

## Eat to reverse diabetes

Vaidehee Deshpande and Pallavi Shankar | November 3, 2014

Diabetes need no longer be a life sentence. Even those with a family history of diabetes, rest assured your fate is not pre-decided. Dr Neal Barnard, MD, in his book Programme for Reversing Diabetes says, "Some genes are dictators, others merely committees that make suggestions. The genes for diabetes are in the latter group, so you have more control than you think." According to Dr Pramod Tripathi, a Pune-based integrated stress and health management specialist and creator of the Freedom from Diabetes programme, "reversing diabetes and freedom from insulin is possible." Through his workshops, Tripathi, and his associates are helping thousands of patients steer away from this lifestyle disorder. If they can, you can do it too. Here's how.

Two years ago, Meenu Nageshwaran, 54, a Delhi-based chef, was diagnosed with diabetes, like several hundreds who develop the condition every year in India. Her test results were staggering—the fasting sugar level had shot up to a whopping 454 and post prandial was 633. Her doctor strongly advised her to take oral medication but Nageshwaran's instinct said otherwise. She decided to change her lifestyle and switch to a healthier, plant-based diet. "Fear and determination drove me to make an immediate change in my lifestyle. I began with a combination of plant-based foods, exercise and naturopathy. Within a week, however, I was advised by my doctor to start on insulin to give my pancreas some rest.

I did that but with the full intention of getting off it," recalls Nageshwaran. Exactly a month after she began taking insulin, she started the 21-day Reversal of Diabetes programme with Sharan, an organisation that promotes awareness about holistic health. She switched to a dairy-free, sugar-free and oil-free diet. "On the 21st day, my counts altered so dramatically that I was taken off insulin. I now view the diagnosis as a blessing in disguise because it challenged me to become accountable for my health, physically, emotionally and spiritually," says Nageshwaran. In the bargain, she also dropped 15 kilos. She now runs Meenu's Prana Kitchen, in Delhi and Gurgaon, where she teaches vegan cooking and educates people about plant-based foods, diets and recipes. Nageshwaran's success story may be impressive, but it's not the only one. There are others who have reversed or contained diabetes with the help of a plant-based diet (see 'They Beat Back Diabetes' on next spread). In the last 1.5 years, close to 1500 people have joined Tripathi's 12-week Freedom from Diabetes programme, 800 of whom have reversed their diabetes and are off all medication. "Sixty per cent of those who joined and followed the programme were off insulin in 12 weeks. It's not just a matter-of-fact medical approach, but a holistic one where groups of diabetics meet, have discussions, meditate together and hold hands to make a life-changing choice: to outsmart diabetes by switching to a healthy, plant-based diet," says Tripathi.

### Plants on your Platter

What is the big deal about a plantbased diet, and how does it impact a metabolic condition like diabetes? These are questions researchers like Barnard, associate professor of medicine at the George Washington University School of Medicine and Health Sciences, US, and Dr Joel Fuhrman, Director of Research at the Nutritional Research Foundation, US, asked. Based on the studies they've conducted over the past few decades, there is conclusive proof that a vegan diet is 3 times more effective in controlling our blood sugar than other diets usually recommended for diabetics by doctors. "Veganism is a type of vegetarian diet that excludes meat, eggs, dairy products and all other animal-derived ingredients. It really benefits diabetics," explains Nageshwaran. But let's first understand the underlying causes of diabetes. Glucose is the fuel our body uses to power our muscles and brain. The problem arises when glucose cannot be metabolised by the body, but continues to circulate in the blood, instead. Diabetes is caused when the cells of the body are not able to use the sugar that is being formed as a result of digestion. This excess blood glucose damages the

blood vessels, especially the smaller ones in the feet, kidneys and eyes. This is the reason people with diabetes are at risk of developing heart disease, kidney failure, blindness and diabetic foot. Our blood sugar levels are dependent on the production of the hormone insulin from the pancreas. People suffering from type 2 diabetes are insulin resistant. Insulin helps in transporting glucose. The hormone binds to a receptor on the cell wall, opening a passage that allows glucose to enter the cell. The cell then metabolises this glucose to use it as fuel to perform the various tasks assigned to it. But in people with insulin resistance, this insulin key becomes dysfunctional, blocking glucose from entering the cell. With nowhere to go, glucose builds up in the blood

### **The Fat Connection**

Ever heard of skinny fat? According to the New England Journal of Medicine people with insulin resistance, even those who appeared slim, had an abnormal amount of fat build-up in their muscle cells. Researchers believe that this hidden fat jams the lock, causing insulin resistance, leading to type 2 diabetes. According to lead author Dr KF Petersen, cell organelles called mitochondria are responsible for burning this fat to produce energy. But people with insulin resistance have fewer mitochondria in their cells than healthy individuals. The fat then packs into their muscle cells and actually turns off the genes that produce mitochondria. In short, the more fat you eat, the more fat your muscle stores, and the fewer mitochondria produced that can burn this fat. This is a vicious cycle. Insulin is not the only hormone to affect your blood sugar levels. Another hormone leptin communicates hunger and satiation to your brain. Lowering your fat intake can improve leptin resistance, allowing normal satiation or hunger signaling, to resume. Tripathi's 12-week programme first seeks to clean the fat from our bodies, so that the insulin key starts functioning again. He uses these 7 fundamental steps: Start today to prevent or reverse diabetes. Do check with your doctor before you make any changes in Herbs your medication.

