

Study may help explain racial disparity in type 2 diabetes

Lower potassium levels in the blood may help explain why African-Americans are twice as likely to be diagnosed with type 2 diabetes as whites, according to a new study by researchers at the Johns Hopkins University School of Medicine. The findings, if confirmed, suggest that part of diabetes prevention may someday prove as easy as taking a cheap potassium supplement.

'This research doesn't mean people should run out and start taking potassium supplements,' says Hsin-Chieh Yeh, an author of the study, which appears in the *American Journal of Clinical Nutrition*. 'But we now know lower serum potassium is an independent risk factor for diabetes and that African-Americans have, on average, lower potassium levels than whites. What remains to be seen is if increasing potassium levels through diet or supplementation can prevent the most common form of diabetes.' Yeh and her colleagues analyzed data from more than 12 000 participants in the Atherosclerosis Risk in Communities Study (ARIC), information collected from 1987 and 1996. The more than 2000 African-Americans in the study had lower average serum potassium levels than the more than 9000 whites in the study, and they were twice as likely to develop type 2 diabetes. The incidence of diabetes among study participants went up as potassium levels went down.

Potassium comes from many sources such as bananas, melons, lentils, and yogurt. Determining whether a patient is potassium deficient would be simple to do, Yeh says, as part of a basic set of metabolic tests routinely ordered by primary care doctors. Yeh says she would like to see clinical trials developed to examine whether manipulating potassium levels - either through diet changes or the addition of supplements - would reduce diabetes risk for some groups. 'That is to be determined,' Yeh says. But 'if this works,' she adds, 'this would be a very low-cost, practical way to prevent diabetes.'

Birch trees produce interesting compound that may help in the treatment of diabetes

A drug found in birch bark may provide effective new treatments for obesity, heart disease, and diabetes, scientists have discovered. The compound, called betulin, targets genes involved in the production of harmful blood fats.

In animal studies, it lowered cholesterol levels, helped to prevent diet-induced obesity and reduced the risk of diabetes by improving insulin sensitivity. Betulin is 'abundant in birch bark', according to the Chinese team, led by Dr Bao-Liang Song, from the Shanghai Institutes for Biological Sciences. Their studies suggested betulin may be even more effective than lovastatin, a member of the statin class of drugs widely

prescribed for controlling cholesterol levels. Betulin decreased damaging compounds in liver and fat to a greater extent than lovastatin. It also made the body respond better to insulin, through its effects on fatty acids. Betulin is already used in the manufacture of other drugs, Dr Song said. But he pointed out that, although it appears to have very low toxicity, further studies were needed to assess its safety and metabolic effects. Research might also yield derivatives of betulin that were even more promising, he said. 'That may be the path forward to move this clinically,' he added.

Additional evidence that diabetes can shorten your life

New research organised by the University of Cambridge in the UK suggests that having diabetes at 50 may reduce a person's life expectancy by an average of 6 years. The large international study to measure diabetes' toll found the disease also raises the risk of dying prematurely from other serious ailments, including heart disease, breast cancer, and pneumonia.

The research, funded by the Medical Research Council (MRC), underlines the importance of preventing diabetes. Scientists from the Emerging Risk Factors Collaboration - a group led by Professor John Danesh, head of the Department of Public Health and Primary Care - analysed data on more than 820 000 people, each of whom was monitored for about a decade. Even after researchers accounted for other major risk factors such as age, sex, obesity and smoking, they found that people with diabetes are at increased risk of death from several common cancers, infections, mental health disorders, and liver, kidney, and lung diseases. 'It's quite a wide sweep of conditions,' said Prof. Danesh. While most people think of heart problems, diabetes surprisingly 'appears to be associated with a much broader range of health implications than previously suspected,' he added.

The study is published in the *New England Journal of Medicine*.

Gestational diabetes has future risk potential after pregnancy

Gestational diabetes may disappear at birth, but it remains a big red flag for mothers' future health - one that too many seem to be missing. Roughly half of women who have had gestational diabetes go on to develop full-fledged type 2 diabetes in the months to years after their child's birth. Yet new research shows fewer than one in five of those women returns for a crucial diabetes test within 6 months of delivery. That is the first of the checkups they are supposed to have every few years to guard against diabetes' return, but no one knows how many do.