The Indian EXPRESS

Diabetes: The Silent Epidemic

A SPECIAL HANDBOOK

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With over 100 million people living with diabetes, India is often described as the world's diabetes capital. This health emergency, shaped by both lifestyle and genetics, is the focus of this month's special handbook. We track the alarming rise of Type 2 diabetes among young Indians and ask whether sugar-laden foods and drinks are driving the surge in cases. We also cover the case for universal screening, the mental health burden of the disease, and report on why many diabetics find traditional matrimonial platforms especially challenging.

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Why Type 2 diabetes is becoming common among young Indians

– ***Dr Ambrish Mithal***

Ram Lal was 84 years old and had been under my care for a decade. Hailing from rural Haryana, he had developed diabetes at the age of 70 and was well controlled on small doses of oral anti-diabetic medication. He owned a large farm and cycled every day around his farm to keep an eye on his staff. His simple, direct Haryanvi style of conversation was endearing, and over the year,s we had developed a good relationship. One day, he entered my room looking disturbed and was accompanied by a chubby young man, in his 20s, whom Ram Lal introduced as his grandson. “Please have a look at this young man,

doctor sahib. He has developed diabetes, and I am deeply worried. He is only 24 and not even married yet." The young man had a real estate business, drove a fancy car, and did not exercise at all. His Type 2 diabetes proved much harder to handle, and it was months before he could be controlled after multiple medications.

Such stories are not unusual nowadays. Gone are the days when Type 2 diabetes only affected those above 40. The prevalence of Type 2 diabetes in the 20s and 30s has dramatically increased in the last two decades, particularly in India. About 25 per cent of those with diabetes onset under 25 have Type 2 diabetes.

In the conventional understanding of diabetes, children, adolescents and young adults develop Type 1 or insulin-dependent diabetes. Type 1 diabetes occurs due to a substantial or total lack of insulin, the pancreatic beta cells having been damaged by an autoimmune process. The only treatment for Type 1 diabetes remains life-long insulin. With advances in monitoring and insulin delivery, most people with Type 1 diabetes do well, pursue their personal and professional goals to fruition, but insulin and glucose testing continue to be a part of their lives, throughout. In the recent past, the prevalence of Type 1

diabetes has increased, and it is estimated that more than 200,000 people under 20 years of age are living with it in India. Type 2 diabetes is the usual adult type of diabetes that comprises 90 per cent of all diabetes, with components of insulin resistance (ineffective insulin action) and deficiency (to a lesser degree than seen in type 1). Traditionally, Type 2 diabetes was seen in overweight individuals above 40 with a family history.

How do we distinguish Type 1 and Type 2 diabetes?

Type 1 diabetes classically presents with weight loss, increased thirst and urination, sometimes rapidly progressing to ketoacidosis or a coma-like condition. Most children with Type 1 diabetes do not have a family history of the condition and are lean, although there are exceptions. On the other hand, Type 2 diabetes typically presents at or after the time of puberty. About 80 per cent of youth with Type 2 diabetes are obese and have a family history of the condition in parents or relatives. Some of them display classic symptoms of excessive urination, weakness and weight loss (as seen in Type 1 diabetes), but others may have no symptoms at all and are detected incidentally. Clinically, signs of insulin resistance,

like acanthosis (dark pigmentation of neck, underarms, and other skin folds) or polycystic ovaries in girls, often accompany the condition. Tests like autoimmune antibodies and C-peptide (a protein released directly proportional to the amount of insulin by pancreas) are helpful to differentiate the two types of diabetes. Sometimes an observation period of one to two years may be necessary before the diagnosis becomes clear.

When Type 2 diabetes started increasing among the youth in India, it was mostly attributed to increasing weight and insulin-resistance related to poor eating habits and a sedentary lifestyle. Recent data suggest that young Indians with Type 2 diabetes may also have a greater deficiency in insulin secretion. In general, early onset of diabetes means many more years of exposure to the condition, increasing the chances of complications when people are in the prime of their life, namely in the 50s and 60s. It has now been shown that young Type 2 diabetes patients have a greater risk and earlier onset of complications (such as those affecting the kidney, eyes, and nerves) as compared to their insulin-dependent Type 1 counterparts.

The relative lack of insulin also makes them more prone to needing insulin at an early age.

Type 2 diabetes is often associated with high blood pressure, abnormal cholesterol, fatty liver, and polycystic ovary syndrome. Nearly half of Indian youngsters with Type 2 diabetes had high blood pressure as per the ICMR registry.

