Malnutrition
(Nutrition Lack)

Many of us think of malnutrition as a condition in which there is not enough to eat. Malnutrition is actually any condition where nutrition is poor. This means:

- Too much to eat as we see in conditions of obesity.
- Too little to eat with starvation.

The following information is only for the malnourished with dietary deficiencies (poor diet).

CAUSES

Under-nutrition can result from:

- Poor intake.
- Malabsorption
- Lactation
- Bleeding
- Diarrhea
- Old age.
- Kidney failure.
- Infancy
- Poverty
- Infection
- Adolescence
- Excessive sweating
- Drug addiction
- Pregnancy
- Early childhood.

Under-nutrition comes anytime the demand is more than the intake.

SYMPTOMS

The problems depend on what type of malnutrition is present. Some general symptoms include:

- Fatigue.
- Dizziness.
- Fainting
- Weight loss.
- Poor immune response.
- Lack of menstruation.
- Lack of growth in children.
- Hair loss.

DIAGNOSIS

Your caregiver will usually suspect malnutrition based on results of your:

- Medical and dietary history.
- Physical exam. This will often include measurements of your BMI (body mass index).
- Perhaps some blood tests. These may include: plasma levels of nutrients and nutrient-dependent substances, such as:
  - Hemoglobin
  - Thyroid hormones
  - Transferrin
  - Albumin

RISKS

Persons in the following circumstances may be at risk of malnutrition.

- ***Infants and children*** are at risk of under-nutrition. This is because of their high demand for energy and essential nutrients. Protein-energy malnutrition in children consuming inadequate amounts of protein, calories, and other nutrients is a particularly severe form of under-nutrition that delays growth and development. This includes Marasmus and Kwashiorkor.

- ***Hemorrhagic disease*** of the newborn is a life-threatening disorder. This is due to a lack of vitamin K, iron, folic acid, vitamin C, copper, zinc, and vitamin A. This may occur in inadequately fed infants and children.
- In ***adolescence***, nutritional requirements increase because they are growing. Anorexia nervosa, a form of starvation, may affect adolescents.
- ***Pregnancy and lactation*.** Requirements for all nutrients are increased during pregnancy and lactation.
- Abnormal diets, such as pica (the consumption of nonnutritive substances, such as clay and charcoal), are common in pregnancy.
- ***Anemia*** due to folic acid deficiency is common in pregnant women. This is especially true for those who have taken oral contraceptives. Folic acid supplements are now recommended for pregnant women. Folic acid prevents neural tube defects (*spina bifida*) in children.
- Breast-fed-only infants may develop vitamin B12 deficiency if the mother is a vegan.
- An alcoholic mother may have a handicapped and stunted child with fetal alcohol syndrome. This is due to the effects of alcohol on the fetus. **Do not drink during pregnancy**.
- ***Old age*:** A weakened sense of taste and smell, loneliness, physical and mental handicaps, immobility, and chronic illness can hurt the food intake in the elderly. Absorption is reduced. This may add to iron deficiency, calcium and bone problems and also a softening of the bones due to lack of vitamin D. This is also made worse by not being in the sun.
- With aging, we loose lean body mass. These changes and a reduction in physical activity result in lower energy and protein requirements compared with those of younger adults.
- ***Chronic disease*** including *malabsorption states* (including those resulting from surgery) tend to impair the absorption of fat-soluble vitamins, vitamin B12, calcium, and iron.
- ***Liver disease*** impairs the storage of vitamins A and B12. It also interferes with the metabolism of protein and energy sources.
- ***Kidney disease*** may cause deficiencies of protein, iron, and vitamin D.
- ***Cancer and AIDS*** may cause anorexia. This is a loss of appetite.
- ***Vegetarian diet.*** The most common form of this type of diet is when meat and fish are not eaten, but eggs and dairy products are eaten. Iron deficiency is the only risk. **Ovo-lacto vegetarians** tend to live longer and to develop fewer chronic disabling conditions than their meat-eating peers. However, their lifestyle usually includes regular exercise and abstention from alcohol and tobacco. This may contribute to better health. Vegans consume no animal products and are susceptible to vitamin B12 deficiency. Yeast extracts and oriental-style fermented foods provide this vitamin. Intake of calcium, iron, and zinc also tends to be low. A fruitarian diet (eat only fruit) is deficient in protein, salt, and many micronutrients. This is not recommended.
- ***Fad diets*:** Many commercial diets are claimed to enhance well-being or reduce weight. A physician should be alert to early evidence of nutrient deficiency or toxicity in patients on these diets. Such diets have resulted in vitamin, mineral, and protein deficiency states and cardiac, renal, and metabolic disorders. Some fad diets have resulted in death. People on very low calorie diets (less than 400 kcal/day) cannot sustain health for long. Some trace mineral supplements have induced toxicity.
- ***Alcohol or drug dependency:*** Addiction leads to a troubled lifestyle in which adequate nourishment is ignored. Absorption and metabolism of nutrients are impaired. High levels of alcohol are poisonous. Too much alcohol can cause tissue injury, particularly of the GI tract, liver, pancreas, brain, and peripheral nervous system. Beer drinkers who consume food may gain weight, but alcoholics who use more than one quart of hard liquor per day lose weight and become undernourished. Drug addicts are usually very skinny. Alcoholism is the most common cause of thiamine deficiency and may lead to deficiencies of magnesium, zinc, and other vitamins.

PROGNOSIS

The outlook depends on the cause of the malnutrition. Most nutritional deficiencies can be made right. However, if malnutrition is caused by a medical condition, that illness has to be treated in order to reverse the nutritional deficiency. Long term malnutrition may lead to:

- Mental or physical disability
- Illness

- Possibly death

TREATMENT

Get treatment if you experience changes in how your body is working.

PREVENTION

Eating a good, well-balanced diet helps to prevent most forms of malnutrition.

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