



Influences Of Malnutrition On Health

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Abstract

Malnutrition is an impairment of health either from deficiency or excess or imbalance of nutrients. Person with malnutrition may lack of vitamins, minerals, protein, carbohydrates and other essential substances that body needs to function. Causes include a poor diet, digestive conditions or diseases. This paper is an attempt to study the influence of malnutrition on health.

Introduction:

Malnutrition is the biggest public health problem in India today. It is common in developed as well as industrialized countries. It is more likely to be caused by unhealthy diets with excess energy, fats and refined carbohydrates. A growing trend of obesity is now a major public health concern in lower socio-economic level and also well-to-do peoples. The WHO has reported hunger and related malnutrition is the greatest single threat to the world's public health. In India, more emphasis is given on micronutrient as compared to macronutrient deficiencies with respect to vitamin A, iodine and iron continue to be major nutritional problem.

Objective :

1. To know about the malnutrition.
2. To identify the causes and preventive measures of malnutrition.

Methodology :

For the present study, data and information's are collected from secondary sources like various books, journals, Magazines and internet sources.

Malnutrition:

Malnutrition is the state of health which arises from incomplete, excess or imbalance of nutrients. Certain phases of life can do irreparable damage to the body due to severe malnutrition. Non availability of nutrients to the body over a long period of time leads to nutritional deficiency disorders. Non availability due to faulty planning of meals or faulty utilization of nutrient in the body. Physical, mental and intellectual wellbeing in a person is affected due to malnutrition. In later life emotional upset and intellectual dwarfism create personality problem.

Effect of malnutrition:

- ❖ Poor or no physical growth.
- ❖ Growth failure/retardation.
- ❖ Capacity reduced to fight against diseases.
- ❖ Wasting of muscles.
- ❖ Lose of appetite.
- ❖ Mental dullness and low IQ.
- ❖ Learning ability reduced and affect school performance.
- ❖ Tiredness, inactive and irritable.
- ❖ Takes time to recover.
- ❖ Low immunity.

Causes of Malnutrition:**A. Related to nutrition –**

- i. Delayed introduction of breast milk.
- ii. Delayed introduction of complementary foods.
- iii. Bottle feeding.
- iv. Low intake of foods providing protein and energy.
- v. Unhygienic feeding practices.
- vi. Not feeding the child properly during illness.

B. Related to Health –

- i. Diarrhoea-loss of nutrient.
- ii. Frequent illness – loss of appetite.
- iii. Low birth weight child.
- iv. Inadequate care of children, women and adolescent girls.
- v. Lack of awareness about personal hygiene.
- vi. Lack of access to basic health services.
- vii. Poor environmental sanitation.

C. Related to Social issues –

- i. Early marriage.
- ii. Traditional beliefs and taboos.
- iii. Lack of resources (poverty and inability to buy food)
- iv. Family size.

Nutritional Deficiency:

For normal growth and development, good wholesome food is essential. Hippocrates, the father of medicine, used food as a remedial agent many centuries ago. Now it is an established fact that food is not only essential for growth but also required for preventing certain diseases. Inadequate intake of essential nutrients and improper utilization of them leads to deficiency diseases.

Loss of interest in and appetite for food, loss of weight, poor concentration power, insomnia, nervousness, frequent infections, sore tongue, dermatitis and skin diseases, diarrhoea, constipation, muscular weakness, painful joints and muscles, deformities in the bone, difficulty in seeing in dim light, swollen on congested eyelids, dry eyes and poor general health and retarded growth are the causes of nutritional deficiency.

Common deficiency diseases are –

1. Protein energy malnutrition:

Deficiency of protein and energy in the diet during infancy is one of the most serious problems throughout the world. Kwashiorkor and marasmus are two common deficiency disease among infants and early childhood age in India.

Kwashiorkor : It is an African word. It means “the disease of the displaced child”. It is usually occurring in the first child when second child is born and weaned from breast milk to solid foods. The food given to a weaned child contain plenty of carbohydrates but little of protein is usually observed in child of between 1 and 3 years of age.

Symptoms :

- i. Lack of growth.
- ii. Gastro-intestinal disturbance with anorexia, nausea and diarrhoea.
- iii. Swelling on the hands, feet and face will be seen.
- iv. Colour of skin and hair changes.

2. Marasmus : It is due to the deficiency of calorie in the diet.

Symptoms :

- i. Loss of body weight.
- ii. Body fat is depleted, muscles are wasted.
- iii. Appearance look like a old man.

3. Marasmic Kwashiorkor : Both calorie and protein deficiency in the diets leads to a disease called Marasmic Kwashiorkor and shows mixed sign and symptoms of both Kwashiorkor and Marasmics. It is the most severe form of malnutrition characterized by its thin, lean and skinny appearance.

