

Folic acid in pregnancy

SELF-CARE FORUM FACT SHEET NO. 23

This fact sheet is for women are planning to have children. It will help you understand what folic acid is, why it is important, and how to eat enough of this essential nutrient.

Useful facts

What is folic acid?

'Folate' is a naturally occurring, water-soluble vitamin also known as folacin or vitamin B9. 'Folic acid' is the manufactured version of folate that is used in supplements and fortified food. They both work in a similar way. Folate is needed to make red blood cells and DNA (genetic material) allowing cells to replicate. It is also important for nerve function. Everyone needs enough folic acid, but more is needed before and during pregnancy because requirements are increased.

Folic acid is measured in micrograms. The symbol for micrograms looks like this: μg .

Why is folic acid important?

The World Health Organisation (WHO) and most governments advise women who are planning to become pregnant to take 400 μg of folic acid for three months before pregnancy, and for at least the first three months of pregnancy. This helps to protect the unborn child from birth defects which are caused by the neural tube not forming correctly (neural tube defects or NTD).

The neural tube is where the brain and spinal cord develop. It starts as an open tube in the first four weeks of pregnancy, when most women do not even know they are pregnant. Without enough folic acid the neural tube cannot close properly. The open tube can leave the baby's brain and spinal cord exposed at birth and this can only be closed with surgery

Where is folic acid found?

Good sources include:

- broccoli
- brussell sprouts
- leafy green vegetables such as cabbage, kale, spring greens, spinach
- peas
- chickpeas and kidney beans
- breakfast cereals fortified with folic acid

Folic acid can also be found in food supplements. 200 μg is the usual amount recommended for most of the population. Other products formulated for women of childbearing age contain 400 μg .

These supplements are widely available from pharmacies, supermarkets, and health food shops.

Recommended intake

There are different recommended intakes for folic acid. Everyone is advised to consume at least 200 μg of folic acid a day from their diet. Eating a varied well-balanced diet with plenty of fruit and vegetables every day should provide this. Folate is not stored in the body so these foods should be eaten regularly and frequently.

Women planning a pregnancy should take an extra supplement containing 400 μg of folic acid. This is on top of the 200 μg recommended daily intake from the diet. This supplement should be taken for at least three months before pregnancy and for the first 12 weeks of pregnancy. Supplements are recommended because it can be difficult to get this much extra folate from diet alone.

Recommended intake (continued ...)

People who take the drug methotrexate also take a regular dose of folic acid. If this is you, speak to your GP or specialist about when to stop your methotrexate if you are planning a pregnancy.

Higher-dose folic acid

Some women have a greater risk of having a baby with a neural tube defect and are advised to take the much higher dose of 5 milligrams (mg) of folic acid each day (more than ten times the usual dose) until they are 12 weeks pregnant, or throughout pregnancy in a few cases.

You may have greater risk if:

- you or the baby's biological father have a neural tube defect or a family history of neural tube defects
- you have had a previous pregnancy affected by a neural tube defect
- you have diabetes
- you take anti-epilepsy medicine
- you take anti-retroviral medicine for HIV
- you have sickle-cell disease, thalassaemia, or thalassaemia trait (in which case you should take 5mg throughout your pregnancy)
- you have a BMI of over 30
- you have inflammatory bowel disease

If any of these applies to you, talk to a health care professional soon. They can prescribe the higher dose of folic acid.

Folic acid deficiency

The UK government runs an ongoing survey of the nation's diet called the National Diet and Nutrition Survey (the NDNS). The NDNS looks at what people are eating, the levels of vitamins and minerals in the foods being eaten, and whether people are getting enough of what they need. The NDNS also measures blood levels for some nutrients, including folic acid.

The NDNS data show that 91% of women of childbearing age in the UK have blood levels of folate that are too low to protect against NTDs. If these women do not take supplements of 400µg of folic acid before becoming pregnant, their unborn children may be at risk of developing a neural tube defect.

As approximately half of all pregnancies in the UK are unplanned, NICE recommends that health care professionals should advise any woman who could become pregnant to take a 400µg folic acid every day.

Safety and risks

Because folic acid is a water-soluble vitamin it is a very safe substance. A daily intake of up to 1,000µg (or 1mg) is safe. For those women recommended to take high doses (up to 5mg) it is still safe as you will only be taking this temporarily while you are pregnant. You should only take these high doses under the guidance of a healthcare professional.

The main risk is that high intakes of folic acid may mask vitamin B12 deficiency anaemia. Long term intake of more than 5mg would only be prescribed by a doctor, who would use regular blood testing to make sure you remain healthy. They may also suggest taking a supplement of vitamin B12.