



## Human Health, Nutrition and Food Ingredients of Diet

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### Editorial

The National Health Protection Scheme (NHPS) - Ayushman Bharat - is set to be rolled out on 25 September 2018 for the universal comprehensive healthcare coverage to 100 million families (500 million people) including health insurance scheme (with 5 Lakh rupees annually) to the citizens of India, the biggest in the world. With population of India hovering around 1300 million (i.e., 1.30 billion), and nearly 800 million people will be left out of any benefit. Elderly people (senior citizens), adult women and children are most vulnerable population who have special nutritional requirements, and need continuous healthcare and empathy. Proper housing and adequate sanitation, maintaining privacy and usable toilets are essentially desirable. Integrated approach to social determinants of health, like the supply of clean drinking water, nutrition, health education, and sufficient wages to meet day-to-day needs, are the primary integrated factors/determinants related to healthcare in practice. Nutrition plays the most important and vital part in health. A well-nourished person is less likely to be taken ill compared to the one with poor nourishment. For proper nourishment, a balanced intake of proteins, carbohydrates, fats, vitamins, trace elements, and minerals, etc. is needed. All these come from the daily intake of staple food like wheat, rice, vegetables, fruits, milk, eggs, meat, etc. to cover daily 2100 K calories for an adult individual. This pipedream has so many lacunae and lacking inbuilt mechanisms to control human lust/greed for vested interests, scientific realism, and more importantly the financial constraints in the long run comprehensive healthcare policy, for the vast majority of Indian population, which will remain apparently undernourished.

Much more needs to be done to ensure healthcare for all. Social determinants also need careful handling at each and every step. Sufficient funds have to be released to meet the requirements for nutrition, housing, water supply, sanitation, health education, and much more to achieve the target goals.

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It is pathetic that India is one of the most under-nourished countries in the world, the level of malnutrition being nearly twice of what prevails in Sub-Saharan Africa. Out of 1000 children, 640 suffer from many kinds of incurable diseases. Similarly, out of 1000 women, 722 are undernourished. Malnourishment rates are high in India, 54% among scheduled caste and scheduled tribes; and 50% among rural children are malnourished. In India, 2000-3000 children die of malnutrition every day. The required calorie intake of adults is only 1345 K cal; which is far below for a healthy body. These are the statistics of the World Health Organization (WHO) released in January 2009. In view of this deplorable kind of state of affairs that a National Food Security Act need to be enacted as the malnutrition has emerged as a major health challenge needing urgent response. In this context, a think-tank of experts, activists, Non-Government Organisations (NGOs) and administrators have brought the notice that poverty is a prominent, but not the sole cause of malnutrition. Malnutrition is an extremely complex, inter-generational phenomenon with multiple causes, that is, physical - poverty, hunger, calorie or micronutrient deficit, infection and disease; attitudinal or socio-cultural - gender-discrimination in society and intra-family food consumption, early marriage of girls, frequent pregnancies, superstition or ignorance regarding proper maternal and child care and feeding practices; governance related, mainly - inadequate nutrition or health services for women and children, low access to safe drinking water and hygienic sanitation and lack of social inclusion [1,2].

Malnutrition and related causes are adversely affecting the nation from several angles. Malnutrition causes economic loss to the nation, due to reduced physical or cognitive growth and learning capability, and lower physical work output [3]. It is indicated that India loses around 4% of Grand Domestic Product (GDP) due to calorie/energy deficit. It is stressed that malnutrition is huge human resource calamity and high energy; low-cost food should be made available to the poor. Malnutrition is caused by deficiencies of micro-nutrient like Iron Deficiency Anaemia (IDA),

vitamin A deficiency (VAD), Iodine Deficiency Disorders (IDD). About 70% of pre-school children suffer from IDA. Further Low Birth-Weight (LBW) is one of the key causes of under-nutrition in India, where about 30% of the children are born with LBW largely due to poor maternal nutrition. Almost a third of the women in India have a Body Mass Index (BMI) below normal and the prevalence of anaemia among the pregnant women is around 60% [4,5]. Many people today suffer from micronutrient deficiencies primarily in India. Micronutrients are the nutrients that body need only in small amounts like iodine, zinc, iron, and Vitamin A. These enable the human body to produce enzymes, hormones, and other substances critical for proper growth and development of the body. The United Nations has defined malnutrition as a state in which an individual can no longer maintain natural bodily capacities such as growth, pregnancy, lactation, learning abilities, physical work and resisting and recovering from disease.

The poverty influences unequal nutritional distribution and leads to worsening of malnutrition among children in India. Child malnutrition is considered to be the key risk factor for illness during adolescence and is responsible for about one-third of child deaths globally. Historically tribal communities have lagged behind the general population in terms of most socioeconomic aspects, and one such aspect is the nutritional status of children [1]. There are regional variations in child malnutrition and its association with women's empowerment in the tribal communities of India. An inverse association between child malnutrition and women's empowerment in tribal communities of India was observed. The women's empowerment is effective when other factors supposed to influence the nutritional status are proactive. On continuing high malnutrition and failure of on-going programmes to improve it, the expert group concludes that India has no comprehensive national program with the objectives of eradicating malnutrition. Several nutrition-related programs address some but not all aspects and causes of it.

Though India's malnutrition is deeply rooted in an inter-generational cycle, the current nutritional interventions do not address the issue related to inter-generation. Thirty per cent of India's population suffers from high protein-calorie deficit. The general population lacks adequate awareness regarding proper nutritional

practices. Crucial prescriptions of the National Nutrition Policy 1993 in India were not translated into programmes and popularization of low-cost nutritious foods, reaching adolescent girls, fortification of essential foods and control of micronutrient deficiencies. Most importantly the political will for addressing malnutrition with high priority needs articulation. No single intervention can eradicate malnutrition. The package of interventions must be widely inter-sectorial and addressed at least, a majority of causes; they must be simultaneous so that the benefit of one intervention is not lost on an account of the absence of another; and they must cover the entire life-cycle of women and children to create immediate impact within one generation on the nutritional status of the three critical links of malnutrition, viz., children, adolescent girls, and women [1]. Only then can the benefits be sustainable enough to break the inter-generational cycle, and pass on to the next generation.

The fact is that even though India's economic development could reach double digits, if India does not give an enabled, medically satisfied labour force, the whole so called 'economic vicious cycle' would be rendered useless [1]. This is enough for the people to think about and plan the future!

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