



# Reverse diabetes

The metabolic disorder need not remain a lifelong disease and can be cured with the right combination of food and an exercise regimen

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**A**LITTLE while ago a newspaper report said a compound, exendin-4, similar to a hormone that helps regulate the level of blood sugar in humans and found in the saliva of Gila lizard, has been found to be helpful in treating type-2 diabetes. This type of diabetes occurs when the body gradually loses the ability to process blood sugar, which can damage body organs. People with the disease have trouble breaking down carbohydrates because their bodies have become resistant to insulin, a protein hormone. They face greater risk of heart attacks, kidney problems, blindness and other serious complications.

Normally, this type of diabetes affects people who are over 40 years. Over 95 per cent of the 25.8 million diabetics (or 8.3 per cent of the population) in the US suffer from type-2 diabetes. Almost two million new cases of type-1 or type-2 diabetes were diagnosed in people aged 20 years or older in the US in 2010.

According to the Centers for Disease Control and Prevention in the US, diabetes is one of the most common chronic diseases in children and adolescents. About 215,000 people below the age of 20 years in the US have type-1 or type-2 diabetes.

On other hand, every sixth diabetic in the world is an Indian and India has been named the diabetes capital of the world. Researchers all over the world are trying to figure out a way to treat diabetes. What is common in these researches are the basic premise that once you have diabetes, you will have it for the rest of your life. All medicines are aimed at controlling diabetes and not reversing it.

But this does not have to be like that. There is substantial proven evidence to support the view that lifestyle changes are actually reversing diabetes, not just controlling it. This approach is based on understanding diabetes, its causes and prevention and cure for it. According to Dr Nandita Shah, LCEH, who founded Sharan, an organisation working to promote the prevention and reversal of diabetes through lifestyle choices, "Most diabetics only manage to control their diabetes. They do what their doctors tell them to — cut out sugar and carbohydrates, take medicines or insulin and sometimes add some exercise. There is comfort in following this regime because everyone does it. The only problem with this approach is that it does not address the cause and therefore is not a cure."

"By understanding the mechanism through which diabetes is caused and by removing the cause, diabetes can be reversed. Not only can many medications be discarded but blood sugar can normalise and many complications can be reversed," says Dr Shah.

According to the Physicians Committee for Responsible Medicine, a non-profit



organisation of doctors in the US, earlier diets to treat diabetes were based on the theory that starches should be greatly restricted. Unfortunately, eliminating starches meant removing healthy grains, beans and vegetables, and leaving the patient with food that is high in fat or protein. The next generation of diet plans for diabetics used a set of exchange lists that rigidly prescribed certain amounts of milk, fruit, vegetables, starch, meat and fat every day to keep the diet fairly constant. This makes it easier to gauge the amount of medicine needed to regulate blood sugar. Such diets were an improvement over earlier diets but did not help most patients get off medicines or escape serious complications. Carbohydrate counting is an extension of the use of exchange lists in which individuals keep track of the amount of carbohydrate they consume and adjust their insulin dosages accordingly.

A new and more effective approach began with research in the early 1980s that eliminated exchange lists and focused on selecting foods to make postprandial (after a meal) sugar absorption more gradual and improve insulin function. There are three principles to such diets.

Low-fat food helps insulin work well. Fat promotes insulin resistance. Sugar builds up in the blood and insulin cannot do its work properly. Reducing dietary fat is a very powerful step.

Complex carbohydrates release sugar gradually. The starchy part of beans, vegetables and grains are called complex carbohydrates, natural sugars that are chemically linked in a chain. During digestion, these sugars gradually come apart and enter blood bit by bit, rather than all at once. The body can then use these natural sugars for

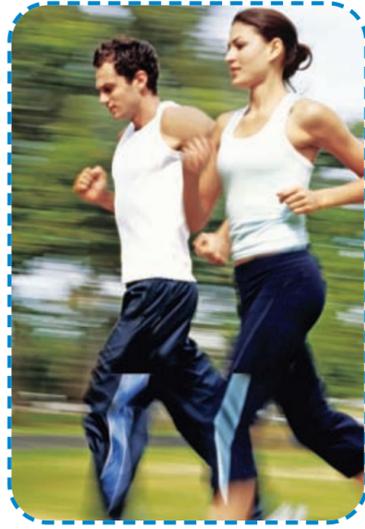


energy. On other hand, white sugar, candy bars and aerated drinks release sugar that is absorbed into the bloodstream abruptly. The same is true for some fruits.

