic areas, the provision of iron in any form, including micronutrient powders for point-of-use fortification, should be implemented in conjunction with measures to prevent, diagnose and treat malaria. Provision of iron through these interventions should not be made to children who do not have
access to malaria-prevention strategies (e.g. provision of insecticide-treated bed nets and vector-control programmes), prompt diagnosis of malaria illness, and treatment with effective antimalarial drug therapy. http://apps.who.int/iris/bitstream/handle/10665/252540/9789241549943-eng.pdf

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