

# The Burden of Malnutrition in India: Time to Strengthen Human Resource and Infrastructure

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Globally, about 20 million children less than five years of age suffer from Severe Acute Malnutrition (SAM), and nearly 33 million children experience Moderately Acute Malnutrition (MAM) [1,2]. One million children affected by SAM die every year, with the majority burden observed in Asia [1]. The problem is endemic in India where 8 million children suffer from SAM [1]. Two key reasons pertinent to this devastating frequently ignored humanitarian issue are (a) inadequate coverage, or (b) total absence of nutrition interventions [1,2]. MAM perpetuates the existing burden and severe cases, if remain untreated, thus the basic deficiency of health and nutrition services in treating MAM substantially increase severe malnutrition [2]. Recent evidences concurred that nutrition is associated with a range of factors from social to economic, therefore comprehensive public health models are essential to address the current challenge of malnutrition in India [3].

The traditional nutrition centre's in rural India play a significant role in provision of nutrition supplements to under-five children. Broadly each centre has a female nutrition worker and an assistant. Though the majority of villages have established centres, malnutrition prevalence is on the increase due to inadequate or low quality food supplies from the government. The nutrition workforce is regularly engaged within various health programs, which broadly helps in the capacity building. However there are limited trainings targeted towards nutrition management, which are essential for the current workforce to perform malnutrition supervision and follow-up process. It's a matter of state urgency to assess, identify, quantify and address occupational and strategic barriers within current nutritional workforce, for further training opportunities and skill development. Secondly, an apparent nutritional education inequality is visibly tolerated and goes unaddressed in India. There is no existence of trainings/education programs designed at community level to engage parents of malnourished children. Interruptions in food supplies and inability of parents to act during emergencies, worsens the child health status. However, there are local monitoring committees such as Health Sanitation Committee (HSC) who are supposed to provide support to strengthen the health and ecosystems at village level. Unfortunately these committees are not operational in all areas particularly in the most vulnerable, and marginalized regions within cities. Thirdly, the globalised health infrastructure is evolving in urban sector, but the rural areas are neglected, and they are struggling with absence or limited basic resources (healthcare workers, transport facilities, inadequate water/electricity). The conditions in north and northeast India are more difficult, consequently more demand in those regions. Resource mobilization and nutrition management challenges across the country are amplified further, by the diverse population of the country [1,2] (Photo 1,2).

Considering the outlined three major areas associated with malnutrition burden in India, necessitates the inclusion of some basic interventions in the current government healthcare systems to be considered. The nutrition workforce could be trained along with parents and HSC committees to create awareness and equip them with strategies to handle malnourished children effectively and efficiently. This could be in the form of community campaigns, food preparation practices, and breast-feeding norms in collaboration with existing government healthcare system. It is very much important to understand occupation challenges associated with nutrition workforce, for example, a monthly honorarium of 100 USD to nutrition workers is generally not allocated on a regular basis, which should be considered independently. Infrastructure development such as nutrition centre refurbishment could be performed through HSC or village/urban health budget allocations. Dedicated data collection system for SAM cases could be easily incorporated in the system (which presently reports only numbers); however it is feasible to record health parameters at block hospital, which will ensure further referral and follow-up of SAM cases. In dealing with SAM cases, establishment of an effective referral system for these children to special facilities for advance diagnosis and management is paramount. Community level identification and further management



**Photo 1:** Raw food items (such as wheat, rice) stored in jute bag at one of the nutrition centres in Maharashtra state, India- Lack of secured storage boxes is the main cause of ingestion.



**Photo 2:** Rice and wheat ingestion in one of the nutrition centres in Maharashtra, India.

Note: both photos obtained by the author (AA) during nutrition centre visit.

(Either locally or through referrals) is the most appropriate approach in the current settings [4]. This ensures early identification, referral or local management to reduce the burden of SAM as well as MAM cases.

The post intervention impact assessment may provide additional benefit to test the Sustainability of program interventions. Additionally there is an urgent requirement to draw possible programs to answer malnutrition in urban areas, which are receiving heavy migrations. Indeed, India has efficient doctors, researchers, public health managers however it's time to build comprehensive health model to save more than half million lives a year.

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