A small proportion (3-4 per cent) of youth with diabetes have an inherited defect of insulin secretion called MODY (Maturity Onset Diabetes of Youth). This is suspected in milder types of diabetes in non-obese individuals with a family history of youth-onset diabetes. The diagnosis is confirmed by genetic testing, which shows a single gene defect (monogenic diabetes). Some of these individuals can be managed with oral medications, whereas others may require insulin.

We cannot do much to prevent Type 1 diabetes or MODY. But we can do a lot to prevent Type 2 diabetes from affecting the youth. Focusing on diets low in refined carbs, high in fibre, and adequate protein intake is important, as is regular physical activity. Avoiding excess weight gain in childhood and adolescence is the best we can do to keep diabetes at bay.

(Dr Ambrish Mithal is Chairman and Head, Endocrinology and Diabetes, Max Healthcare)

Is your blood sugar making you tired?

– Dr V Mohan

People with Type 2 diabetes generally tend to get more tired. They also feel low compared to people without diabetes. Why is this so?

1) First, when blood sugar levels go high, sugar spills into the urine and depletes the body of water, leading to dehydration. When one is dehydrated, naturall,y one feels very tired. Certain medicines like SGLT2 inhibitors (e.g., Dapagliflozin, Empagliflozin) tend to produce excessive urination. If you are on one of these drugs and feel pulled down, you should tell your doctor about this.

2)The second reason for people to feel exhausted would be hypoglycemia or low sugar reactions. If the dosage of medicines (either tablets or

insulin) is excessive and blood sugar levels go down as a result, you would see hunger, sweating and tiredness as the usual symptoms. If one feels unusually tired, one should check whether the sugar levels have gone very high or very low. Check blood glucose levels either with a hand-held glucose meter or, even better, by wearing a continuous glucose monitoring (CGM) sensor for 14 days. This can identify whether the sugars are going very low or very high, even during sleep.

3) Nutritional deficiencies, like those of vitamins and minerals, can also lead to decreased energy levels.

4) People with diabetes, who also have kidney complications, tend to lose albumin or protein in their urine. This can lead to low serum albumin levels and subsequent lack of energy. Moreover, when renal insufficiency or kidney failure sets in, haemoglobin levels tend to drop, and one develops secondary anemia. This will obviously result in tiredness and fatigue.

5) People with diabetes are also more prone to developing certain forms of cancer. That's why excessive tiredness combined with loss of weight and loss of appetite should alert one to the possibility of co-existing cancer somewhere in the body. Similarly, diabetes related complications — painful neuropathy, eye problems, foot infection, or heart problems — can weaken people with diabetes.

6) Other drugs taken for comorbidities that exist along with diabetes can sap one out. For example, diuretics taken for blood pressure or to reduce swelling of the feet can lead to loss of sodium or potassium in the body. Statins are also known to be draining.

How can you prevent these low phases in people with diabetes? First, keep sugar levels under tight control. That will automatically give you more energy. Sleeping well, about six to eight hours per day, and on time can pump up your energy. Regular physical exercise adds to your strength, vigour, vitality, and improved muscle strength. Making adjustments to your medications can prevent tiredness.

Many of my patients have been under my treatment for decades, and they have not complained of fatigue or depression. In fact, they tell me that they feel better and more energetic than their counterparts without diabetes. So, yes, it is possible for you to have not only a long and healthy life, but also a life full of vitality, vigour, strength and positivity even if you have diabetes. A regular check-up with a diabetologist (at least 3 – 4 times a year) is a must if you want a complication-free life.

(Dr Mohan is chairman, Dr Mohan's Diabetes Specialities Centre, Chennai)

Can sweets, tea with sugar, and soft drinks cause diabetes?

– Dr Richa Chaturvedi

A 42-year-old professional was startled to find his fasting blood sugar very high, making him a diabetic. He asked me a simple question: “I love sweets. I begin every morning with a sugary tea, I have two soft drinks a day. My lunch includes packaged juice and I snack on biscuits and sweets in the evening. Is that why I got diabetes?” What he didn’t tell me was that he had a desk job, rarely exercised and was slowly gaining weight because he could not burn the extra calories and they were piling up in his body.

Can eating sweets cause diabetes?

