

FOLIC ACID AND NEURAL TUBE DEFECTS

2017

WHAT IS FOLIC ACID?

Folic acid or Folate (B9) are water soluble B vitamins, which play an important role in maintaining health during reproductive years in men and women. Pregnant women are advised to consume 400 to 800 micrograms of this vitamin daily to avoid major birth defects to the baby's brain and spine.

The human body does not store folate; this has to be consumed daily to fulfill dietary requirements.

FOLIC ACID AND NEURAL TUBE DEFECT

There are many physiological uses of folic acid, the most important being the prevention of neural tube defect in the foetus during pregnancy.

During the first month of pregnancy, certain cells of the embryo form a tube (called the neural tube), which later develops into the baby's brain and the spinal cord. Neural tube defect occurs when the tube does not close properly, resulting in damage to the brain or the spinal cord leading to permanent disability or even death.

OTHER BENEFITS OF FOLIC ACID

Other benefits of folic acid include following:

- Improved functioning of the brain
- Maintaining mental and emotional wellbeing
- Working with vitamin B12 in the production of red blood cells and utilization of iron in the body
- Synthesis of DNA and digestion of proteins.

FOLIC ACID SUPPLEMENTS IN PREGNANCY

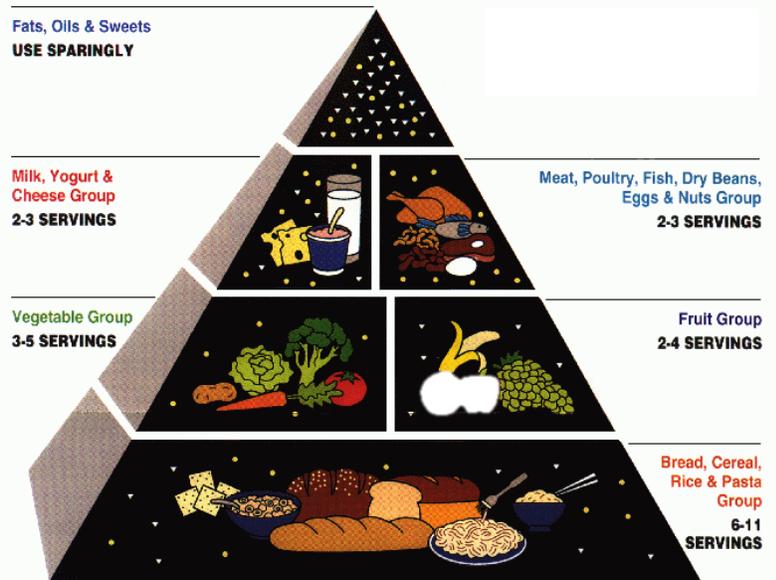
Absorption of folic acid from supplements and folic acid fortified foods appears to be substantially higher than folate absorption in the body from natural foods.

Folic acid supplement of at least 400 ug before and during the first week of pregnancy is generally recommended to ensure adequate supply.

SOURCES OF FOLATE

Foods rich in folic acid include green leafy vegetables such as spinach, kale, colard and mustard greens, beans, oranges, lentils, broccoli and asparagus.

Recommended serving of food groups for mothers during pregnancy are listed in the chart below:



References:

- Kathleen Mahan and Sylvia Escott Stump, 12th edition, Krause's Food nutrition and diet therapy, 2008.
<https://www.cdc.gov/features/folicacidbenefits/index.html>
United States Department of Agriculture (USDA)
https://commons.wikimedia.org/wiki/File:USDA_Food_Pyramid.gif