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Malnutrition: Classification and Causes

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ABSTRACT

Malnutrition is thought to be a factor in more than a third of all child fatalities, despite the fact that it is rarely mentioned as a direct cause. To address the aforementioned issues, such as rising food costs, economic slump, greater competition for natural resources, and climate change, a worldwide scientific and technology programme is required. Hundreds of thousands of children's lives are being saved each year because to a newly developed home-based treatment for severe acute malnutrition. Ready-to-use Therapeutic Food (RUTF) has revolutionized the treatment of severe malnutrition by offering foods that are safe to eat at home and help severely malnourished children gain weight quickly. This overview of the research sheds light on the causes of malnutrition.

KEYWORDS: malnutrition, children, poor diet, weight loss, CVD

1. INTRODUCTION

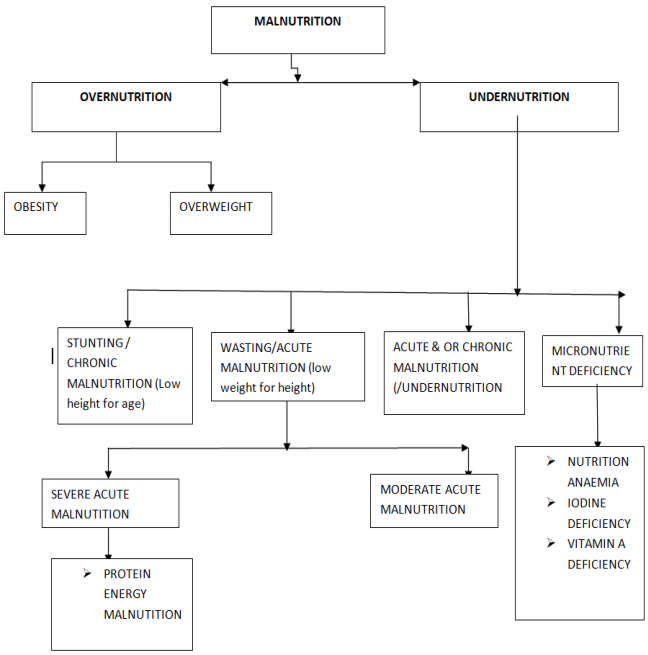
Malnutrition is a health condition that can occur as a result of inadequate or excessive nutrition. It includes both undernutrition and overnutrition. Malnutrition is like the tip of an iceberg in our society, with the majority of people suffering from it. Children, pregnant women, and nursing mothers are among the most vulnerable members of our society. Malnutrition is one of the main causes of several adverse health issues and is a secondary cause of many diseases such as low birth weight babies, preterm delivery, still birth, anaemia, protein energy deficiency, post-delivery haemorrhage, obesity, hypertension, CVD, diabetic, and so on, all of which increase mortality and morbidity rates. In the end, malnutrition can have both acute and long-term implications **(Hickson, 2006)**.

Malnutrition can be caused by insufficient nutritional intake and severe illness conditions, according to UNICEF. Inadequate food intake can result from a lack of access to food. "Having reliable access to a sufficient quantity of affordable, nutritious food" is what the word "food security" means. Some measures to eliminate or prevent malnutrition include food security, anti-poverty, and nutritional programmes. India has taken action to reduce undernutrition and malnutrition rates. The National Food Security Act of 2013 is an Indian law that provides subsidised food grains. Between 2006 and 2016, the percentage of children with stunted growth (low height for age) due to a lack of food reduced from 48 percent to 38 percent. Reduced reading and learning ability, higher school dropout rate, and increased infection rate are all consequences of stunted growth. To achieve nutrition security and eliminate malnutrition, the Indian government has launched a number of programmes, including the VITAMIN –A PROPHYLAXIC PROGRAMME, the NATIONAL

NUTRITIONAL ANAEMIA CONTROL PROGRAMME, the NATIONAL NUTRITIONAL GOITER CONTROL PROGRAMME, the NATIONAL FOOD SECURITY MISSION, and the RASHTRIYA KRISHI VIKAS YOJANA. Many other initiatives have been implemented, such as providing supplementary food to children (1-6 years), pregnant and lactating mothers, all adolescent girls, and all women up to 45 years of age through ICDS centers, a daily mid-day meal programme at school, and subsidized food grains and essential items through the Public Distribution System (PDS). Many other national and international organizations, such as the Food and Agriculture Organization (FAO), the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the Integrated Children Development Fund (ICDS), are trying to eliminate malnutrition. Several food grains, including rice, wheat flour, salt, and oil, have been fortified by the Indian government.