2. Over nutrition/Excessive nutrition :

Over consumption of calories vitamins and minerals can result in over nutrition. Over nutrition or obesity is a physiological condition characterized by an accumulation of fat much more than is necessary in the body and is a public health problem or we can say as malnutrition of the well-to-do people. The degree of obesity can be assessed by comparing the patient’s weight with tables of standard weights for heights. A man whose body fat amount is more than 20% of his total weight is considered obese. For a women it is 30% and above.

Causes : Obesity is a disease of civilization and makes a person bulky and overweight. It may be result of

- i. Genetic factor.
- ii. Endocrine and behavioral factor.

Apart from the genetic factors, hypo or lowered activity of the pituitary, thyroid and gonads lead to decreased secretion of hormones of these endocrine glands which results in obesity.

Behavioral factors like eating, sleeping and activity are generally responsible for the regulation of body weight. Excessive intake of calories may develop a physical and psychological problem. Over consumption of food coupled with labour-saving devices, reduces physical activity has become a major problem.

Excessive weight is a predisposing factor for cardiovascular diseases, osteoarthritis, diabetes, gout, liver and gall bladder diseases, respiratory problems and hernia.

Treatment : We always keep in mind that “The longer the belt, the shorter the life”.

- i) Careful planning in diet is required for losing weight.
- ii) Reduced food intake (high caloric)
- iii) Regular physical activities are needed for depletion of body energy is a practical method.

Before reducing the body weight one must know the ideal weight for various heights are given on the table – I.

Table – I

| Hight in cms | Weight in kg (males) | Over weight limit | Under weight in limit | Weight in kg (females) | Over weight | Under weight |
|--------------|----------------------|-------------------|-----------------------|------------------------|-------------|--------------|
| 148 | 47.5 | 57.0 | 38.0 | 46.4 | 56.0 | 37.0 |
| 152 | 49.0 | 59.0 | 39.0 | 48.5 | 58.0 | 39.0 |
| 156 | 51.5 | 62.0 | 41.0 | 50.5 | 60.5 | 40.5 |
| 160 | 53.5 | 64.0 | 43.0 | 52.5 | 63.0 | 42.0 |
| 164 | 56.0 | 67.0 | 45.0 | 55.0 | 66.0 | 44.0 |
| 168 | 59.5 | 69.5 | 49.5 | 58.0 | 69.0 | 46.5 |
| 172 | 62.0 | 74.5 | 52.4 | 60.5 | 72.5 | 48.5 |
| 176 | 65.5 | 78.5 | 55.5 | 64.0 | 77.0 | 51.0 |
| 180 | 68.5 | 82.0 | 57.5 | 67.0 | 80.5 | 53.5 |

(Begum Raheena : Tex book of Food, Nutrition & Diabetes, Page 243)

Micronutrient Deficiency :

Micronutrients are substances, which are required in a very small amount for the body for performing a special functions. If it is not get in required amount may leads to the specific diseases. The deficiency of one or more micronutrient in the body is called micronutrient deficiency.

Major micronutrients are Vitamin A, C, B and minerals like Iron and Iodine.

Deficiency of A Vitamin :

Vitamin A plays an important role in normal vision. Deficiency of Vitamin A causes number of defects and also reduces the capacity of the body to fight against diseases and infection. It is an essential micronutrient required for proper growth and good health. It participates in many body functions –

- i. Essential for the proper growth of developing bony structure and health.
- ii. For good, healthy, moist and glossy skin.
- iii. Bright clear eyes, normal vision and secretion of tear glands.
- iv. Provide resistance power to the body against anti-infective vitamins.

Causes :

- i. Low intake of Vitamin A rich foods.
- ii. Low or impaired absorption of vitamin A.
- iii. Nutritional status of lactating mother.
- iv. Deficiency like PEM and other deficiencies.
- v. Lack of knowledge.
- vi. Poverty.

Sources : Vitamin A is found in form of both retinol and carotenoids.

“The best sources of retinol are shark and halibut liver oils and liver of animals like sheep, goat and cow, Butter, Ghee, eggs especially egg yolk and all milk powders. The sources carotenoids are green leafy vegetables, yellow vegetables like carrot, pumpkin and yellow fruits like papaya and mangoes and fortified vegetable oils etc.”

Vitamin A deficiency symptoms for eyes –

Eye Inflammation : Early symptoms start with itching, burning and inflammation of eyelids.

Night Blindness : Child cannot see in dim light.

Conjunctival Xerosis : If night blindness not treated well vitamin A deficiency is severe and prolonged, the conjunctiva becomes dry, wrinkled and muddy.