Let's be clear — eating a piece of cake or a sweet once in a while doesn't mean you'll get diabetes. But regularly eating too much sugar, especially in the form of sugary drinks, sweets, packaged snacks and desserts, can lead to weight gain without exercise. These extra calories are usually deposited around the belly as visceral fat. This leads to insulin resistance, when cells don't respond to insulin the way they should. Since insulin helps move glucose from your blood into your cells for energy, its impaired function means it can't efficiently use the glucose for energy or for storage. As a result, glucose continues to build up in your blood. Your pancreas releases more insulin to level out blood glucose levels. Over time, the cells become too resistant to this gush of insulin too, leading to diabetes.

In simple terms, sugar by itself doesn't directly cause diabetes, but it's part of a chain reaction that can lead you there.

Can weight loss get your sugar levels in range?

The 42-year-old patient made some changes. He stopped taking sugary drinks, reduced the amount of sugar in his tea, cut down on snacks by replacing them with salads. He started eating more fruits, vegetables, and whole grains, limited carbs and began walking for 30–40 minutes daily. In six months, he not only lost weight, his sugar

levels were under control.

You don't have to give up sugar completely but have it in moderation. The real danger is in excess sugar intake over a long period, combined with a sedentary lifestyle and no exercise.

Some tips to stay healthy

- ☑ Avoid sugary drinks like soda, energy drinks, and packaged juices. They don't make you feel full and you tend to overconsume.
- ☑ Choose water, buttermilk or fresh lime instead.
- ☑ Limit mindless in-between snacking, allowing blood sugar to be absorbed gradually.
- ☑ Limit sweets, chocolates, and desserts to occasional treats.
- ☑ Add more fibre-rich foods like fruits, vegetables and whole grains.
- ☑ Give up all packaged food and sauces as they contain hidden sugar even when not tasting sweet.
- ☑ A 30-minute brisk walk can shave off about 150-200 calories or up to 20 teaspoons of sugar.

(Dr Chaturvedi is an endocrinologist, Apollo Hospitals, Delhi)

What is Type 5 diabetes?

– Anuradha Mascarenhas

Type 5 diabetes, which affects lean and undernourished young adults in low- and middle-income countries, has been officially recognised as a distinct form of the disease by the International Diabetes Federation (IDF). Neglected for decades in research, and frequently misdiagnosed, it has taken a long time for Type 5 diabetes, caused by malnutrition-induced lowering of insulin production, to gain official recognition.

What is Type 5 diabetes?

Type 5 diabetes is a form of diabetes affecting lean and malnourished teenagers and young adults in low- and middle-income countries.

Dr Nihal Thomas, professor of endocrinology at Christian Medical College, Vellore, is among the members of the Type 5 Diabetes Working Group. He told The Indian Express that the disease causes pancreatic beta cells to function abnormally, leading to insufficient production of insulin.

This is unlike Type 2 diabetes, the most prevalent form of the disease, where the main problem is insulin resistance — while the pancreas continues to produce insulin, the body does not respond properly to the hormone.

The term 'Type 5' diabetes was introduced and endorsed by Prof Peter Schwarz, president of the IDF, in January this year. On April 7, it was officially recognised at the 75th World Congress for Diabetes in Bangkok.

However, this is not a new disease. It was first reported in Jamaica as early as 1955 under the moniker J-type diabetes. In 1985, the World Health Organization (WHO) classified the condition as "malnutrition-related diabetes mellitus". But this classification was done away with in 1999 for the want of evidence of a causal link to malnutrition, which is among the definitive features of what is now known as Type 5 diabetes.

It was subsequently reported in many countries, such as India, Sri Lanka, Bangladesh, Uganda, Ethiopia, Rwanda, and Korea, mostly in the Global South. It currently affects an estimated 25 million people globally.

Its official recognition comes on the back of recent research, which has brought renewed attention to the impact of malnutrition on pancreatic development and insulin function, particularly in individuals with poor nutrition in childhood and early adulthood.

What are the markers of Type 5 diabetes?

According to Dr Thomas, this unique form of diabetes, observed in Asian Indians, has no evidence of autoimmune or genetic causes.

“Affected individuals have a significantly lower body-mass index (BMI) — of less than 18.5 kg/m2 — than those reported in previous Indian studies. Insulin secretion is severely reduced, much lower than typical Type 2 diabetes and just above levels seen in Type 1 Diabetes,” he said.

“Body scans also reveal a substantially lower percentage of body fat compared to Type 2 diabetes cases. Additionally, dietary intake of proteins, fibre and essential micronutrients is significantly low,” Dr Thomas added.

So, what causes Type 5 diabetes?

Malnutrition. And it all begins in the womb.
Dr C S Yajnik, director, Diabetes Unit, KEM Hospital Pune, and a key member of the Type 5 Diabetes Working Group, explained how malnutrition begins in the mother’s womb.