Malnourished children have increased risk of dying, with most deaths caused by infectious diseases. One mechanism behind this may be impaired immune function. However, this immune deficiency of malnutrition has not previously been systematically reviewed. Immunity is a state of resistance to protect organisms by invading pathogens (biotic & abiotic) and their harmful effects **(Tewari *et al.*, 2020).**

2. CLASSIFICATION OF MALNUTRITION



Malnutrition is a prevalent, under-diagnosed, and under-treated condition that patients and physicians must deal with. It is both a cause and a result of disease, and it can be found in both institutional and community settings. Approximately 5% of the UK population is underweight, with a BMI of less than 20 kg/m2, while obese people who lose weight accidentally and have a BMI within the normal range are also at risk of malnutrition. Other patients are put at risk after an acute incident (such as a small intestinal infarction), leaving them unable to meet their metabolic needs in the short and long term. Malnutrition is at least twofold more common in the elderly and those with chronic diseases, and threefold more common in those living in institutions **(Saunders & Smith, 2010)**.

Malnutrition rates in UK hospitals have ranged from 13–40 percent during the last 15 years, with many patients seeing a worsening of their nutritional status throughout their stay. In 2008, the British Association of Parenteral and Enteral Nutrition (BAPEN) performed a major survey that indicated that 28% of inpatients were at risk of malnutrition. The prevalence was higher in certain subpopulations: 34% of all emergency admissions and 52% of admissions from care homes, for example **(Kalantar-Zadeh et al., 2003)**.

3. CAUSES OF MALNUTRITION

Van Cutsem & Arends (2005) noted that Malnutrition is sadly still more widespread in industrialised countries, especially in settings of poverty, social isolation, and substance abuse. Most adult malnutrition, on the other hand, is linked to disease and can be caused by a variety of factors:

- increased losses or altered requirements
- reduced dietary intake
- reduced absorption of macro- and/or micronutrients
- increased energy expenditure (in specific disease processes).

1) Dietary intake

Reduced food intake is probably the single most important aetiological component in disease-related malnutrition. Changes in cytokines, glucocorticoids, insulin, and insulin-like growth factors are considered to cause a reduction in appetite sensation **(Gregory *et al.*, 2000)**. Failure to give regular nutritional meals in an

atmosphere where they are protected from routine clinical procedures and where they are offered help and support with feeding when needed may exacerbate the problem in hospital patients **(Concern, 2006)**.

2) Malabsorption

Malabsorption is an independent risk factor for weight loss and malnutrition in individuals with intestinal failure and those having abdominal surgical operations **(Tewari, 2019)**.

3) Increased losses or altered requirements

Patients may experience excessive and/or specialised nutrient losses in some circumstances, such as enterocutaneous fistulae or burns; their nutritional requirements are usually considerably different from normal metabolism **(Stratton, 2003)**.

4) Energy expenditure

For many years, it was assumed that increased energy expenditure was the primary cause of disease-related malnutrition. There is now significant evidence that overall energy expenditure in many illness states is actually lower than in normal health. The disease's basic hypermetabolism is countered by a decrease in physical activity, with studies showing that energy expenditure in critical care patients is typically less than 2,000 kcal/day. Patients with acute trauma, head injury, or burns are an exception, as their energy expenditure may be significantly higher, albeit only for a brief period of time **(Elia, 1995; Green, 1999).**

4. CONCLUSION:

Malnutrition is prevalent and has a wide range of impacts on physiological function, which is often neglected by doctors. It's linked to higher rates of morbidity and mortality in hospital patients, as well as higher healthcare costs. Implementing a basic screening technique can identify individuals who are at risk and allow for proper treatment, which can improve clinical outcomes and lower healthcare costs. Every doctor should understand that excellent clinical practise requires optimal nutritional care. There can be genuine gains in nutritional treatment by addressing shortcomings in all healthcare professionals' education and exercising influence through clinical leadership.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

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