Bitot's spots : While foamy patches form on either side of cornea.

Corneal Xerosis : Cornea appears dull, dry and eventually becomes opaque.

Keratomalacia: The cornea becomes soft, ulcerated and bursts resulting in total blindness. It can also lead to complications with skin, heart, lungs, tissues and immune system.

Iodine Deficiency: Iodine is an essential trace element for our body. Iodine is required for proper functioning of thyroid gland, situated in the neck secretes hormone called thyroxine needed for normal growth and development of young ones. Lack of iodine leads to stunts growth and causes the thyroid gland to become irregular; this disorder is called goiter. People with goiter are advised to use iodized salt. The iodine needed for the body is obtained from the food we eat and water we drink. Iodine content of the soil in which they grow. Iodine deficiency during foetal stage could lead to mental retardation, spontaneous abortion/miscarriage and still birth.

Iodine deficiency is more in mountainous region of the world where food is grown in iodine poor soil. Now in some areas is combated by the addition of small amount of iodine, potassium iodated is known as iodized salt. In the world, over 90.54% cases of goiter are caused by iodine deficiency.

Iodine deficiency diseases i.e. Goiter forms a major public health problem in our country. Endemic goiter is prevalent in sub-Himalayan areas. The distribution of iodized salt must be uniform throughout the region may prevent the prevalence of goiter in this region.

Iron deficiency anemia :

In all nutritional deficiencies, iron deficiency anemia is the most common. Iron is present in all cells in the human body and plays several vital functions. In iron deficiency anemia, body stores of iron have been depleted and the body is unable to maintain the hemoglobin in the blood. The life-span of normal red blood cell is about 120 days. Certain nutrients are required for building up red blood cells and maintenance. There are so many nutrients like iron, protein, B vitamin like B12, folic acid, Vitamin C and copper are responsible to maintain the required amount of iron in the body. Deficiency of any of these nutrients leads to anemia. Normally 100 ml of blood contain 14 to 15 gms of hemoglobin. When the hemoglobin content is below 12.5 gms the person is considered as anemic. About half the pregnant women in our country are anemic and one out of every four maternal death is due to anemia. In India 50 to 60 percent of children and about 80% of adolescences are anemic.

Sign and Symptoms:

- i) Increased tiredness, fatigue and lethargic.
- ii) Breathiness.
- iii) Giddiness.
- iv) Loss of appetite.
- v) Paleness of skin, eyes, lips and tongue.
- vi) Paleness of palms.
- vii) Spoon shaped/flat nails.

Causes :

- i. Low dietary intake of iron rich food at all stages of life.
- ii. Low absorption of iron in the intestine.
- iii. Malaria, worm infection.
- iv. Excessive flow of blood during menstruation and child birth.
- v. If mother is anemic, new born baby can not store adequately.

Consequences :

- i. Work capacity and physical performance are reduced.
- ii. Reduced learning ability and cognitive functions.
- iii. Reduced resistance against diseases.
- iv. Increase morbidity and mortality.
- v. Anemia during pregnancy increases the risk of premature deliveries, low-birth weight babies, maternal and neonatal death.

Preventive Measures :

1. Consumption of iron rich food.

i) Protein foods are concentrated sources of iron. Meat of all kinds, dried legumes, green leafy vegetables, fruits, dried fruits, egg yolk, shellfish, molasses, whole grain are all good source of iron. Milk, cheese and ice-cream are poor sources of iron. This is why diets of infants must be fortified with iron-rich foods.

ii) Cooking procedure - Lack of appropriate water for cooking. For mineral salt are backed out when large amount of water are used and discarded. Used iron utensils which appreciable adds to the daily intake of iron.

In some foods, phytates, phosphates and oxalates are present in large amount which interfere in iron absorption. Regular consumption of Vitamin C rich food enhances iron absorption. Other foods like germinated and fermented foods also promote absorption of iron.

iii) Drinks like tea, coffee, drugs, alcohol inhibits absorption of iron. Reduce consumption of such foods specially during pregnancy.

2. Consume Iron and folic acid supplements.

3. Take health measure like –

i) Take safe drinking water.

ii) Aware about personal hygiene and sanitation.

iii) Take no worm tablet in appropriate intervals.

iv) Prevent surrounding from mosquito breeding to check the malaria disease.

Conclusion:

There are so many dietary and clinical surveys carried out in different parts of our country but malnutrition is unchecked. The problem of malnutrition is due to ignorance, poverty and lack of knowledge in respect of value of foods. Nutrition education is a foundation for improvement in the dietary practices of children, pregnant and lactating mother and their food habits, food fads and social taboos. Therefore, nutritional awareness is essential to bring changes in dietary habits, food selection, food believe to combat malnutrition.

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