

# Position Paper



© UNICEF/NYHQ2012-0263-Asselin

## READY-TO-USE THERAPEUTIC FOOD FOR CHILDREN WITH SEVERE ACUTE MALNUTRITION

### POSITION STATEMENT

UNICEF supports community-based management of acute malnutrition with ready-to-use therapeutic foods (RUTF). The organization is the primary global procurer of RUTF, therapeutic milk and other essential food products for treating severe acute malnutrition, and also provides technical support to governments and non-governmental organizations on their application and use. Other notable procurers include Médecins sans Frontières and the Clinton Foundation.

Properly used, RUTF is safe, cost effective, and has saved hundreds of thousands of children's lives in recent years. Severe acute malnutrition is a major killer of children under five, accounting for approximately 1 million deaths annually. Around 20 million children worldwide are estimated to be suffering from this condition, of which only approximately 10-15 per cent currently receive treatment using RUTF. Although most RUTFs are currently manufactured in and imported from advanced economies, the technology to produce

them can be introduced in developing countries with minimal industrial infrastructure and is already in use in several countries.

UNICEF fully adheres to established international norms and guidelines for infant and young child feeding, including exclusive breastfeeding for the first six months of life, followed by continued breastfeeding and the use of appropriate complementary foods for children 6-24 months; micronutrient supplementation for vulnerable groups; and advocating best practices for child nutrition, health and hygiene. The organization categorically does not view RUTF as a substitute for best nutritional practices or normal household food, but sees it as one part of a medical protocol that should only be used as part of the community-based management of acute malnutrition in children, in accordance with international standards for such care and in conjunction with essential primary health care. ■

# Context and Considerations

## **RUTFs have revolutionized the treatment of uncomplicated forms of severe acute malnutrition among children**

Ready-to-use therapeutic food (RUTF) are energy-dense, micronutrient enhanced pastes used in therapeutic feeding. These soft foods are a homogenous mix of lipid rich foods, with a nutritional profile similar to the World Health Organization-recommended therapeutic milk formula used for inpatient therapeutic feeding programmes. Typical primary ingredients for RUTF include peanuts, oil, sugar, milk powder and vitamin and mineral supplements.

For several reasons, RUTF is essential for the community-based management of children who are suffering from uncomplicated severe acute malnutrition and who retain an appetite. First, it provides all the nutrients required for recovery. Second, it has an excellent shelf life, and does not spoil even after opening. Third, since RUTF is not water based, bacteria cannot grow, and consequently it is safe to use without refrigeration and in areas with poor hygiene conditions. Fourth, it is liked by children, safe and easy to use without close medical supervision. Finally, it can be used in combination with breastfeeding and other best practices for infant and young child feeding.

The advent of RUTF has revolutionized the treatment of children suffering from severe acute malnutrition. This condition is a major killer of children under five: the latest available (2007) estimates from the World Health Organization (WHO) suggest that it accounts for around 1 million child deaths annually. The need is substantial: In 2007 WHO indicated that there are around 20 million children under five suffering from severe acute malnutrition. In 2008, an article published in *The Lancet Series on Maternal and Child Undernutrition* estimated that children suffering from severe acute malnutrition have a risk of death more than 9 times greater than their well-nourished peers.

Children suffering from severe acute malnutrition have very low weight-for-height (below -3 z scores of the WHO median growth standard), visible wasting, nutritional oedema or mid-upper arm circumference of less than 115 millimetres (in children 6–59 months). The condition generally occurs in children of families with limited access to nutritious foods, not utilizing best prac-

tices for infant and young child feeding, with frequent exposure to infectious disease, and in emergency settings. It can, however, also occur in communities that are food secure.

For many decades, all forms of severe acute malnutrition were treated in facilities. Once a child had been identified as affected by the condition, they would be seen by a skilled health worker trained in a health facility to assess whether they require referral to inpatient care. However, the standard treatment of specialized therapeutic milk given according to a strict regimen was often unable to prevent many of the deaths of severely malnourished children – primarily because children were brought too late to the feeding centres.

In many settings, particularly among the poorest and most marginalized communities, the majority of children with this condition are not brought to a health facility at all. Many factors impede care-seeking in health facilities, including the distance from and time expended in going to the centre; cost of treatment, transport and subsistence; and the duration of the treatment (up to five weeks), which prevent parents and caregivers from looking after other children or going to work. In such cases, the only possible way to provide severe acutely malnourished children with appropriate care is to employ an approach with a strong community component.

