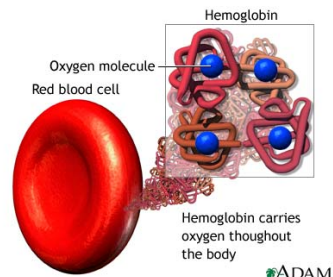
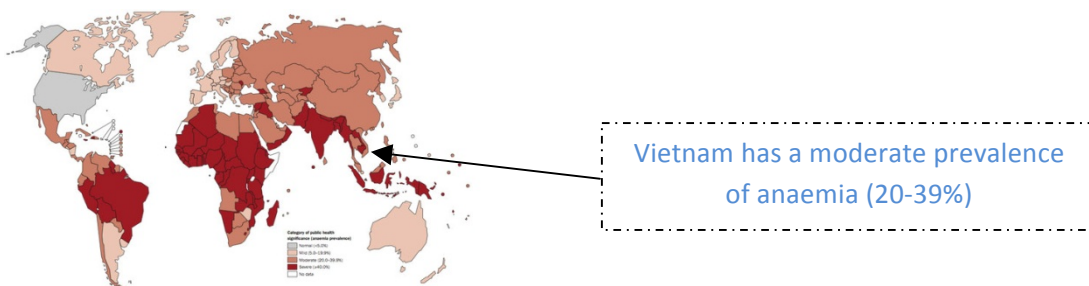


Iron

Iron is one of the essential minerals that the human body needs to function. Iron has several vital functions in the body. It serves as a carrier of oxygen to the tissues from the lungs by red blood cell hemoglobin, as a transport medium for electrons within cells and as an integrated part of important enzyme systems in various tissues. A deficiency of iron limits oxygen delivery to cells, resulting in fatigue, poor work performance, and decreased immunity. On the other hand, excess amounts of iron can result in toxicity and even death



Iron deficiency is the most common nutritional deficiency disorder in the world. It is estimated that 600-700 million people have iron deficiency anaemia; most of these people live in developing countries. Iron deficiency anemia is a very common public health problem in Viet Nam, with 32% of pregnant women and 34% of children under five are anaemic. 50% of anaemia in Vietnam can be explained by iron deficiency. It is also estimated that the annual number of maternal deaths from severe anaemia in Vietnam is 160. Approximately 6000 Vietnamese infants a year are at increased risk of death in the period before or after birth because of severe anaemia in mothers. In children 6-24 months, iron deficiency disrupts the normal development of the brain, effects attendance and lower levels of concentration.



The good news is that according to a paper by the Global Alliance for Impaired Nutrition, the National Institute of Nutrition in Hanoi and the Institute for Research and Development, the prevalence of anaemia and iron deficiency has markedly reduced over the last decade.

Sources of Iron:

There are two types of dietary iron. There is Haem Iron, and there is Non-Haem Iron. Haem Iron is the easiest to absorb and is in red meat, while non-Haem iron is most often found in plants. The best sources of Haem iron are red meat (beef, lamb, and pork), poultry (chicken, duck), fish and shellfish and offal (liver, kidney). Eating foods like blood jelly made with blood are a great source of Haem iron as well. Good sources of non-Haem iron include wholegrain cereals, beans, lentils, green leafy vegetables and eggs. Green leafy vegetables like spinach, morning glory, broccoli, mustard greens and turnip greens

are the best forms of non-Haem iron. Vitamin C enhances non-Haem iron absorption, so it is important for people who are vegetarians, or who don't eat a lot of red meat, to also consume enough Vitamin C.



Iron Deficiency:

The main cause for iron deficiency is not receiving enough iron from your diet. Worldwide this is the most common cause of iron-deficiency. Iron deficiency develops gradually and usually begins with a negative iron balance, when iron intake does not meet the daily need for dietary iron. This negative balance initially depletes the storage form of iron while the blood hemoglobin level, a marker of iron status, remains normal. Iron deficiency anemia is an advanced stage of iron depletion. It occurs when storage sites of iron are deficient and blood levels of iron cannot meet daily needs. Other causes of iron deficiency are hookworm infestation as this can lead to intestinal blood losses which can lead to iron-deficiency anaemia.



Women of childbearing age, pregnant women, preterm and low birth weight infants, older infants and toddlers, and teenage girls are at greatest risk of developing iron deficiency anemia because they have the greatest need for iron. Iron requirements of pregnant women are approximately double that of non-pregnant women because of increased blood volume during pregnancy, increased needs of the fetus, and blood losses that occur during delivery. Women with heavy menstrual losses can lose a significant amount of iron and are at considerable risk for iron deficiency. Adult men and post-menopausal women lose very little iron, and have a low risk of iron deficiency. People with gastrointestinal diseases are also at risk, because they don't absorb iron well enough.

Iron deficiency anaemia symptoms can include:

1. Extreme fatigue
2. Pale skin
3. Weakness
4. Shortness of breath
5. Headache
6. Dizziness or lightheadedness
7. Cold hands and feet
8. Irritability
9. Increased likelihood of infections
10. Brittle nails
11. Irregular heartbeat
12. Poor appetite
13. Restless legs syndrome

What to do if you are iron deficient:

Diet:

If you have mild or moderate iron deficiency, you should try to correct this through diet first. Sources of iron in food are discussed above. Try to include as much red meat and green leafy vegetables as possible into your diet. Ensuring that you are also getting enough Vitamin C will help with absorption of iron from plant sources.

Supplements:

Iron supplementation is indicated when diet alone cannot restore deficient iron levels to normal within an acceptable timeframe. Supplements are especially important when an individual is experiencing clinical symptoms of iron deficiency anemia. The goals of providing oral iron supplements are to supply sufficient iron to restore normal storage levels of iron and to replenish hemoglobin deficits. Sometimes it can take up to 6 months of iron supplements before your levels are back to normal. If you are on iron supplements, its important to have regular contact with your doctor to check you blood levels. Iron deficiency is uncommon among adult men and postmenopausal women. These individuals should only take iron supplements when prescribed by a physician because of their greater risk of iron overload. Iron overload is a condition in which excess iron is found in the blood and stored in organs such as the liver and heart. There is considerable potential for iron toxicity because very little iron is excreted from the body. This can cause organ damage and heart failure. Individuals with blood disorders that require frequent blood transfusions are also at risk of iron overload and are usually advised to avoid iron supplements.

