

## Folic Acid Information

What if you could prevent newborn deaths, birth defects and paralysis in children and adults, memory loss, reduce the risk of heart attack, stroke or cancer, just by taking a pill or by eating bread or cereal? \*



(Note that the pigeons in the photo below look healthier than the ones above, and that's because they are now fed with folic acid-enriched bread.)

\*The bibliographical references can be found on my website: [www.reumatologia-dr-bravo.cl](http://www.reumatologia-dr-bravo.cl) article "Folic acid in the prevention of congenital malformations, coronary problems, cerebrovascular accidents, cancer and other diseases.

Folic acid (FA) is a vitamin of the B complex (B-9), which is becoming more important every day. It is essential in the synthesis of various amino acids and consequently for the synthesis of DNA. AF favors the implantation of the egg and its development, since cell division depends on nucleic acids, thus avoiding abortions and infertility. It is almost incredible that the lack of a vitamin, Folic Acid, during the periconceptional period (from 3 months before conception) alters the genes and produces congenital malformations (CM). It has been proven that, if 0.4 mg of folic acid is consumed every day during this period, neural tube defects (Spina bifida and anencephaly (lack of brain), a type of congenital malformation, which can cause from infantile paralysis until the death of the baby, can be prevented. About 20% of the paralyzed patients who are treated in rehabilitation centers (Telethon, in Chile) are due to this cause.

It is also considered that due to a lack of FA other congenital malformations occur, such as cardiac and renal malformations, some cases of Down syndrome and cleft lip, among others. When there is a lack of FA, Homocysteine rises in the blood, which causes clogging of the arteries, as well as the elevation of cholesterol and triglycerides. If the cerebral arteries are affected, memory decreases and cerebral vascular accidents can occur. If the coronary arteries are affected, the risk of heart attacks increases. There is a mutation of the enzyme folate reductase, that is more frequent among Spanish and Chilean women of Spanish origin, which makes them require even higher doses of this vitamin, before and during pregnancy. In addition to reducing the tendency to memory lapses and Alzheimer's disease, FA can prevent the appearance of colon, breast and cervical-uterine cancer. Helps in the healing of mouth ulcers and gum problems. Corrects certain anemias and leukopenias (low white blood cells). And this is only the beginning!

Recent studies shed new insights into how folic acid helps us stay healthy. Researchers estimate that FA deficiency may be one of the causes of other diseases, including some types of osteoporosis.

My studies on Joint Hypermobility led me to think that this condition is probably also caused by a lack of FA before and during pregnancy. This condition is very common in Chile and is often associated with other health problems.

Seventeen years ago, I published my theory that folic acid (FA) deficiency could be the cause of hypermobile Ehlers-Danlos collagen abnormalities. (SEDh). I published this in the best Rheumatology journal in the USA, *Arthritis & Rheumatism*, in February 2006 (in the discussion that appears on page 519). A little earlier I also published it on my website, in Spanish and English. [www.reumatologia-dr-bravo.cl](http://www.reumatologia-dr-bravo.cl) Also, on my website you can find a lot of information about folic acid.

Recently, in April 2023, a group from Tulane University, in New Orleans, USA, published, as a novelty, the same theory that I had announced in 2006, as if it were a new observation. The reference of said article is:

J Courseault, C Kingry, V Morrison et al. Folate-dependent hypermobility syndrome: A proposed mechanism and diagnosis. *Heliyon*, 2023;9(4): e15387 DOI: 10.1016/j.heliyon. 2023.e15387. They have a reference list of 58 papers, but mine is not cited.

I have contacted the lead author Dr. Courseault, to let them know about my publication, which they apparently did not know. Credit should be given where it is due.

In any case, this news gives me great pleasure by confirming that, by giving folic acid to some 10,000 patients in the last 20 years, I have contributed to alleviate or prevent many cases of hypermobile Ehlers-Danlos. In addition, as is known, FA is necessary to prevent congenital malformations in pregnancy and especially Open Spina Bifida (Myelo-Meningocele). Since many of my patients have continued taking FA daily for years, it is very likely that those who got pregnant while taking this vitamin regularly, avoided having children with congenital malformations.

Before, it was more difficult to obtain FA from food, since it is found only in green vegetables (spinach and broccoli), fruits (bananas) and legumes. BEWARE, when cooking vegetables or toasting bread, 50% of this essential vitamin is lost!

Now it's easy to get enough FA in food, since the flour is fortified! Nowadays, it is enough to eat three pieces of bread or a bolus of enriched cereals to ingest 0.4 mg of FA per day, however, it is faster and safer to take a FA tablet or a multivitamin every day, that contains this B complex vitamin. Synthetic FA is better absorbed than the FA in natural foods. Cereals (enriched) provide a good contribution of FA and are recommended. It is a great thing that children are now eating cereals at breakfast. The relative deficiency of this vitamin can also be due to a greater demand, a malabsorption syndrome or excessive alcohol intake.

There are medications that reduce the action of folic acid, such as diuretics with Triamterene (Hydronol-T.), sulfas, antiepileptics, Methotrexate and birth control pills. Another advantage to take FA, is that it does not produce significant side effects, since, being water soluble, it does not accumulate in the body! It is cheap and it does not make the person to gain weight. Despite this, it is not recommended to take more than 1 mg of FA per day, unless it is recommended by your doctor. In case of megaloblastic anemia (Anemia with large red blood cells), it should be administered with vitamin B-12. People that do not eat much meat, vegetarians, and the elderly, are often deficient in vitamin B-12 and they must take vitamin supplements, that contain it.

In those over 55 years of age, it is recommended to take FA with Vitamin B-12, to avoid masking the neurological problems of megaloblastic anemia. Two percent of the elderly population suffers from this problem and as the neurological symptoms can precede anemia, the diagnosis is made late. Neurological symptoms include fatigue, difficulty walking and breathing, paleness, loss of appetite, diarrhea, numbness in the hands, problems with the tongue and smell, bleeding gums, and personality changes. In conclusion: To have a healthy and good quality life, exercise regularly, do not smoke, do not use drugs or drink alcohol excessively and eat a balanced diet, including plenty of fruits and vegetables.

We suggest that women take FA from 3 months before conception, but since it is difficult to know when conception will occur, it is necessary that all women of childbearing age, who could become pregnant, take 0.4 to 1mg of Folic Acid every day. to prevent congenital malformations. It would be important to disseminate this suggestion among adolescents. The FA of the diet is not enough, unless 3 pieces of bread are eaten a day. Birth control pills reduce the effect of FA, making it even more important to take it, and furthermore, since even taking the pill, there is a risk of pregnancy. It should also be remembered that you have to start taking FA from 3 months before marriage or the date you plan to stop taking birth control pills.

We suggest that men over age 40 and women over 55 take 0.4 to 1 mg of folic acid per day, especially to prevent heart attacks, cerebrovascular accidents and venous thrombosis. It may also help prevent Alzheimer's, some cancers, osteoarthritis, osteoporosis, and perhaps other diseases. Ideally, all these suggestions should be in agreement with your doctor.

NOTE: For more information, enter "Folic Acid" in the Search Engine on the home page of the website:

[www.reumatologia-dr-bravo.cl](http://www.reumatologia-dr-bravo.cl)

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