“If a baby does not get the right amount of nutrition while growing in the womb, it can increase the risk of diabetes later in life. For a long time, many Indians were undernourished due to hard labour, colonisation, and famines. But in the past 50 years, with rapid urban growth and development, overeating has also become a problem. When a baby is under or over nourished before birth and then gains too much weight later, it can lead to Type 2 diabetes. But if the baby stays undernourished both before and after birth, it can lead to this malnutrition-related diabetes, or as now christened, Type 5 diabetes,” he said.

How can Type 5 diabetes be treated?

Given it has only now been officially recognised, specific diagnostic criteria and therapeutic guidelines are yet to be finalised. This is what the aforementioned Working Group will be doing over the next two years, by looking at diverse populations, especially in low-income, low-resource settings.

According to Dr Thomas, a high protein diet is important. Depending on the person’s low BMI and physical activity levels, an adequate amount of carbs and fats are also needed to ensure weight gain.

“Anti-diabetic medicine or insulin is considered based on the level of glucose and the therapeutic response on a case-by-case basis,” he said.

What is lean diabetes?

– Anuradha Mascarenhas

What explains diabetes in lean people? If research from across the world and home-grown studies at CMC Vellore is to be believed, then there are multiple triggers like primary pancreatic disorders, low birth weight, genetic disorders of insulin production and resistance as well as malnutrition.

Dr Nihal Thomas, senior professor at the department of endocrinology, diabetes and metabolism, CMC, Vellore, has been pegging his research on diabetes arising out of faulty nutrition in underweight people. “In the past six decades there is evidence to show that diabetes is a consortium of multiple diseases which may be caused by different mechanisms,” he says.

What are the complications of lean diabetes?

Lean diabetes (defined as those with a BMI level of under 25 and random blood glucose levels of over 200 requiring diabetic medication) may lead to more complications than diabetes among the obese, such as neuropathy (a numbing nerve problem), retinopathy (damage to retina or light-sensitive tissue behind the eye) and nephropathy (kidney damage). It may occur at a younger age and may be more prevalent in males. Lean diabetes may be associated with cigarette smoking and alcohol abuse.

The other forms of diabetes that are lean include, particularly in the tropical context, fibrocalcific pancreatic diabetes, which is associated with a shrunken pancreas and fat malabsorption. This is an under-recognised disorder, wherein besides insulin therapy, you need enzymes to stimulate absorption of fat from the gut.

MODY (Maturity onset diabetes of the young) is an inherited disorder which may occur in 50 per cent of the offspring of one who has the condition. There are several types of this condition, most of which can be managed with oral tablets. Another extreme form of insulin-resistant diabetes is where very large doses of insulin are required because small doses do not work. Patients are very lean and also have large amounts of fat in the liver. This is usually genetic.

Why conversations on lean diabetes are important

A recent study published in PLoS Global Public Health used National Family Health Survey (NFHS)-5 microdata to understand lean diabetes. Findings indicate that 8.2 per cent of men and 6 per cent of women had elevated blood glucose levels. Notably, 2.9 per cent of men and 2.4 per cent of women were diagnosed with lean diabetes. Among Type 2 diabetics, 52.56 per cent of men and 43.57 per cent of women had lean diabetes. Lean diabetes prevalence varied from 11.6 per cent in the poorest quintile to 1.1 per cent in the richest.

Earlier, too, a Lancet study estimated that diabetes in South Asia was set to increase to 68 per cent by 2050. Dr Thomas, who was among the authors of the Lancet series papers, says a huge chunk of the young diabetic population is not just Type 1 or Type 2 but are suffering because of sub-types like malnutrition-modulated diabetes and so on.

In another study on sub-Saharan Africa, of which he was part, Dr Thomas said that of the 160 participants with non-obese, new-onset Type 2 diabetes, 18 participants (11.3 per cent) were underweight. “Compared to those with normal weight, underweight participants had a higher prevalence of insulin deficiency.”

What is hypoglycemia and how can it be managed?

– *Jayashree Narayanan*

Blood sugar or glucose is the body's main source of energy. As such, when one has abnormally low blood sugar levels, the body's ability to function properly may be impaired and lead to hypoglycemia or low blood glucose levels.

People with diabetes develop hypoglycemia when they do not have enough sugar (glucose) in their blood, and it may differ from person to person. Hypoglycemia or low blood sugar develops when the blood sugar levels fall below 70 mg/dL or 3.9 mmol/L. This Diabetes Awareness Month, here's everything you need to know about the condition and what you can do about it.

