



The superhero nutrient

Folate is so powerful you need it BEFORE you get pregnant.

BY LISA EVANS

GETTING THE RIGHT AMOUNT

▶ **HOW MUCH FOLIC ACID DO I NEED?**

Although Health Canada recommends a daily dose of 4 mg of folic acid three months before conception through the first trimester, Dr. Gideon Koren, Director of Motherisk Programs at SickKids Hospital, recommends a minimum of 1 mg daily. And women at higher risk of having children with neural tube defects (including women with epilepsy, obesity, or a family history of spina bifida) may benefit from taking up to 5 mg of folic acid daily, as prescribed by their doctor.

▶ **CAN'T I GET ENOUGH FOLATE THROUGH FOOD?**

No. Although the Canadian government mandated folic acid to be added to flour and grain products, such as breakfast cereals and pasta, nutritionist Lianne Phillipson-Webb, founder of Sprout Right, says eating fortified foods will not provide enough folic acid or folate (the form found naturally in food) to reach the recommended daily level. "Folate from foods is not well-absorbed," she says, although she says it doesn't hurt to include folate-rich food such as spinach, beans, black-eyed peas and lentils into your diet for additional insurance.

▶ **CAN I TAKE TOO MUCH FOLIC ACID?**

No. Folic acid is non-toxic. However, if you are at higher risk of giving birth to a child with neural tube defects, consult your doctor before consuming more than the recommended daily dose of 1 mg.

Research shows that folic acid (or folate when it's found naturally in food) may be the key to reducing the risk of many developmental problems caused in utero, including neural tube defects and certain types of childhood cancers. Folic acid is a B vitamin found naturally in leafy green vegetables such as romaine lettuce and spinach, and in dried beans, peas and lentils.

"Folic acid is a very important component of building proteins that help complete the neural tube," says Dr. Gideon Koren, Director of Motherisk Programs at SickKids Hospital in Toronto. The neural tube is what eventually forms into the baby's brain and spinal cord.

It's long been known that folic acid deficiency can cause neural tube defects such as spina bifida (a disabling condition caused by incomplete closing of the spinal cord) and anencephaly (in which large parts of the brain that control hearing, vision, emotion and coordination are missing). While these conditions are estimated to affect one in every 1,300 children in Canada, the research is strong that folic acid, taken a minimum of three months prior to conception and within the first trimester, can prevent 70 percent of these cases.

But scientists are now discovering this super nutrient has advantages beyond neural tube defects, and are linking folic acid deficiency to autism and even some forms of children's cancers.

At SickKids, a study led by Dr. Koren discovered a direct correlation between folic acid levels in pregnant women and cancer rates in children under the age of three. "Neuroblastoma, early age brain tumors and leukemia are all believed to be of fetal origin," he says, and have been shown to occur in higher numbers in the children of women who have not taken enough folic acid during their pregnancy.

A 2013 Norwegian study showed women who took folic acid four weeks prior to conception and up to the eighth week of pregnancy were 40 percent less likely to have a child diagnosed with autism spectrum disorder than women who didn't take any folic acid.

Another study by the same researchers linked a lack of folic acid during pregnancy with language delays. Dr. Koren says the United States noticed a decline in the rates of cleft lip and cleft palate after introducing flour fortified with folic acid, signalling there may be a lot more to this essential nutrient's role in utero than scientists previously thought.

While many women begin taking prenatal vitamins containing folic acid upon discovering their pregnancy, Dr. Koren says it may be too late to avoid these developmental problems. He advises all women who may become pregnant to take folic acid since most neural tube defects occur during the third and fourth week of pregnancy – a time when most women don't even know they're pregnant. In the autism study, folic acid taken later in pregnancy had no impact on whether the child would develop autism. Although folic acid is safe, always consult with your doctor before making any changes to your medication. ○



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