

Malnutrition : Effects, Consequences and Treatment

Paper Submission: 05/07/2021, Date of Acceptance: 18/07/2021, Date of Publication: 04/08/2021

Abstract

In the last few years, there has been a renewed discussion about malnutrition in India. India was ranked 102 out of 117 countries in the Global Hunger Index released in October 2019, while India was ranked 103 in 2018. The urgency to address the problem of malnutrition in the country was also seen in the recent budget speech of the Finance Minister. The National Health Policy 2017 was released by the Ministry of Health and Family Welfare in the year 2017, highlighting the negative impact of malnutrition on the productivity of citizens and its contribution to the mortality rate in the country. Although a lot of efforts have been made by the government in this regard and various types of schemes are being run, but despite these schemes and efforts, we have been unable to fully tackle the challenge of malnutrition in the country. This is not only hindering the economic development of India, but also negatively affecting the image of India at the global level.

Keywords: Malnutrition, Strategies, Under-five Children, Effect.

Introduction

Malnutrition occurs when a person gets too much or too little of certain nutrients. Under nutrition occurs when they lack nutrients because they eat too little food overall. A person with under nutrition may lack vitamins, minerals, and other essential substances that their body needs to function.

Malnutrition can lead to

Short- and long-term health problems slow recovery from wounds and illnesses higher risk of infection difficulty focusing at work or school Some deficiencies can trigger specific health problems. For example:

A lack of vitamin A

Around the world, many children develop vision problems Trusted Source due to a lack of vitamin A.

A lack of vitamin C

A lack of vitamin C trusted Source can result in scurvy. Scurvy is rare in the United States, but it can develop if a person does not have a varied diet with plenty of fresh fruits and vegetables. Older adults, young children, those who consume a lot of alcohol, and some people with certain mental health conditions may be particularly at risk. Malnutrition is a condition that results from eating a diet in which one or more nutrients are either not enough or are too much such that the diet causes health problems. It may involve calories, protein, carbohydrates, vitamins or minerals. Not enough nutrients are called under nutrition or undernourishment while too much is called over nutrition. Malnutrition is often used to specifically refer to under nutrition where an individual is not getting enough calories, protein, or micronutrients. Malnutrition, in all its forms, includes under nutrition (wasting, stunting, and underweight), inadequate vitamins or minerals, overweight, obesity, and resulting diet-related no communicable diseases. 1.9 billion adults are overweight or obese, while 462 million are underweight Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. The term malnutrition addresses 3 broad groups of conditions:

Undernutrition, which includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age); micronutrient-related malnutrition, which includes micronutrient deficiencies (a lack of important vitamins and minerals) or micronutrient excess; and overweight, obesity and diet-related no communicable diseases (such as heart disease, stroke, diabetes and some cancers). Various forms of malnutrition Under nutrition

There are 4 broad sub-forms of undernutrition

Wasting, Stunting, Underweight, and Deficiencies in vitamins and minerals. Undernutrition makes children in particular much more vulnerable to disease and death.

Low weight-for-height

Low weight-for-height is known as wasting. It usually indicates recent and severe weight loss, because a person has not had enough food to eat and/or they have had an infectious disease, such as diarrhoea, which has caused them to lose weight. A young child who is moderately or severely wasted has an increased risk of death, but treatment is possible.



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Low height-for-age

Low height-for-age is known as stunting. It is the result of chronic or recurrent undernutrition, usually associated with poor socioeconomic conditions, poor maternal health and nutrition, frequent illness, and/or inappropriate infant and young child feeding and care in early life. Stunting holds children back from reaching their physical and cognitive potential.

Children with low weight-for-age

Children with low weight-for-age are known as underweight. A child who is underweight may be stunted, wasted, or both.

Micronutrient-related malnutrition

Inadequacies in intake of vitamins and minerals often referred to as micronutrients, can also be grouped together. Micronutrients enable the body to produce enzymes, hormones, and other substances that are essential for proper growth and development. Iodine, vitamin A, and iron are the most important in global public health terms; their deficiency represents a major threat to the health and development of populations worldwide, particularly children and pregnant women in low-income countries.