How common is hypoglycemia?

The condition is common among people with type 1 diabetes and those with type 2 diabetes who take insulin shots or consume other diabetes medicines. “In an international study of people with diabetes who take insulin, published in Diabetes, Obesity and Metabolism journal, four in five people with type 1 diabetes and approximately 50 per cent of those with type 2 diabetes reported low blood sugar levels at least once a month,” said Dr Swapnil Shah, M.D. E.C.F.M.G.(USA), wellness physician and diabetologist, Lyfstyle Wellness.

Why is it a concern?

Hypoglycemia is a much bigger problem than hyperglycemia (high sugar) because the sympathetic nervous system kicks in, increasing adrenaline, cortisol, and growth hormones, ultimately resulting in increased heart rate, blood pressure, said Dr Dilip Gude, senior consultant physician and diabetologist, Yashoda Hospitals, Hyderabad.

“This heightened response may result in heart attacks in those with already existing heart disease. Additionally, if severe hypoglycemia is not reversed in less than 20 minutes, there may be irreversible damage to the brain as well,” he said.

Fear of hypoglycemia can cause the patient to

take less insulin to ensure their blood sugar level doesn't go too low. This can lead to uncontrolled diabetes at times, mentioned Dr Ashutosh Goyal, senior consultant, endocrinology, Paras Hospitals, Gurgaon.

Symptoms

As per MayoClinic.org, initial signs and symptoms of diabetic hypoglycemia include:

- Shakiness
- Dizziness
- Sweating
- Hunger
- Fast heartbeat
- Inability to concentrate
- Confusion
- Irritability or moodiness
- Anxiety or nervousness
- Headache

Some uncommon symptoms may develop in severe hypoglycemia, which include:

- Seizures
- Loss of consciousness

"Since these symptoms are not specific to hypoglycemia, it is advisable to measure the blood sugar levels when a person with diabetes experiences them. In that case, one would know whether the symptoms have developed due to abnormal glucose levels," noted Dr Shah.

Causes of diabetic hypoglycemia

- Taking too much insulin or consuming an excess of diabetes medications
- Postponing or skipping a meal or a snack
- Not eating enough (taking in less glucose)
- Doing too much exercise (using up glucose) without adjusting diabetes medications
- Drinking alcohol

Treatment

As per MayoClinic.org, one can raise their blood sugar quickly by eating or drinking a simple sugar source, such as glucose tablets or fruit juice. 'Tell family and friends what symptoms to look for and what to do if you're not able to treat the condition yourself,' it states.

While mild to moderate hypoglycemia can be easily treated, severe hypoglycemia can cause serious complications like passing out, coma, and rarely death, said Dr Shah.

According to Dr Shah, frequent hypoglycemia episodes can result in:

