

# The impact of imbalance: Recognizing and treating nutritional deficiencies.

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## Introduction

Nutritional deficiencies occur when the body does not receive an adequate amount of essential nutrients to maintain optimal health [1]. These essential nutrients include vitamins, minerals, amino acids, fatty acids, and other vital compounds that support various bodily functions. When we lack these nutrients, it can lead to a range of health issues, affecting physical and mental well-being. In this article, we will explore the causes, symptoms, and prevention of nutritional deficiencies.

## Common nutritional deficiencies

### Iron deficiency

Iron is essential for the production of hemoglobin, a protein that carries oxygen in red blood cells. Iron deficiency can lead to anaemia, causing fatigue, weakness, pale skin, and difficulty concentrating [2].

### Vitamin D deficiency

Vitamin D is crucial for bone health and plays a role in the immune system. Deficiency can lead to weakened bones, muscle pain, and an increased risk of infections.

### Vitamin B12 deficiency

Vitamin B12 is essential for nerve function and red blood cell production. A deficiency can cause anemia, fatigue, tingling in the hands and feet, and cognitive impairment.

### Calcium deficiency

Calcium is vital for strong bones and teeth, as well as muscle and nerve function. Insufficient calcium intake can lead to osteoporosis and an increased risk of fractures.

### Vitamin C deficiency

Vitamin C is an antioxidant that supports the immune system and aids in collagen formation [3]. Deficiency can lead to scurvy, causing fatigue, swollen gums, and delayed wound healing.

### Folate (vitamin b9) deficiency

Folate is essential for cell division and DNA synthesis. Deficiency can cause anemia, fatigue, and an increased risk of neural tube defects in pregnant women.

## Causes of nutritional deficiencies

Nutritional deficiencies can result from various factors,

including

**Inadequate Diet:** A diet lacking in diverse and nutrient-rich foods can lead to deficiencies over time [4].

**Malabsorption:** Certain medical conditions like celiac disease, Crohn's disease, and gastric bypass surgery can impair nutrient absorption.

**Vegan or Vegetarian Diets:** Restrictive plant-based diets may lack certain essential nutrients like vitamin B12, iron, and omega-3 fatty acids.

**Medical Conditions:** Chronic illnesses and certain medications can interfere with nutrient absorption or increase nutrient excretion.

**Pregnancy and Breastfeeding:** Increased nutrient requirements during pregnancy and breastfeeding can lead to deficiencies if dietary intake is insufficient.

## Symptoms of nutritional deficiencies

The symptoms of nutritional deficiencies can vary depending on the specific nutrient lacking and the severity of the deficiency. Common symptoms include:

1. Fatigue and weakness
2. Pale skin and brittle nails
3. Changes in appetite or taste
4. Digestive issues
5. Hair loss
6. Slow wound healing
7. Cognitive impairment and difficulty concentrating
8. Muscle cramps and bone pain
9. Prevention and Treatment

Preventing nutritional deficiencies involves adopting a balanced and varied diet that includes a wide range of nutrient-dense foods. Consuming fruits, vegetables, whole grains, lean proteins, and healthy fats ensures an adequate intake of essential nutrients.

For individuals with dietary restrictions or specific needs, supplementation may be necessary under the guidance of a healthcare professional or registered dietitian. However,

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supplements should not replace a balanced diet and should be used judiciously to avoid excessive intakes, which can also be harmful.

Regular health check-ups can help identify deficiencies early on, allowing for timely intervention and treatment. If a deficiency is detected, the underlying cause should be addressed, and the individual may need to make dietary changes or take supplements to correct the imbalance [5].

## Conclusion

Nutritional deficiencies can significantly impact overall health and well-being. A balanced and varied diet is the cornerstone of preventing deficiencies, providing the body with essential nutrients to function optimally. Understanding the causes, symptoms, and preventive measures for nutritional deficiencies empowers individuals to make informed choices about their dietary habits and overall health. If you suspect a deficiency or experience persistent symptoms, it is essential to consult a healthcare professional for proper evaluation and guidance.

## References

1. Morley JE, Silver AJ. Nutritional issues in nursing home care. *Ann Intern Med.* 1995;123(11):850-9.
2. Maslach C, Leiter MP. Understanding the burnout experience: recent research and its implications for psychiatry. *World J Psychiatry.* 2016;15(2):103-11.
3. Grada A, Phillips TJ. Nutrition and cutaneous wound healing. *Clin. Dermatol.* 2022;40(2):103-13.
4. Elia M. Defining, recognizing, and reporting malnutrition. *Int J Low Extrem Wounds.* 2017;16(4):230-7.
5. White JV, Guenter P, Jensen G, et al, Academy Malnutrition Work Group. Consensus statement of the Academy of Nutrition and Dietetics/American Society for Parenteral and Enteral Nutrition: characteristics recommended for the identification and documentation of adult malnutrition (undernutrition). *J Acad Nutr Diet.* 2012;112(5):730-8.