

From Facility to Community

Treating Under-nutrition

Severe Acute Malnutrition places an unacceptable burden on the survival, growth and development of young children in India. Current facility based approaches are insufficient to address the size of the problem; a complementary community based approach must urgently be implemented, if India is to meet the challenge.

Severe Acute Malnutrition (SAM) places extraordinary challenges in the way of survival, growth and development of the child under five years of age. SAM not only increases the risk of mortality and morbidity but also leads to impaired psychosocial and cognitive development and long-term health consequences for the individual. Globally, WHO-UNICEF-World Bank joint estimates (2015) indicate that the numbers of under-five children with wasting remained high between 1990 and 2014, with the largest proportion of children with wasting living in Asia and Africa.

The World Health Organization defines SAM by a very low weight for height (WHZ of $-3SD$ or below), visible severe wasting, or presence of nutritional edema. The estimated number of children with SAM in India is 9.3 million. For an average sized state in India (~ 50 million population), this would mean that it would have 400,000 SAM children. The actual distribution of SAM children is not even across the states; rather SAM is more common in states with poorer populations and relatively less effective health systems.

The social determinants of SAM

In 2014, Amaltas carried out formative research on determinants of poor child health that traced the linkages of several proximate and distal social factors with persisting poor health and nutrition outcomes among young children. These were identified as poverty and poor living conditions that constrain the ability of families to respond to health and nutrition needs, and high level of illiteracy and limited role in decision-making of women leading to delays in treatment of children at risk.

Lack of awareness among parents about the effects of SAM and poor personal hygiene and sanitation at home, aggravates malnutrition among children. Delay in treatment is often exacerbated by the potential opportunity cost when earning a daily income. A high default rate is associated with the quantum of household duties a mother has and the number of siblings in the family, both of which can influence the allocation of time and financial resources towards the child with SAM. After discharge, poor families find it difficult to afford good quality nutritious food for recently treated children. Since both parents are often engaged in daily wage labor, discharged children seldom get the attention and care that they need after treatment.

Approaches to the management of SAM

The management of SAM among children under five years is complex and involves dimensions beyond the medical, i.e., social, economic and behavioral. The ultimate focus must squarely be on ensuring that weight gained during the treatment period is sustained at home.

Globally, there are two broad approaches to the management of SAM: the first is to care for the children within the precincts of a health facility i.e., facility-based management of SAM; and the second to care for them within the community setting, i.e., community-based management of acute malnutrition (CMAM). This paper makes an attempt to identify the relative merits and demerits of each approach for India so that pragmatic decisions can be taken to address the burden of malnutrition among children under five years of age.

There are two broad approaches to management of SAM: the first is to care for children in facilities and the other to care for them in the community.

The facility-based approach

In India, the principal strategy for treatment of children with SAM has been institutionalized management in Nutritional Rehabilitation Centres (NRCs), also known in some states as Malnutrition Treatment Centres. The NRC is usually located in a health facility and offers in-patient medical and nutritional therapeutic care. Operational Guidelines issued by Ministry of Health and Family Welfare, Government of India provide admission and discharge criteria as also the standards for manpower, infrastructure, administration, and quality of care that are expected to be maintained. States develop their own Operational Guidelines based on those issued by the Centre.

Several aspects of the facility-based approach to SAM make it attractive to governments and communities. Standardization of SAM management is well established making it easier for implementation units to discharge their functions. This has resulted in clear-cut demarcation of roles and responsibilities of the staff at the NRC and smooth management of in-patients at the NRCs. From an operational perspective, the standardization of practice is well aligned with other medical arrangements of the public health system of the country.

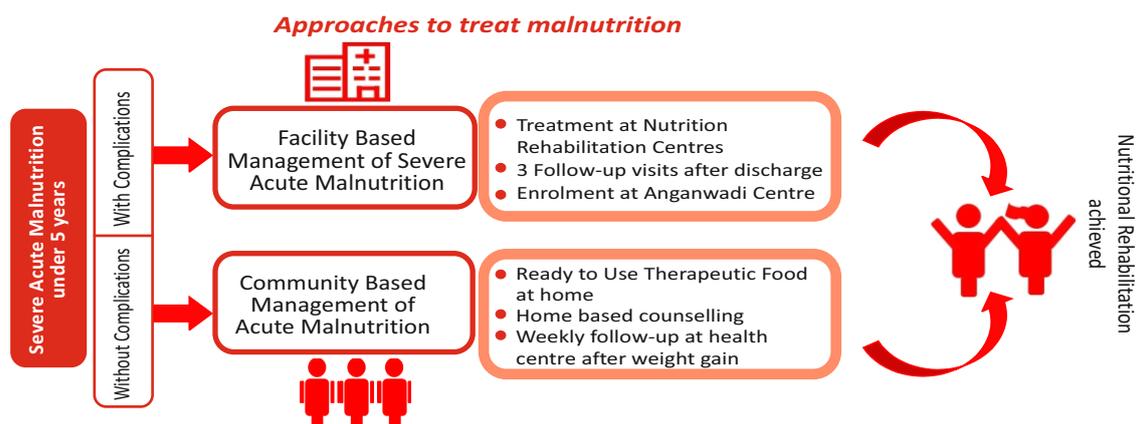
In NRCs in various parts of India, weight gain following admission is more than is prescribed by the standards of care. Emerging evidence shows that the average weight gain is higher (9.3-9.6g/kg body weight per day in various studies) than the national and international standards of care (≥ 8 g/kg). Evidence records a lower default rate than with community approaches. A study carried out by Amaltas in Odisha showed that during FY2015-16, 10.5% children defaulted from the NRCs, while in Jharkhand a defaulter rate of 18.4% was recorded.

