

Anemia

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Many people experience tiredness, fatigue and lack of energy and concentration. There can be many reasons for feeling this way. Eating excessive amounts of processed junk food, deficient in high quality nutrients such as protein, vitamins, fiber and natural anti-oxidants is an obvious cause. Inadequate exercise and obesity may also cause people to feel tired. Lack of adequate sleep is an important cause of feeling of lack of energy. There are many other medical disorders that can cause people to feel fatigued and tired all the time. One such disorder, highly prevalent in our country, is anemia. Although anemia is prevalent in all age groups, women of child bearing age, young children and seniors, especially in lower socioeconomic strata are disproportionately affected. Frequently, cause of anemia is poor dietary habits and simple dietary interventions may go a long way to prevent and treat anemia in many individuals.

In most simple terms, anemia is a condition in which hemoglobin level in blood is reduced. Hemoglobin is a protein found inside red blood cells. The main function of hemoglobin is to carry oxygen to all organs of human body. A lowering of hemoglobin level, in essence, reduces the ability of blood to deliver adequate amount of oxygen to the body organs. According to World Health Organization (WHO), anemia is defined as hemoglobin level is below 13 gram/dl in men and 12 gram/

dl in women. Hemoglobin level decreases during pregnancy due to retention of fluid causing some degree of dilution of hemoglobin. A hemoglobin level below 11.5 gram/dl defines anemia during pregnancy.

Patients with mild anemia may not have any symptoms. In more severe cases, patients may start to experience generalized weakness, tiredness, fatigue, lack of concentration, dizziness, and shortness of breath on exertion. Skin, lips, nail beds and palm start to look more pale in color. Physicians use the word "pallor" to describe such changes. Complete blood count (CBC) is needed to detect the presence and severity of anemia. It can also provide useful clues that may prompt targeted testing to determine the cause of anemia.

Hemoglobin and red cells are formed in bone marrow, a hollow space inside human bones. Several things can go wrong in this process. Synthesis of blood requires properly functioning bone marrow and adequate supply of nutrients such as iron and other trace elements, vitamins, and protein. Deficiency of any of these elements can cause anemia. Direct damage to the bone marrow due to certain drugs or immune disorders can lead to a situation called aplastic anemia where the production of all types of blood cells are compromised. Anemia may also develop due to a genetic defect in production of hemoglobin. Examples of such diseases are sickle cell anemia and thalassemia.

Long term infections such as tuberculosis, and chronic kidney diseases are also associated with anemia due to reduced synthesis of blood cells. A very common cause of anemia is abnormal blood loss from gastrointestinal tract. Hemolytic anemia refers to a situation in which red cells are prematurely broken down and removed from the circulation due to a variety of causes.

Identifying underlying cause of anemia is important and should be undertaken without undue delay by a qualified practitioner. A shotgun approach to self-treating anemia with supplements and indigenous therapies can further compound the problem. However, regardless of the cause, healthy eating may not only help in correcting anemia but also improve overall health and vigor of an individual.

Iron deficiency is a very common cause of anemia. Iron is a key component of hemoglobin molecule. If there is iron deficiency, the red cells are microcytic, (smaller in size than usual) and hypochromic (lower hemoglobin content in red cell than usual). Iron deficiency can be due to inadequate iron intake, poor iron absorption, or excessive blood loss. Interestingly, apart from usual symptoms of anemia, some patients with iron deficiency develop peculiar cravings for substances like ice. This phenomenon is called pica in medical terms. Long standing and untreated iron deficiency may also lead to difficulty in swallowing in some individuals. Interestingly, nails of some individuals with iron deficiency lose their normal convex shape and become flat or even spoon shaped.

In our country, chronic and low grade

blood loss due to hookworm disease is among the leading causes of iron deficiency anemia in general population. This can be detected with a simple stool test and treated easily with oral medications. This along with iron supplements for a few weeks will restore hemoglobin counts. In premenopausal women, excessive blood loss due to heavy menstrual periods is also a very common cause. Poor diet, and other gastrointestinal diseases such as hemorrhoids (piles), malabsorption syndrome due to diseases such as tropical sprue and stomach ulcers may also cause iron deficiency anemia. Long term use of non-steroidal anti-inflammatory medications such as aspirin, and ibuprofen, and repeated pregnancies and breastfeeding are among other causes. Treatment of iron deficiency anemia requires identification and correction of underlying cause (for example, medications to eradicate hook worm), iron supplementation and dietary changes as discussed below to improve iron deficiency state. It may be pointed out that vitamin C enhances iron absorption from gastrointestinal tract. Therefore, foods rich in vitamin C reduce the risk of developing iron deficiency.

Deficiency of several other vitamins such as folic acid and vitamin B12 are also common in general population. Folic acid and vitamin B12 deficiencies lead to a type of anemia called megaloblastic anemia. Human beings cannot synthesize folic acid and vitamin B12. We are completely dependent on dietary sources for these vitamins. Folic acid is found in vegetables, fruits, lentils, and whole grains, etc. Green leafy vegetables are rich sources of folic acid. Poor dietary habits and excessive consumption of fatty and processed food

may cause folic acid deficiency within a few months. Repeated pregnancies and breast feeding are important causes of folic acid deficiency. Folic acid deficiency is associated with a serious birth defect called neural tube defect. This is very much preventable by making sure that adequate folic acid supplements are given during pregnancy. Long term and excessive consumption of alcohol is also may also cause folic acid deficiency. Vitamin B12 is mainly found in foods of animal origin such as chicken, fish and eggs. Dairy products also have vitamin B12. Strict vegetarian diet is associated with a higher likelihood of vitamin B12 deficiency. Severe and long standing vitamin B12 deficiency can also cause feeling of numbness in legs, difficulty with walking, balance, and poor memory.

While diet alone cannot correct all cases of iron and vitamin deficiencies, there are several simple but important dietary and life-style changes that may be helpful in correction and prevention of nutritional causes of anemia. Generally, there must be adequate consumption of fresh fruits, vegetable, whole grains, lentils, and dairy product in your food. Some helpful food tips are:

Avoid consuming tea and coffee with your major meals like breakfast, lunch, dinner. Have these drinks 45 mins before or 45 mins after your meals.

Consume iron rich food items with foods rich in vitamin C like amla, lemon, and orange.

Add lotus stem, kale, broccoli, pumpkin seeds, cashews, pistachios, yogurt, cheese, beans, soybeans, chickpeas to your diet.

Try to add iron fortified items in your meals. For example, use iron fortified salt instead of normal salt.

Avoid consuming packed products or processed items like bread, instant noodles.

Avoid excessive consumption of foods with high amount of phytates like coriander seeds, almonds, walnuts, flaxseeds.

Avoid consuming foods with higher amount of oxalic acid like parsley, chocolates.

Try to use iron utensils for cooking.

Preferred cooking methods are steaming, and pressure cooking rather than frying

Avoid cooking for longer period of time. Try to consume those dishes more which require less cooking time.

If prescribed by your physician take your supplement on regular basis at proper dosage.

Hina Jaiswal, Flight Lieutenant, became the first female flight engineer to be inducted by the Indian Air Force.

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