Overweight and obesity

Overweight and obesity is when a person is too heavy for his or her height. Abnormal or excessive fat accumulation can impair health.

Body Mass Index (BMI)

BMI is an index of weight-for-height commonly used to classify overweight and obesity. It is defined as a person's weight in kilograms divided by the square of his/her height in meters (kg/m^2). In adults, overweight is defined as a BMI of 25 or more, whereas obesity is a BMI of 30 or more. Overweight and obesity result from an imbalance between energy consumed (too much) and energy expended (too little). Globally, people are consuming foods and drinks that are more energy-dense (high in sugars and fats), and engaging in less physical activity.

Diet-related Noncommunicable Diseases

Diet-related noncommunicable diseases (NCDs) include cardiovascular diseases (such as heart attacks and stroke, and often linked with high blood pressure), certain cancers, and diabetes. Unhealthy diets and poor nutrition are among the top risk factors for these diseases globally.

Women, infants, children, and adolescents are at particular risk of malnutrition. Optimizing nutrition early in life—including the 1000 days from conception to a child's second birthday—ensures the best possible start in life, with long-term benefits. Poverty amplifies the risk of, and risks from, malnutrition. People who are poor are more likely to be affected by different forms of malnutrition. Also, malnutrition increases health care costs, reduces productivity, and slows economic growth, which can perpetuate a cycle of poverty and ill-health.

Malnutrition affects every system in the body and always results in increased vulnerability to illness, increased complications and in very extreme cases even death. There were 821 million undernourished people in the world in 2018 (10.8%

of the total population). This is a reduction of about 176 million people since 1990 when 23% were undernourished, but an increase of about 36 million since 2015, when 10.6% were undernourished. In 2012, it was estimated that another billion people had a lack of vitamins, and minerals. In 2015, protein-energy malnutrition was estimated to have resulted in 323,000 deaths—down from 510,000 deaths in 1990.

Reasons of Malnutrition

Recent statistics show that about 25.7 percent of the total population living in rural areas of the country is still living below the poverty line, while in urban areas this number is close to 13.7 percent. Although poverty alone does not lead to malnutrition, it can affect the availability of nutritious food for common people.

Most food and nutritional crises do not arise because of lack of food, but because people are not able to get enough food.

Water is synonymous with life. Lack of potable water, poor sanitation and dangerous sanitation practices make common people vulnerable to water-borne diseases, which is one of the direct causes of malnutrition.

The lack of awareness regarding nutritious and quality diet is clearly visible in the country, due to which almost the entire family becomes a victim of malnutrition.

According to statistics, there are only one million registered doctors in India for 1.3 billion people. Accordingly, there is only 1 doctor for every 13000 citizens in India. It is noteworthy that the World Health Organization has recommended 1:1000 ratio in this context, that is, it is mandatory to have 1 doctor for every 1000 citizens in the country. Thus non-availability of health services in the country also plays an important role in malnutrition.

In the last few decades, the number of natural disasters related to climate change like drought, cyclone, flood, etc. has seen a significant increase. According to a study conducted by the United Nations, the decline in agricultural production directly or indirectly due to climate change in more than 40 developing countries of the world can dramatically increase the number of people suffering from hunger in the coming years.

Major causes of malnutrition include poverty and food prices, dietary practices and agricultural productivity, with many individual cases being a mixture of several factors. Some of the common effects are :-

1. Immune system has a reduced ability to fight infection
2. Muscles are inactive and have a reduced ability to work, shop, cook and self-care. Such inactivity may also lead to pressure ulcers and blood clots
3. Falls have a reduced ability to cough may predispose to chest infections and pneumonia
4. Heart failure could be a result of malnutrition as well as impaired wound healing
5. Kidneys lose their ability to regulate salt and fluid can lead to over-hydration or dehydration
6. Malnutrition causes apathy, depression, introversion, self-neglect and deterioration in

social interactions and effects the brain

7. Malnutrition also effects the reproduction process by reduces fertility and if present during pregnancy can predispose to problems with diabetes, heart disease and stroke in the baby in later life.
8. Impaired temperature regulation which could even lead to hypothermia

