

NUTRITIONAL DISORDERS

Lucie Geurts

Department of Nutrition, The University of Chicago.

Abstract

Nutrition disorders are diseases that occur when an individual's dietary intake doesn't contain the proper amount of nutrients for healthy functioning, or when an individual cannot correctly absorb nutrients from food. Nutrition disorders are often caused by undernutrition, overnutrition or an incorrect balance of nutrients.

The most significant nutrition-related disease is chronic undernutrition, which plagues quite 925 million people worldwide. Undernutrition may be a condition during which there's insufficient food to satisfy energy needs;

its main characteristics include weight loss, failure to thrive, and wasting of body fat and muscle. Low birth weight in infants, inadequate growth and development in children, diminished mental function, and increased susceptibility to disease are among the various consequences of chronic persistent hunger, which affects those living in poverty in both industrialized and developing countries.

Malnutrition is that the impaired function that results from a protracted deficiency—or excess—of total energy or specific nutrients like protein, essential fatty acids, vitamins, or minerals. This condition may result from fasting and anorexia nervosa; persistent vomiting (as in bulimia nervosa) or inability to swallow; impaired digestion and intestinal malabsorption; or chronic illnesses that end in loss of appetite (e.g., cancer, AIDS). Malnutrition also can result from limited food availability, unwise food choices, or overzealous use of dietary supplements.

Selected nutrient-deficiency diseases are listed within the table.

some nutrient-deficiency diseases

Xerophthalmia (vitamin A): blindness from chronic eye infections, poor growth, dryness and keratinization of epithelial tissues liver, fortified milk, sweet potatoes, spinach, greens, carrots, cantaloupe, apricots

rickets (vitamin D):weakened bones, bowed legs, other bone deformities fortified milk, fish oils, sun exposure

beriberi (thiamin) :nerve degeneration, altered muscle coordination, cardiovascular problems pork, whole and enriched grains, dried beans, sunflower seeds

pellagra (niacin) :Diarrhea, skin inflammation, dementia mushrooms, bran, tuna, chicken, beef, peanuts, whole and enriched grains

Scurvy (vitamin C):Delayed wound healing, internal bleeding, abnormal formation of bones and teeth citrus fruits, strawberries, broccoli

Iron-deficiency anemia (iron) :decreased work output, reduced growth, increased health risk in pregnancy meat, spinach, seafood, broccoli, peas, bran, whole-grain and enriched breads

Goiter (iodine):Enlarged thyroid, poor growth in infancy and childhood, possible retardation, cretinism iodized salt, seafood

Protein-energy malnutrition:Chronic undernutrition manifests primarily as protein-energy malnutrition (PEM), which is that the commonest sort of malnutrition worldwide. Also referred to as protein-calorie malnutrition, PEM may be a continuum during which people—all too often children—consume insufficient protein, energy, or both. At one end of the continuum is kwashiorkor, characterized by a severe protein deficiency, and at the opposite is marasmus, an absolute food deprivation with grossly inadequate amounts of both energy and protein.

An infant with marasmus is extremely underweight and has lost most or all subcutaneous fat. If untreated, marasmus may end in death thanks to starvation or coronary failure .

Kwashiorkor: is usually seen when a toddler is weaned from high-protein breast milk onto a carbohydrate food source with insufficient protein.

Carbohydrates: Long-term carbohydrate inadequacy leads to increased production of organic compounds called ketones (a condition referred to as ketosis), which imparts a particular sweet odour to the breath.

Essential fatty acids :There is additionally a minimum requirement for fat—not for total fat, but just for the fatty acids linolic acid (a so-called omega-6 fatty acid) and omega-3 fatty acid (an omega-3 fatty acid). Deficiencies of those two fatty acids are seen in hospitalized patients fed exclusively with intravenous fluids containing no fat for weeks, patients with medical conditions affecting fat absorption, infants given formulas low in fat, and young children fed nonfat milk or low-fat diets

Vitamins: Although deficiency diseases are described in laboratory animals and humans bereft of single vitamins, in human experience multiple deficiencies are usually present simultaneously. The eight B-complex vitamins function in coordination in numerous enzyme systems and metabolic pathways; thus, a deficiency of 1 may affect the functioning of others

Minerals Etc.