Fibre keeps the absorption of sugar slow and steady. Fibre simply means plant roughage. There are plenty of fibres in beans and vegetables. It is also in the outer coating of grains, which is retained in whole wheat bread and brown rice but has been eliminated in white bread and white rice. Animal products have no fibre.

For effective diabetes treatment, this diet must be supplemented with a regimen of regular exercise. Exercising muscles effectively removes sugar from blood. In studies using a low-fat plant-based diet, along with regular walking, cycling or other exercise, 90 per cent of people with adult-onset diabetes using oral medications were able to stop them in less than a month. Of those who had been taking insulin, 75 per cent no longer needed it. The benefits hold up in long term.

A study conducted by Dr Andrew Nicholson, MD, of PCRM isolated the effect of diet alone to find out the best diet. Dr



rice and white bread. Fruits are very low in fat and high in fibre, although their sugars are absorbed more quickly than those in starchy plants.

Animal products provide no benefits to people with diabetes. All meat — even chicken breast without skin — contains a significant amount of fat and no animal product has any complex carbohydrate or fibre. An optimal diet eliminates animal products completely and keeps vegetable oils to a bare minimum. To reverse diabetes with the help of diet, use only whole grain wheat, bajra, jawar, barley, oats and brown rice. Eat legumes like beans, peas and lentils besides vegetables and fruit with a low glycemic index like sweet potatoes, cauliflower, broccoli, spinach and green beans. Eat fruits in moderation. Eat fibre-filled whole fruits and avoid fruit juices.

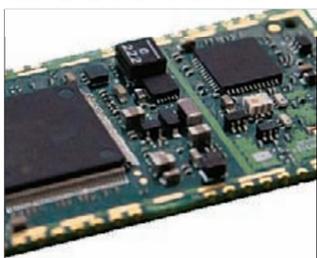
Avoid cooking oil, salad oil, margarine, all processed and refined food and those with a high glycemic index such as refined flour, white bread, white rice, white sugar, white potato and fried food like samosas and potato chips among others. Avoid tea and coffee as they are stimulants that indirectly affect blood sugar levels.

In India, organisations like Sharan conduct seminars regularly to teach people the cause of diabetes and how to reverse it by choosing the right diet. They also conduct cooking classes regularly to teach people ways to make delicious healthy food. "We believe it is possible for India to be diabetes free," says Dr Shah.

According to Dr Rupa Shah, a Mumbai-based doctor, "Diabetes is a lifestyle disease. The only way to reverse it is by changing one's lifestyle. Modern lifestyle is not in harmony with good health. Diet is indeed the first major step towards healthy living, which is unfortunately not paid attention to or is plagued by myths. It is possible to help diabetes patients, even those who are obese and suffering from high blood pressure, to reverse diabetes completely through healthy, low-fat vegan diets. No amount of exercise alone can reverse diabetes."

*The writer is an environmentalist and former head of Peta, India*

## Tech know >> 45-MILE WI-FI



If your home Wi-Fi router isn't cooped up indoors, it could send a signal about a 20th of a mile before it weakens for a computer to receive it. Technology developed by a San Diego startup, On-Ramp Wireless, uses the same frequency but less power to send data signals 45 miles, thanks to algorithms that make the signals very resistant to noise.



## >> WATCH EFFECT

A new wireless monitor from Hewlett-Packard and a Singapore company, Healthstats, aims to make monitoring blood pressure easier for doctors and patients. The device, which has the size and look of a wristwatch, can monitor pressure continuously — which provides a much more accurate picture than infrequent readings in the doctor's office.



## >> PURER WATER

Scientists, led by an Indian-origin researcher, have claimed that a low-cost coating can be well applied to sand for wide-scale purification of water in developing countries. Dr Mainak Majumder of Monash University and his team have enhanced the natural filtering properties of sand by coating it with a nanomaterial called graphite oxide.

## Inside story

**Managing sickle cells**  
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