

# Mitigating Strategies to Combat Malnutrition

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## ABSTRACT

Malnutrition is the condition that develops when the body is deprived of vitamins, minerals and other nutrients it needs to maintain healthy tissues and organ function. Malnutrition occurs in people who are either under nourished or over nourished. Since these adolescent females are the emcee of upcoming future generation, their health is of utmost importance. The various factors that are revealed in the present study could further be targeted in routine health-care settings through counseling and guidance clinic under the direct supervision of primary-care physicians. In primary health-care settings apart from providing curative services, direct involvement of medical professionals and primary-care physicians in implementation of opportunity strategies like adolescent's behavioral change toward inculcation of healthy lifestyle, their counseling for optimal physical activities, and augmentation of knowledge regarding importance of proper balanced diet will be the most cost-effective way to deal with the problem. Also, among higher socioeconomic group who use to prefer private medical professionals for health seeking and where the proportion of obese children is comparatively more, these physicians could play a significant role through concurrent counseling of parents and their children to bring out desired behavioral change substantially so as to prevent forthcoming complications associated with over nutrition. Strengthening public health interventions for mild malnutrition cases and vulnerable groups, effective implementation and evaluation of the strategies at regional level, research on overweight, obesity and its etiological factors and steps for improving socioeconomic development are the prerequisites for tackling malnutrition in India.

**Keywords:** Malnutrition, strategies, adolescent girls, India, future generation

## INTRODUCTION

There is an old Arab adage "One's stomach is the one's illness." This implies that most illness and health problems come from the eating and dietary habits. The majority of people in modern times have problems with their health because of poor eating habits. There was a time when people die due to famine and hunger but now a day's people die from either eating too much or by eating too little that harms their body and health. In modern era especially in developed and industrial countries people are dying from eating too much where as in developing and under developed countries people are dying from eating very little. When the body of the people living in any country suffers from problems associated with nutrition, they are called suffering from malnutrition. The word malnutrition is derived from the Malus (bad) and Nutrire (tonourish). It includes not only under nutrition (deficiency of one or more essential nutrients) but also over nutrition (an excess of one or more nutrients).

World Health Organization (WHO) defined malnutrition as the cellular imbalances between the supply of nutrients and energy and the body demand for them to ensure growth, maintenance and specific function. India is one of the fastest growing economies in the world but Indian children are suffering with world's worst levels of malnutrition.

The Global Hunger Index Has ranked India 100 out of 117 countries. The prevalence of malnourishment in children in India is nearly double that in Sub-Saharan Africa and affects the mortality rate, productivity and economic growth. Each year, nearly half of the children in India are malnourished and almost a million children die before reaching one month age. In India 43 percent of the children under five are under weight and 48 per cent are stunted, due to severe malnutrition (3 out of every 10 children are stunted). In India 43 percent of the children under five are under weight and 48 per cent are stunted, due to severe malnutrition (3 out of every 10 children are stunted). According to recent data about 40 per cent children under five are stunted 21 per cent of children under five are severely wasted or under nourished. According to UNICEF, India was at the 10th spot among countries with the highest number of under weight children and at the 17th spot for the highest number of stunted children in the world. Malnutrition is not only prevailing among children in India but also crippled the adults irrespective of gender. Among adults 23 per cent of women and 20 per cent of men are considered under nourished in India. On the other hand, 21 per cent women and 19 per cent men are over weight or obese. This under nutrition and over nutrition indicates that adults in India are suffering from dual burden of malnutrition (abnormal thinness and obesity).

## **MALNUTRITION**

Medical science and most of the doctors believe that nutrition is the most serious threat to human health and even more serious than cancer or heart diseases. Malnutrition does not only due to the lack of nutritional materials needed by the body, but also to any lack of balance in the individual's diet. Therefore, a person who takes in too much or too little nutrition suffers from malnutrition.

Malnutrition is of different types. Very few people are aware that malnutrition can be due to nutrients, but also by their excessive intake. But it is the malnutrition due to lack of essential micronutrient that is major concern throughout the world. The main type of malnutrition disease are growth failure malnutrition and micronutrient malnutrition. There are three forms of growth failure malnutrition. Marasmus, which occurs when the body fat and tissue degenerate excessively to compensate for the lack of nutrients which in turn internal processes of the body begins to slow down very fast. Kwashiorkor, it is characterised by bilateral pitting oedema (fluid retention) in the legs and feet which in turn leads to undernourished children look plump. Marasmic-Kwashiorkor characterised by both severe wasting edema. Chronic malnutrition or stunting occurs over a long period of time and has long lasting consequences. It starts before birth due to poor maternal health and result in stunted growth. Poor breast feeding, infections and lack of availability of proper nutrients are the main reasons of its cause. Stunting is very dangerous as it becomes irreversible after an age. Therefore, it is important to eradicate it in the early age by providing medical treatment to pregnant women and young girls. Micronutrient malnutrition entails severe to moderate lack of Vitamin A, B, C, D, Calcium, Folate, Iodine, Iron, Zinc and Selenium. These vitamins and minerals are essential in various body processes and their deficiency leads to malnutrition. Iron deficiency causes anemia, poor brain development and cardiac malfunctioning. Iodine deficiency causes impaired thyroid functioning and mental retardation. Vitamin D