## **Use of RUTF is undertaken through community-based management of acute malnutrition**

RUTF was first introduced in situations of humanitarian emergencies during the early 2000s when access was a considerable barrier to expanding coverage of inpatient treatment. Its application within community management of acute malnutrition (CMAM) – an inter-agency strategy supported by WHO, the World Food Programme, the UN Standing Committee on Nutrition and UNICEF – has resulted in a sharp rise in programme coverage and children treated successfully. In Ethiopia alone, there has been a twelve-fold increase in the number of children treated in the past nine years. Currently, 61 countries have some form of treatment for severe acute malnutrition with a community component available, compared to just 9 in 2005.



## Context and Considerations

The standard dose of RUTF is adjusted according to the weight of the child under treatment. It can be consumed in the home at any time under minimal supervision until the child has gained adequate weight. Because RUTF do not contain water, children should also be offered safe drinking water to consume at will. They also require a short course of basic oral medication to treat any infections and for deworming, vitamin A supplementation and folic acid. Health workers should also provide follow up care in the form of the next supply of RUTF on a weekly or biweekly basis, and should monitor the child's condition. An average full course of treatment for a child amounts to around 10-15 kilogrammes of RUTF over a 6-8 week period, which is approximately one carton of RUTF (150 sachets).

In community-based management of acute malnutrition (CMAM), RUTF should always be dispensed as a part of a treatment protocol that provides a full medical consultation, in conjunction with infant feeding counselling and provision of routine medical treatment, including essential drugs, and referral to inpatient care when necessary. In UNICEF-supported CMAM programmes, clean water is provided at every site and children drink water while treated. Additionally, appetite tests are conducted and a full intake questionnaire undertaken that includes medical history, dietary history and household food security assessment.

Detection early in the progression of severe acute malnutrition, before it develops complications (often life-threatening), is critical to the success of treatment regimens including those involving RUTF. The finding of active cases involves community health workers or volunteers identifying affected children using simple plastic strips that are designed to measure mid-upper arm circumference, or those suffering from nutritional oedema. With strong active case finding, and mobilizing communities to access decentralized services themselves, 80 per cent of children with severe acute malnutrition can be successfully treated at home. Appropriate care management can lower case-fatality rates to as low as 5 per cent both in the community and in health care facilities.

UNICEF is the world's largest purchaser and distributor of RUTF. Other notable procurers include Médecins

sans Frontières and the Clinton Foundation. Around 1.96 million children suffering from severe acute malnutrition were treated with RUTF in 2011, accounting for around 10 per cent of the estimated 20 million suffering from severe acute malnutrition globally.

### **RUTF is a medical treatment for severe acute malnutrition, not a panacea for all forms of childhood malnutrition**

RUTF is not a panacea for all forms of severe acute malnutrition in children. Those suffering from medical complications, including loss of appetite, severe oedema, anorexia, high fever or severe dehydration require inpatient treatment with specialized therapeutic milks and round-the-clock medical care. All infants less than 6 months old suffering from the condition should be referred to a stabilization centre, which is often hospital based, and should receive breastfeeding support. Under medical supervision, diluted therapeutic milk or special ready-to-use infant formula (RUIF) may be considered appropriate in extreme cases, such as for maternal orphan infants under six months suffering from severe acute malnutrition, infants whose mothers cannot breastfeed, or with HIV-positive mothers who decide not to breastfeed.

Although RUTF is generally an appropriate treatment for uncomplicated forms of severe acute malnutrition in HIV-positive children, their recovery rates are lower and case fatality rates higher than those who are HIV negative. Given the overlap in the presentation of severe acute malnutrition and HIV infection in children, particularly in poor areas, it is essential to maintain strong links between the case management of the former and the latter.

While broadly accepted as an efficacious treatment intervention for severe acute malnutrition, use of RUTF is not without criticism. One concern centres on its cost – a full course of treatment costs around \$100 per child and, therefore, currently can only be supported by external development financing for many poor developing nations. Another is the potential for commercial exploitation beyond the treatment of severe acute malnutrition, and the associated risk of undermining best practices for infant and child feeding, notably breast-



# Sources and Consultations

feeding. Finally, there is concern about the reliance of developing nations on imported, processed and sugar foods since the majority of RUTF is currently shipped from advanced economies. Where local possibilities exist to create sustained improved nutrition for children, UNICEF is fully supportive of these efforts. The organization supports the local production of RUTFs, and has diversified its own supplier base to include manufacturers in Dominican Republic, Ethiopia, India, Kenya, Madagascar, Niger and South Africa. Other organizations also use local suppliers from other countries.