Consequences

The most common consequences of malnutrition in children and adolescents are growth failure and stunting, delayed sexual development, reduced muscle mass and strength, impaired intellectual development, rickets, increased lifetime risk of osteoporosis, consequences of specific micronutrient deficiencies etc. There are some main and common consequences of malnutrition in the terms of nutrients. They are :-

1. Iron deficiency can cause anemia
2. Zinc deficiency causes skin rashes and decreased ability to fight infection
3. Vitamin B12 deficiency can cause anemia and problems with nerves
4. Vitamin D deficiency causes rickets in children and osteomalacia in adults
5. Vitamin A deficiency causes scurvy
6. Vitamin C deficiency causes night blindness

Treatment

Once an individual has been assessed as being at risk of malnutrition it is always necessary to assess the problem in more detail and identify any other factors that are contributing to the problem. Treatment should always be tailored to the needs of the individual, but in general, if a person is able to eat and does not have a diminished appetite, then the first step would be to encourage this with a "Food first" approach. This may be in the form of advice on meals, snacks, nourishing drinks and food fortification, but should include setting goals of treatment and a plan for monitoring to ensure that these goals are met.

If simple measures are not working or where the patient has a reduced appetite, then an assessment and support from a dietitian may be needed. In addition to fortifying food and increasing what you eat, there are many different oral nutritional supplements. These should usually only be used under the supervision of a dietitian or doctor. It is also possible that you may need to take a vitamin and mineral supplement – but only if advised to do so by the professional treating you.

Efforts made by the government

National Nutrition Policy 1993

The National Nutrition Policy was adopted by the Government in the year 1993. Under this, a multi-sector plan was advocated to eradicate malnutrition and achieve the goal of optimum nutrition for all. The scheme emphasizes on monitoring the level of nutrition across the country and sensitizing the government machinery about the need for good nutrition and the need to prevent malnutrition.

Mid-day Meal Program

Mid-day meal program was started in the year 1995 as a centrally sponsored scheme. After this, in the year 2004, making a major change in the program, the system of providing cooked hot food

based on menu was started. Under this scheme, there is a provision to provide minimum 300 calories of energy and 8-12 grams of protein per day for the lower primary level and minimum 700 grams of calories of energy and 20 grams of protein for the upper primary level for a minimum of 200 days. This program comes under the Department of School Education and Literacy, Ministry of Human Resource Development.

Nutrition Agriculture Fund of India

The Bharatiya Poshan Krishi Kosh (BPKK) was established in the year 2019 by the Ministry of Women and Child Development. Its objective is to develop a multi-sectoral framework to address malnutrition, under which the emphasis will be on production of diverse crops in 128 agro-climatic zones for better nutritive products.

Nutrition Campaign

In the year 2017, the Ministry of Women and Child Development launched the POSHAN Abhiyaan to address the problem of malnutrition across the country. The main objective of this campaign is to reduce malnutrition and anemia in young children, adolescent girls and women across the country in a phased manner through a result oriented approach. To achieve this objective, all the districts of the state and union territories have been included under the campaign.

Conclusion

There is no doubt that the lack of nutrients in food is the main cause of malnutrition, but the lack of awareness in this regard is clearly visible in a large section of the society. It is necessary that necessary steps should be taken at the earliest to address the problems related to malnutrition, so that the impediment caused by malnutrition in the economic development of the country can be eliminated.

In many parts of the world, under nutrition results from lack of food. In some cases, however, undernourishment may stem from a health condition, such as an eating disorder or a chronic illness that prevents the person from absorbing nutrients. Therefore the need to eradicate this problem is very important. In today's time there are various factors which lead to it and so are the solutions which can save a person from malnutrition.

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