deficiency leads to rickets and other bone development related disorders. Selenium deficiency leads to mal cardiac functioning, weak immunity and osteoarthritis. Vitamin A deficiency cause poor vision, poor bone development and lack of immunity. Vitamin B12 deficiency leads to nerve degeneration and poor BC formation.

Folate or Vitamin B9 deficiency causes slow growth and anemia. Zinc deficiency can cause poor immunity, sensory perception and anaemia.

## **MALNUTRITION INDEX**

As per United Nation and Food and Agriculture Organization one in every eight people suffers from malnutrition. 32.5 per cent of children in developingnations are undernourished and about 14.5 per cent death of children between ages 0-5 are due to starvation.

## **EFFECTS OF MALNUTRITION**

Effects of malnutrition and starvation are severe. Malnutrition increases the risk of infectious disease by weakening the immune system and also impairs cognitive and motor functions in growing children. These children die from childhood condition like diarrhea and illness including tuber culosismesles, pneumonia and malaria. According to some study the last few monthof gestation and first two years of life after birth are critical for growth and development of babies. The first 1000 days (conception to 2 years post-parturn) are considered a window of opportunity’ for addressing malnutrition. Malnutrition also affect metabolic and organ function as well as children’s behavior. One third of death in children under age five are due to undernutrition. Malnourished children having low resistant to infection and proneto disease ultimately influence economic growth of the country.

## **Malnutrition Status and Mitigating Strategies inIndia**

According to Food and Agricultural Organization (2014-16) sub-Saharancountries of Africa have the highest prevalence of hunger whereas, India hasthe highest number of undernourished people of the world which constitute 194.6 or 15 per cent of India’s total population.

Preventing malnutrition in India has always been government agenda. The realization that early childhood nutrition of an individual has permanent consequences for future life strategies, Indian government introduced not onlypolicy measures but also plans, programme and missions. Under the directpolicy measures India has expanded the safety net through Integrated Child Development Services to cover all vulnerable groups’ viz. children, adolescentgirls, mothers and expectant women, fortification with appropriate nutrients of essential food items like iodized salt, popularizing low-cost nutritious food and controlling micronutrient deficiency among different vulnerable groups. Whereas, under the indirect policy measures India has ensured food security through increased production of food grains, promoted improved dietary pattern by increasing per capita availability of nutritious diet, improved the purchasing power of landless, rural and urban poor, expanded public distribution system, reduced vulnerability of the poor by implementing landreforms, increased health and immunization facilities, improved knowledge of nutrition, prohibited food adulteration, monitored nutrition programme,strengthen nutrition surveillence and community participation.

## **Nutrition Education as a Mitigation Strategy**

The science of teaching nutrition related knowledge to individuals or community with the primary aim of improving the knowledge and bringing about behavioral changes which in turn help improve the nutritional

status of individuals and community is called Nutrition Education. This not only involves combination of educational strategies but also aims at supporting the environment that brings about voluntarily changes in behavior and overall well-being of the individuals and community. Nutritional research has made several advances and new knowledge is coming up.

However, this factual knowledge needs to be transmitted to the common population for some kind of effect to take place. Here is when nutrition education comes into role. Initiation of nutrition education in the early years not only helps in development of children but also helps shape their habits and eating patterns, resulting in more educated and healthier individuals. Faulty food habits affect the child's growth, cognitive development and their academic performance as well. Studies have shown that, a higher inclination towards consumption of fast food, fried food and food high in sugar/salt results in an imbalance between macro and micro nutrients, resulting in micronutrient deficiencies. Appropriately planned and implemented education can increase then nutritional knowledge of individuals not only in formal way but also informally. Studies have also shown that the cross-curriculum education, i.e., inclusion of nutrition education in association with other subjects can result in better adaptation and learning among the students. Various authors have shown that introducing early interventions in paediatric populations ensures promising results in comparison to the adults. An important period in which obesity and problem of overweight occurs is the childhood and adolescence age. Occurrence of obesity associated comorbidities has proven to be higher in individuals who have a history of childhood obesity.

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