UNICEF considers that, given its proven results in saving children's lives, the benefits of using RUTFs for the treatment of severe acute malnutrition substantially outweigh the concerns. Our overriding priority is to save children's lives with proven, efficacious and cost effective solutions – particularly in both acute emergencies, such as the on-going food crisis in the Sahel, where around 1 million children are at risk of severe acute malnutrition; and in chronic settings of severe acute malnutrition, such as in the Democratic Republic of the Congo, where around 700,000 children are affected.

In sum, the organization views RUTF as a medical treatment that should be employed as part of the community-based management of acute malnutrition in children, in accordance with international guidelines and in conjunction with appropriate medical treatment, essential primary health care and best infant and young child feeding practices. Treatment of severe acute malnutrition in children falls under the organization's commitment to, and strategies for, the prevention and treatment of undernutrition.

In general, UNICEF does not use ready-to-use foods or supplements for the prevention of child malnutrition, nor does it engage in the distribution of food or food security programmes apart from a few exceptional circumstances. Prevention of all forms of malnutrition is ideally best undertaken through well-established interventions: exclusive breastfeeding for infants under 6 months, followed by breastfeeding with complimentary foods for children aged 6–24 months; expanding access to high quality foods, quality health care, improved water sources and sanitation facilities; micronutrient supplementation for vulnerable children; and better knowledge of nutrition, health and hygiene practices in communities. ■

## Sources

- Black, Robert E., et al., 'Maternal and child undernutrition: global and regional exposures and health consequences', *The Lancet Series on Maternal and Child Undernutrition*, *The Lancet*, vol 371, January 19, 2008, 247.
- Ciliberto, M.A.; Sandige, H.; Ndekha, M.J.; Ashorn, P.; Briend, A.; Ciliberto, H.M.; Manary, M.J. (2005) Comparison of home-based therapy with ready-to-use therapeutic food with standard therapy in the treatment of malnourished Malawian children: a controlled, clinical effectiveness trial. *Am J Clin Nutr*; 81:864-70.
- Hendricks, Kirsty, M., 'Ready to use therapeutic food for prevention of childhood undernutrition', *Nutrition Reviews*, Vol 68(7): 429–435.
- Isanaka, S.; Nombela, N.; Djibo, A.; Poupard, M.; Van Beckhoven, D; Gaboulaud, V.; Guerin, P.J.; Grais, R.F. (2009) Effect of preventive supplementation with ready-to-use-therapeutic food on the nutritional status, mortality and morbidity of children 6 to 60 months in Niger: a cluster randomized trial. *JAMA*. January 21; 301(3): 277–285.
- Latham, Michael, et al., 'RUTF stuff. Can children be saved with fortified peanut paste?', *Commentary, World Nutrition*, Vol. 2, No. 2, February 2010.
- Manary, MJ (2006) 'Local production and provision of ready-to-use therapeutic food (RUTF) spread for the treatment of severe childhood malnutrition. *Food and Nutrition Bulletin*. 27 (3): 83-89 (7).
- The Mother and Child Health and Education Trust (2011). *Management of Severe Acute Malnutrition in Children Under Five Years: Ready-to-Use Therapeutic Food (RUTF)*.
- UNICEF/Valid CMAM mapping report, internal communication, May 2012.
- Valid International, *Community-based Therapeutic Care: A Field Manual*, First Edition, 2006.
- World Health Organization, 'Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers, 1999.
- World Health Organization and United Nations Children's Fund, 'WHO child growth standards and the identification of severe acute malnutrition in infants and children: A joint statement by the World Health Organization and the United Nations Children's Fund, 2008.
- World Health Organization, World Food Programme, the UN System Standing Committee on Nutrition and the United Nations Children's Fund, '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.

## Consultations

UNICEF experts consulted in the preparation of this position paper include Werner Schultink, Associate Director, Nutrition Section, Programme Division; Robert Jenkins, Acting Director, Division of Policy and Strategy; Ilka Esquivel, Erin Boyd, Nune Mangasaryan, Nita Dalmiya and David Clark, Nutrition Section, Programme Division.

This position paper was prepared by the Policy Advisory Unit in UNICEF's Division of Policy and Strategy.