**Step 1 FLUSH OUT THE FAT** This is the first and most important step, it involves cutting out all added fat. This means eliminating all dairy products (milk, cheese, yoghurt, butter), animal products and oil from your diet. Milk is barred as it contains growth factors like insulin growth factor (IGF). These stimulate growth in calves but can cause harmful side effects in humans. IGF has also been shown to trigger type 1 diabetes, says Tripathi. Milk also contains harmful agents like antibiotics, pesticides and hormones that are added during commercial processing. Try alternatives like soya milk or almond milk.

### **Step 2 STICK TO PLANTS**

Perhaps easier for vegetarians, this can be daunting for non-vegetarians. Tripathi's regime begins with a soft plan where patients are first advised to reduce meat intake and opt for green smoothies and salads. Sometimes, they are asked to follow a transitional diet of alternative plant foods like soya kebabs and mock meat, after which they are gradually weaned off all non-vegetarian foods. There are no binding restrictions but interestingly, hundreds of participants have made the transition voluntarily.

### **Step 3 ELIMINATE ACIDIC FOODS**

An acid-forming diet that is high in protein and fat and low in essential minerals increases the risk of diabetes. Alkaline, plant-based foods like legumes, green veggies, citrus fruits and seeds helps the body recover. Also eliminate tea, coffee, alcohol, cold drinks and reduce sugar and salt. Use purified fruits to sweeten your Diabetes dessert and switch to green tea.

### **Step 4 EAT WHOLEGRAINS, AVOID PROCESSED FOODS**

A bulk of nutrients are lost from food when it is processed; so eat complex carbs, sugarcane instead of polished rice, millet dalia instead of semolina, apples instead of apple juice. Dr Nandita Shah, founder of Sharan, has a simple solution for those in doubt, "Check if the product is being advertised. If it does, it's probably not good for you."

### **Step 5 TAKE SOME SUPPLEMENTS**

A vegan diet is wholesome and nutritious, however plant-based diets typically are not rich in natural sources of Vitamin D and B12. Test your levels and take supplements, if required.

## **Step 6 STICK TO THE DIET AT LEAST FOR A MONTH**

Shah believes that after 4 weeks on the diet, you will see positive changes. Patients have seen their blood sugar levels drop as early as day 2 of the diet. Monitor your blood glucose and reduce your medication, under a doctor's supervision, she says. The Sharan website ([sharan-india.org](http://sharan-india.org)) is a good resource for those seeking a plant-based diet and recipe advice.

## **Step 7 TRY THE 7-MINUTE WORKOUT REGIME**

Tripathi recommends any form of high intensity interval training (HIIT) and strength training. Check out the 'Scientific 7-minute workout'-a set of 12 exercises of 30 seconds duration each, alternated with a rest period of 10 seconds

## **Meenu Nageshwaran's Vegan Recipes**

### **Ingredients**

1 c raw cashewnuts (not roasted or salted)  
3-4 garlic cloves, minced  
Himalayan sea salt, a pinch  
Freshly ground black pepper, to taste  
1-2 tsp lime juice, fresh  
Mixed herbs, fresh/dried  
Filtered water/soya milk

### **Method**

Soak raw cashews in warm filtered water (just enough to cover them) for at least 2 hours or overnight with a dash of sea salt. Rinse with fresh water. Blend cashews with other ingredients until you get a creamy spread. Add water/soya milk if required. This will stay fresh and delicious for 5-6 days in the fridge.

### **Variations**

Omit herbs and garlic and use more pepper.  
Use onion/shallots instead of garlic.  
Add 1 tsp dried basil/1 tsp chopped herbs.  
Add 2 tsp chopped, roasted red pepper or sun-dried tomatoes.  
Add chopped onion.  
Add de-seeded green chilli and coriander/parsley.

## **CARROT & ALMOND MILK HALWA**

### **Ingredients**

1 kg carrots, grated  
1 litre almond milk  
8 cardamom pods  
Date paste, to taste  
1-2 tsp cashewnut paste  
8-10 raisins  
Sliced almonds, roasted (for garnishing)  
For almond milk  
1 cup almond kernels  
1 litre warm water

### **Method**

Soak almonds in water for up to 4 hours. Peel soaked almonds if you like. Place the almonds and water into a blender. Sieve through a fine mesh cloth and squeeze out all the milk.

Grate carrots and place in a stainless steel heavy bottom pan. Pour almond milk into carrots, add cardamom

Pods and cook for 30-40 minutes or until all liquid has evaporated. Add date paste. Stir occasionally. Add cashew nut paste. Add raisins, top with roasted sliced almonds. Serve hot or cold.

### **Green smoothie**

Choose a green base (spinach, mint, coriander, curry leaves). Add a fruit (apple, banana, mango, pear). Add flavour (cinnamon, black pepper, rock salt, lemon, green chillies, ginger). Blend until smooth, add water if required

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