
Executive summary

Background to this advice

Regulations and research undergo rapid development

European legislation and research in the field of vitamins, minerals and trace elements (known as micronutrients) undergo rapid development. For this reason, the Minister of Health, Welfare and Sport has asked the Health Council of the Netherlands to reconsider its policy on micronutrients. The aim of the new policy is to ensure that as many people as possible consume adequate quantities of micronutrients while, at the same time, minimising the risk that people exceed the safe upper level of intake.

This advisory report on folic acid is the first in a series of four advisory reports on micronutrients. The other reports will deal with vitamin D, iodine and vitamin A.

Folate is essential for the human body

Folate is a B-vitamin that occurs naturally in food. The synthetic form of folate added to fortified foods and supplements is folic acid. Folate is important for growth and health. Folate deficiency can cause anaemia. Taking additional folic acid around the time of conception lowers the risk of having a child with a neural tube defect.

How can folate intake be improved?

The use of a periconceptual folic acid supplement can be improved

Since 1996 there has been a rise in the number of women who, with the desire to become pregnant, take an additional 400 micrograms per day of folic acid from at least four weeks before conception until eight weeks after. Over the past 10 years there has also been a reduction in the number of foetuses with neural tube defects. Nevertheless, the percentage of women who take the recommended additional folic acid around the time of conception remains too low to achieve the full potential health benefits in this area.

At least three-quarters of women with a non-Dutch background or those with a lower level of education and about half of higher educated women with a Dutch background do not take any periconceptual folic acid supplement, or start too late. Therefore, there is clearly room for further improvement in periconceptual folic acid intake.

Folate intake in the Dutch population does not appear to be optimal

Research into food consumption suggests that the folate intake in about half of all Dutch adults is too low. However, the limited biochemical research available into folate status reveals less dramatic figures: the folate status may be suboptimal in 8 to 25 percent of adults and elderly. The status of children up to 19 years of age has only been examined in one study and seems to be good.

What is the best way to improve folate intake?

The suboptimal folate intake is no reason to change the current policy

The committee believes that supplementation or fortification should yield a clinical benefit. As it remains unclear whether the suboptimal folate status amongst Dutch adults actually causes health problems, there is no reason to improve folate intake in the general population through food fortification or through supplementation.

Improve periconceptual folic acid intake through education and preconception care

To reach the ever-changing target group, the committee recommends a structural increase in education on folic acid use from at least four weeks before conception until eight weeks after. The implementation of preconception care is also advised. These actions should be accompanied by an additional long-term investment in education and care for women with a non-Dutch background or those with a low level of education.

In addition, consider fortifying only staple foods with folic acid

It will be a long time before education and preconception care increase the periconceptual use of folic acid supplements, particularly amongst women of non-Dutch origin or those with a low level of education. In addition, these measures will not reach women with unplanned pregnancies (9 to 15 percent of all pregnancies). For this reason, the government could consider fortifying staple foods, such as bread and bread substitutes, with folic acid so that women are ensured a basic level of folic acid intake around the time of conception. Fortification does not, however, provide the full requirement. That is why the use of folic acid supplements around the time of conception remains warranted.

Currently, fortifying specific food products with folic acid is up to the food manufacturers. This is organized through exemption. The committee is, however, of the opinion that the current policy of exemption, which permits addition of 100 micrograms folic acid per 100 kilocalories to food products, should be limited in such a way that children are no longer at risk of ingesting too much folic acid. In addition, there is no guarantee that all women of childbearing age will use these specific products.

Fortification of staple foods can increase the folic acid intake of nearly all women of childbearing age. For example, the folic acid intake of women can be increased by on average 100 micrograms folic acid per day through fortification of bread and bread substitutes with 150 micrograms folic acid per 100 grams flour after preparation. The committee feels that this level of fortification is acceptable, providing fortification of specific food products is discontinued to avoid children ingesting too much folic acid.

Investigate European regulation of this matter more closely

The conditions called for by the committee when changing the current fortification policy, i.e. limiting or banning voluntary fortification, appear to be at odds with the agreement made within the European Union to avoid any obstruction of free trade. This agreement echoes the 2004 decree of the European Court which states that fortified products may only be refused if they form a specific danger to public health. From a public health point of view, the committee recommends a closer investigation of the regulations on this matter.

If nothing changes yet, create greater control over fortification and clearer labeling

Alternatively, the government could increase its control over voluntary fortification of food products through discussions with manufacturers. It is also possible to make the labeling clearer on foods which have been voluntarily fortified with folic acid so that these can be recommended to women of childbearing age through education and preconception care.

Avoid excessive folic acid intake through fortified foods at any rate

The committee emphasises that, when fortifying foods, it is essential to ensure that folic acid intake remains below the safe upper level of intake. Children are at greatest risk of exceeding the safe upper level when foods are fortified. There is very little research into the potential health risks of folic acid in children. It has also been suggested that in adults very high doses of folic acid may promote the development of cancer.

Patients with benign colorectal tumours should be warned against dietary supplements with folic acid

The committee advises doctors to warn patients with benign colorectal tumours against using dietary supplements containing folic acid. It cannot be ruled out that a high folic acid intake may accelerate the transformation of a benign tumour into a malignant one.

Monitor the potential health effects of the chosen approach

The committee recommends monitoring the effect of the chosen policy on the intake of folate and folic acid, as well as the risk of neural tube defects, the masking of vitamin B₁₂ deficiency, and the incidence of colon cancer, and stroke. Where possible, this monitoring should be carried out using existing registration systems. The committee finds further research essential to determine if, and how folate and folic acid relate to the risk of colon cancer.

Evaluate the dietary reference values for folate

The committee suggests that the dietary reference values for folate should be evaluated, since biochemical data indicate that folate intake in the Dutch population may not be as bad as suggested by food consumption data.