

Scientific analysis delivers personalized dietary advice

HOW HEALTHY IS MY DIET REALLY?

By no means everyone gets enough vitamins from their food. With NutriProfiel, you know whether you are getting enough of these essential nutrients. *Resource* editor Tessa Louwerens checked it out. **Photo Aldo Alessi**

It is quiet in the Gelderse Vallei hospital (ZGV) in Ede, where I am waiting my turn to have a blood sample taken. I'm in perfectly good health and I see myself as a fairly fit person: I exercise regularly, don't drink or smoke, and I think I have a healthy diet. But how healthy is my diet really, and what could be better? NutriProfiel has the answer, says the website. It can give me personalized dietary advice based on my blood values and eating habits. It is a project of the Dutch Nutrition in Healthcare Alliance (Alliantie Voeding in de Zorg), which seeks to apply scientific findings on diet and exercise in healthcare. The key partners are Wageningen University & Research, the Gelderse Vallei hospital and Rijnstate hospital in Arnhem.

Creating a buffer

The nurse takes four tubes of blood so as to measure my levels of haemoglobin, ferritin (iron level), folic acid, and vitamins B6, B12 and D. 'Those values provide a picture of the long-term balance of the micronutrients,' explains Michiel Balvers, a researcher in the Human Nutrition and Health chair group in Wageningen and the NutriProfiel project leader. The body lays down a

store of certain vitamins. You have a buffer of B12, for example, to last you over a year. Balvers: 'So if your blood values are too low, you've had a deficiency for some time.' It is these vitamins which are tested for because deficiencies are common. 'About 20 per cent of the elderly have too little B6,' says Balvers. 'We also see in our analyses that 5 to 10 per cent of the patients have a folic acid or a B12 deficiency. And in winter you can assume that half of the Netherlands has a vitamin D deficiency.'

Deficiencies can cause serious health problems. A lack of B12, for instance, can cause neurological symptoms such as exhaustion, tingling feelings, memory loss and muscle cramps. Insufficient vitamin D increases the risk of fractures. Balvers: 'With NutriProfiel we can detect the threat of deficiencies in time, before serious and sometimes irreversible symptoms occur.'

But the test results don't tell you everything. 'You can't really interpret these blood values properly if you don't know what a person eats,' says Balvers. So the blood test is complemented with the Eetscore (eating score)



Text Tessa Louwerens



‘MAYBE I HAVE A DISTORTED IDEA OF WHAT IS HEALTHY’

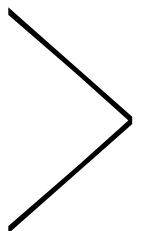
questionnaire developed by the Human Nutrition and Health department.

Filling in the questionnaire

At home at my PC, I spend 15 minutes answering questions about how much I eat of various product categories, and how many times a week I eat them. The categories are dairy produce, whole grain products and vegetables. That information is set against the Dutch Nutrition Centre’s Healthy Diet Guidelines. Some questions are hard to answer, like how many 50-gram spoonfuls of vegetables I eat per day. How reliable is my memory? I don’t weigh my food. ‘The questionnaire has to be easy to fill in, so you don’t have to weigh your food,’ says Balvers. ‘The eating score measures the quality of your diet and gives a good picture of

the degree to which your diet matches the guidelines, and where there is room for improvement.’

The programme draws up personalized dietary advice based on the Eetscore questionnaire and the blood tests. While I’m waiting for that, I call Ben Witteman, a gastro-intestinal consultant at ZGV who has been involved in NutriProfiel from the start. He uses the method in his practice, and even as a diagnostic tool. ‘Let’s say a person has low blood values but a healthy diet. Then I first look for other causes such as intestinal problems that impede the absorption of vitamins.’ NutriProfiel also helps make people more aware of how important diet is, says Witteman. ‘Patients will tell me that their diet is healthy. But when I see their answers on the Eetscore, there can be room for improvement. I can go into that with the patient. Everyone has some idea of what is healthy, but few people follow the Healthy Diet Guidelines.’ Witteman notices that patients often feel better after changing their eating habits. ‘Diet is important: not just for keeping people



‘IN WINTERTIME, HALF THE DUTCH HAVE A VITAMIN D DEFICIENCY’

‘I HAVE IDENTIFIED SEVERAL COELIAC PATIENTS USING NUTRIPROFIEL’

healthy, but also for helping people with chronic conditions feel better. I have identified and treated several coeliac patients through NutriProfiel, for instance.’

Iron deficiency

My NutriProfiel result is ready in just under a week after the blood test. I’m curious and a tiny bit nervous. Maybe I too, like those patients of Witteman’s, have a distorted idea of what is healthy.

My blood test results are good, except that my iron level is low. It turns out my diet doesn’t contain enough iron. NutriProfiel advises me to eat iron-rich products (with more than 0.8 milligrams of iron per 100 grams) such as meat, fish and whole grain bread. Or, for vegetarians like me: eggs (four per week is fine), tofu, tempeh, nuts and iron-rich readymade meat substitutes. It is also sensible to eat more citrus fruits with a bread-based meal: vitamin C supports the absorption of iron. Polyphenols in coffee and tea do just the opposite.

From the eating score questionnaire, it seems that my diet is generally fairly healthy (illustration below), although I don’t get the recommended daily allowance of 150-200 grams of vegetables (four serving spoons). Tips to improve that: make homemade soups with fresh or frozen vegetables, or a vegetable omelette.

Sven Kramer

What about vitamin pills? Balvers says that they are not usually unnecessary. ‘In fact, you sometimes run the risk of consuming too much. In the case of vitamins, it is certainly not always true that “it can’t do any harm”. Supplements often contain vitamins in large doses, sometimes a lot more than it says on the label.’

You excrete an excess of vitamin C in your urine, but that is not the case with all vitamins. Balvers: ‘In 10 per cent of our blood samples, we see levels of vitamin B6 that are too high. That is due to supplements, because you won’t get amounts like that from your food. Every year in ZGV, we see a few patients with vitamin B6 toxicity.’ A famous example of this was the skater Sven Kramer, who incurred nerve damage in his right leg as a result and could not skate for a winter.

NutriProfiel was started five years ago and has already achieved a lot, says Balvers. ‘We started out with three GPs, and now we’re working with all the GPs in the region and several specialists at ZGV, and we are creating dozens of profiles every week.’ NutriProfiel is free for people referred by their GP, while consumers who want to take the test on their own initiative pay 89 euros.

Behaviour change

There has not been any research on whether people follow the advice they get. Balvers: ‘NutriProfiel brings together the science on a healthy diet and uses it for practical advice on how to eat in line with the Healthy Diet Guidelines – which have been proven to contribute to your health. We have not investigated whether our recommendations are actually leading to behaviour change.’

There is, however, work going on to support people in putting the advice into practice. Wageningen municipality, for instance, joined the Nutrition in Healthcare Alliance six months ago and started a project that links NutriProfiel to cookery courses in a community centre, aiming to help people cook healthy affordable meals. It is indeed surprisingly difficult to change your habits and I don’t know if I’ll manage, but I’m going to try. Time to dust down the blender and make soups, and I can easily manage four eggs a week, given the rate at which my chickens lay them.

Your total score: 139 out of 160

Your diet does not conform with the Healthy Diet Guidelines

Your diet conforms fully with the Healthy Diet Guidelines

The result: how well does Tessa do according to the Healthy Diet Guidelines?