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How more magnesium in your diet can help ward off heart disease, stroke and diabetes

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Legumes, nuts, seeds, fish and whole grains may reduce risk of debilitating disease, says new Chinese study. Also, highly optimistic women may live longer, and sweet potato is the latest weapon against obesity

A diet rich in magnesium – found mainly in legumes, nuts, seeds, fish and whole grains – may reduce the risk of diseases including coronary heart disease, stroke and type 2 diabetes, according to a new study by mainland Chinese researchers.

The scientists, from Zhejiang University and Zhengzhou University in China, analysed the evidence of dietary magnesium on health outcomes from 40 studies covering a period from 1999 to 2016, involving a total of more than one million people across nine countries. They found that people in the highest category of dietary magnesium consumption had a 10 per cent lower risk of coronary heart disease, 12 per cent lower risk of stroke and a 26 per cent lower risk of type 2 diabetes compared to those in the lowest category. Their results also indicate that an extra 100 milligrams per day of dietary magnesium could also reduce risk of stroke by 7 per cent and type 2 diabetes by 19 per cent.

Dr Fudi Wang, lead author from the School of Public Health at Zhejiang University, says: “The current health guidelines recommend a magnesium intake of [about] 300mg per day for men and 270mg per day for women. Despite this, magnesium deficiency is relatively common, affecting between 2.5 per cent and 15 per cent of the general population.”

Magnesium is vital for human health and normal biological functions including glucose metabolism, protein production and synthesis of nucleic acids such as DNA.

The researchers say it is not possible to rule out the effect of other biological or lifestyle factors influencing the results. It is also not possible to determine if magnesium is directly responsible for reducing disease risk. However, the findings reinforce the notion that increased consumption of magnesium-rich foods could be beneficial for overall health.

**Optimism may reduce risk of dying prematurely among women**

Having an optimistic outlook on life may help people live longer, according to a new study from the Harvard T.H. Chan School of Public Health. The study found that the most optimistic women (the top quartile in the study) had a nearly 30 per cent reduced risk of dying from several major causes of death – including cancer, heart disease, stroke, respiratory disease and infection – over an eight-year period, compared with the least optimistic women (the bottom quartile).

“While most medical and public health efforts today focus on reducing risk factors for diseases, evidence has been mounting that enhancing psychological resilience may also make a difference,” says Eric Kim, research fellow in the Department of Social and Behavioural Sciences and co-lead author of the study. “Our new findings suggest that we should make efforts to boost optimism, which has been shown to be associated with healthier behaviours and healthier ways of coping with life challenges.”

Higher optimism also directly affects our biological systems, Kim says. The study, published in the *American Journal of Epidemiology*, analysed data from 2004-12 from 70,000 women who were tracked every two years. They looked at participants’ levels of optimism and as well at other influential factors such as race, blood pressure, diet and physical activity.

The most optimistic women had a 16 per cent lower risk of dying from cancer; 38 per cent lower risk of dying from heart disease; 39 per cent lower risk of dying from stroke; 38 per cent lower risk of dying from respiratory disease; and 52 per cent lower risk of dying from infection.

Sweet potato is known to be nutritious, but a new study reveals even a by-product of cooking the root vegetable could possess slimming benefits. Researchers from the National Agriculture and Food Research Organisation in Japan have found that the starchy water left over from cooking sweet potatoes is rich in proteins. Through enzyme digestion of this protein, the researchers produced a sweet potato peptide that was fed to mice along with a high-fat diet.

After one month, these mice had significantly lower body weight and liver mass, lower cholesterol and triglycerides, and higher levels of hunger and lipid-controlling hormones, compared to mice fed a lower concentration of peptides. This suggests the peptide plays a role in digesting fats, but more research is needed to determine whether this also happens in humans.

About 15 per cent of sweet potato is used to produce starch materials, processed foods and distilled spirits in Japan. The resulting wastewater is usually discarded, potentially causing serious environmental problems. “Finding alternative uses for the sweet potato proteins in wastewater could be good for the environment and industry, and also potentially for health,” says researcher Dr Koji Ishiguro.