Fatality rates at NRCs have been quite low; case fatality rates recorded in Odisha, Jharkhand and Uttar Pradesh are much lower (0.1%, 0.6%, 1.2%) than national and international standards of care (<5%).

Yet facility-based approaches can pose difficulties. Facility-based management of SAM requires that at least one caregiver -most commonly the mother- stay with the child for a minimum of 14 days at the NRC. This implies substantial burden on the parents due to social disruption and opportunity costs. For children having siblings, there is difficulty associated with their care with the mother away at the NRC. This is accentuated when the siblings are also young. Studies also show NRC care poses high opportunity costs for daily wage workers, which acts as a deterrent to accessing and completing treatment.

Facilities can only admit so many patients, which means that the facility based approach can serve only a fraction of the under five children at risk. The mismatch of demand and supply side of the approach is best illustrated by Odisha which has a large program of facility-based care of SAM since 2009. According to National Family Health Survey 4, there are an estimated 2,71,000 SAM children in Odisha. Applying a correction factor of 2.6 to the point prevalence of 2,71,000 cases and with an expected coverage of 50% as per international standards, the number of children that need to be reached (i.e., estimated annual case load of SAM among 6 month - 5 year olds) is 3,16,000. In the face of this estimated demand, 6359 SAM admissions took place in 45 NRCs in the state in FY2015-16. This accounts for only 2.0% of the estimated annual case load of SAM.

The facility-based approach suffers from poor follow-up of the discharged children and integration into the Integrated Child Development Services



system as required under the approach. Evidence from Jharkhand showed that of 2770 discharged children, 62.4% did not come back for any follow-up visits and only 14.9% came back for the prescribed 3 visits. Review of data of Uttar Pradesh also did not provide much comfort with only a fourth of all discharged children returning for follow up.

A number of factors contribute to poor follow up. Demand side barriers to follow up include belief of mother that child has fully recovered; consideration of opportunity cost to mothers on account of daily wage work; unavailability of a convenient mode of transportation; and unavailability of ASHA to accompany the child. On the supply side, issues such as the meager incentive for village workers, and their lack of time to accompany the mother and child for follow-up visits; difficulty in keeping track of every discharged children especially in remote locations; and lack of supportive supervision from higher level functionaries such as frontline workers and sector supervisor are barriers to regular follow-up.

Community-based approach

In 2007, the United Nations endorsed CMAM for children without medical complications. A joint statement by the WHO, World Food Program, United Nations System Standing Committee on Nutrition and UNICEF noted that a large number of children with SAM could be treated in their own communities without needing admission. Soon after, in 2008, UNICEF issued program guidance on the CMAM approach for children 6–59 months old. The CMAM approach involves the timely detection of SAM without medical complications in the community and provisioning of ready-to-use therapeutic foods (RUTF) or other nutrient-dense foods to be consumed at home. Identification of SAM children is undertaken by community health workers who look for a low Mid-Upper Arm Circumference and presence of nutritional edema. An assessment by a health worker determines whether the case can be treated in the community. RUTF is provided until children have gained adequate weight, and thereafter, weekly follow-up by a skilled health worker in a nearby health facility or in the community is expected.

In India, the move towards CMAM for uncomplicated SAM cases is a recent one. There is a growing awareness that the adoption of the CMAM approach is critical to achieve the coverage required for children

with SAM. However, in the absence of Central Government Guidelines, states and non-governmental organizations are devising their own implementation modalities on the basis of the program guidance on CMAM approach by UNICEF.

Active case finding is used to identify early cases of uncomplicated SAM, with complicated cases being referred to in-patient facilities. Parents of the children treated under CMAM are given a one-week supply of RUTF depending on child's weight. Protracted counseling of parents especially the mother, such as about the advantages of frequent small feeds, consumption of local foods and need for plenty of drinking water, helps to sustain weight gain. The mother receives weekly counseling until the child achieves a Mid-Upper Arm Circumference of/ over 120 mm with no edema for one week, with good clinical condition and good appetite.

Yet the approach comes with its own challenges. Results from a scientific study of CMAM in Bihar reveals that a high proportion of children (37.2%) default, much higher than default rates among children admitted to NRCs. In Madhya Pradesh (2013) the default rate was a comparable 32.0%. These are much higher than for facility-based care. High default rate can be attributed to factors like caregiver time constraints; perception among the caregivers that the child has recovered; and lack of the motivation to visit the center over a prolonged time period.

Those experimenting with CMAM have developed their own Guidelines. Diverse treatment protocols are being followed: in the Médecins Sans Frontières program in Darbhanga district of Bihar, uncomplicated SAM cases were given a prepackaged lipid-based, ready-to-use therapeutic paste produced in India (Eezeepaste; Compact); in the Melghat tribal area of central India, MAHAN Trust provided LTFMN, a diet prepared by local tribal women in the form of six palatable locally available dishes; and in the POSHAN, Rajasthan project, the Department of Health and Family Welfare, Government of Rajasthan, provides Energy Dense Nutrition Supplement (EDNS) to SAM children.

Way forward

It is clear from this discussion of available evidence, that implementation of any single approach for management of SAM cannot alone address the