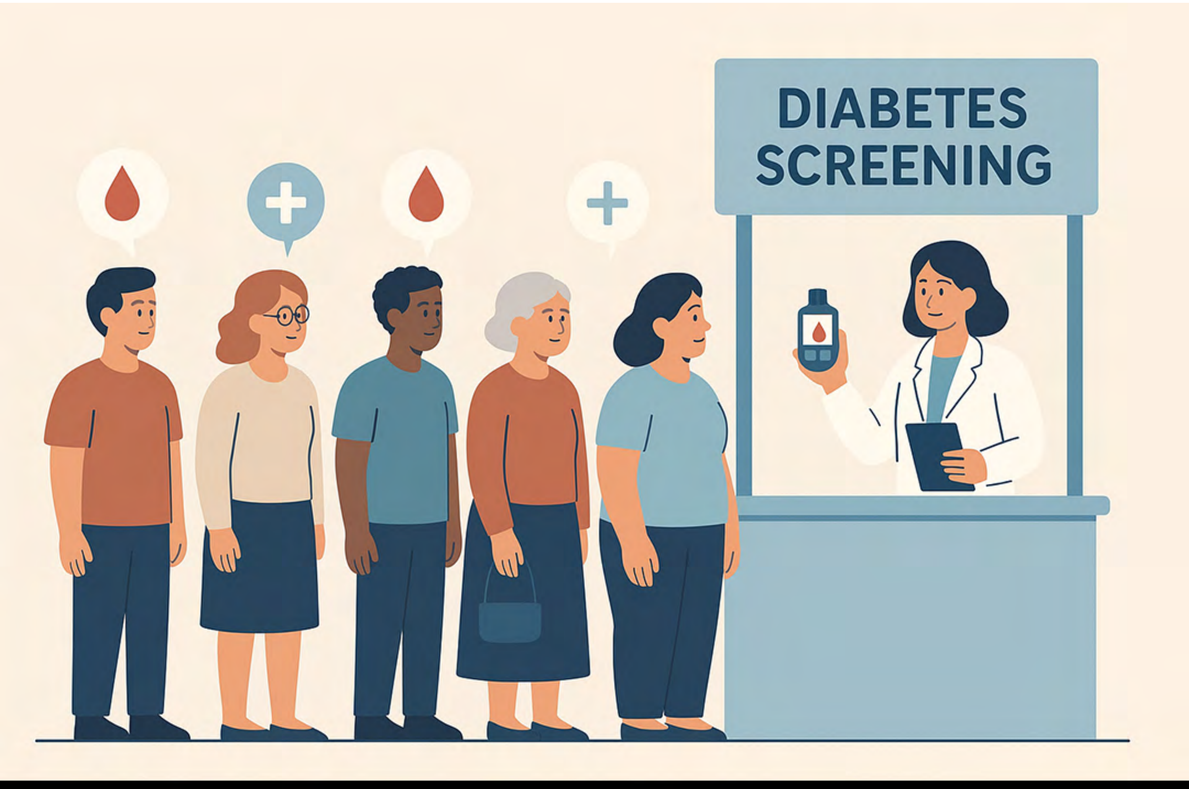
- Elevated blood sugar levels; if worry or fear of hypoglycemia prevents one from taking medicines, one needs to manage their diabetes
- Hypoglycemia unawareness, a condition in which one may not notice any symptoms of low blood glucose until the blood glucose level has dropped very low

Prevention

Dr Shah mentioned that people with diabetes should take the following actions to prevent hypoglycemia

- ☑ Checking blood sugar levels regularly using a glucometer
- ☑ Making sure to include enough carbohydrates in daily meals and snacks
- ☑ Carrying a candy, fruit juice or a dry snack along
- ☑ Monitoring blood sugar levels before, during and after any physical activity or exercise and adjusting medicines accordingly with the help of a doctor
- ☑ Regularly following up with your doctor and taking medicines as prescribed

Avoiding sulfonylureas, minimising insulin dose per day, switching to safer second-generation basal insulins, gliptins, SGLT2 inhibitors, GLP1R agonists, metformin, alpha-glucosidase inhibitors, etc with optimal diet and exercise will help one minimise their hypoglycemia risk, recommended Dr Gude. “Continuous glucose monitoring devices are available which give a minute-by-minute update on sugar levels and alarm when sugars go low or high. This helps one understand the risk and act accordingly,” he mentioned.



Should there be universal screening for diabetes?

– Anuradha Mascarenhas

At least one in five people aged 45 and older had diabetes in India in 2019, according to a paper published in 'The Lancet Global Health' journal. Significantly, two out of five people with diabetes (or 40 per cent of those diagnosed) were unaware of their condition.

However, 46 per cent of the people identified regained control of their blood sugar levels, 59 per cent achieved blood pressure control and six per cent took a lipid-lowering medication to reduce the risk of cardiovascular disease. "Moving forward with the epidemiological transition and

economic development, we anticipate that this trend will continue," Dr T V Sekher, Professor at International Institute for Population Sciences, Mumbai, and one of the principal authors of the study, told The Indian Express. "Only about half of these people are aware of their condition and even fewer achieve targets for glycaemic control, blood pressure control and use of lipid-lowering medications. Our findings emphasise the urgent need to scale up policies to better prevent, detect, manage and control diabetes among middle-aged and older adults in India," he said.

The Lancet paper is based on the findings from the Longitudinal Aging Study in India (LASI) that surveyed nearly 60,000 adults in India aged 45 years and older between 2017 and 2019 to estimate the prevalence, awareness, treatment and control of diabetes. "LASI is a nationally as well as state-level representative survey and includes all health conditions of individuals. We were able to analyse them along with diabetes (like BMI, hypertension, and so on). It has also analysed the difference between the self-reported and measured diabetes prevalence," Dr Sekher said.

What are the findings?

As per the findings, an estimated 20 million Indians have undiagnosed diabetes. Overall, eight

per cent of the elderly (60-plus) subjects have been found to be undiagnosed. The prevalence of untreated diabetes among older adults (aged 45 and above) is five per cent and that of under-treated diabetes is 47 per cent. About 36 per cent are adequately treated.

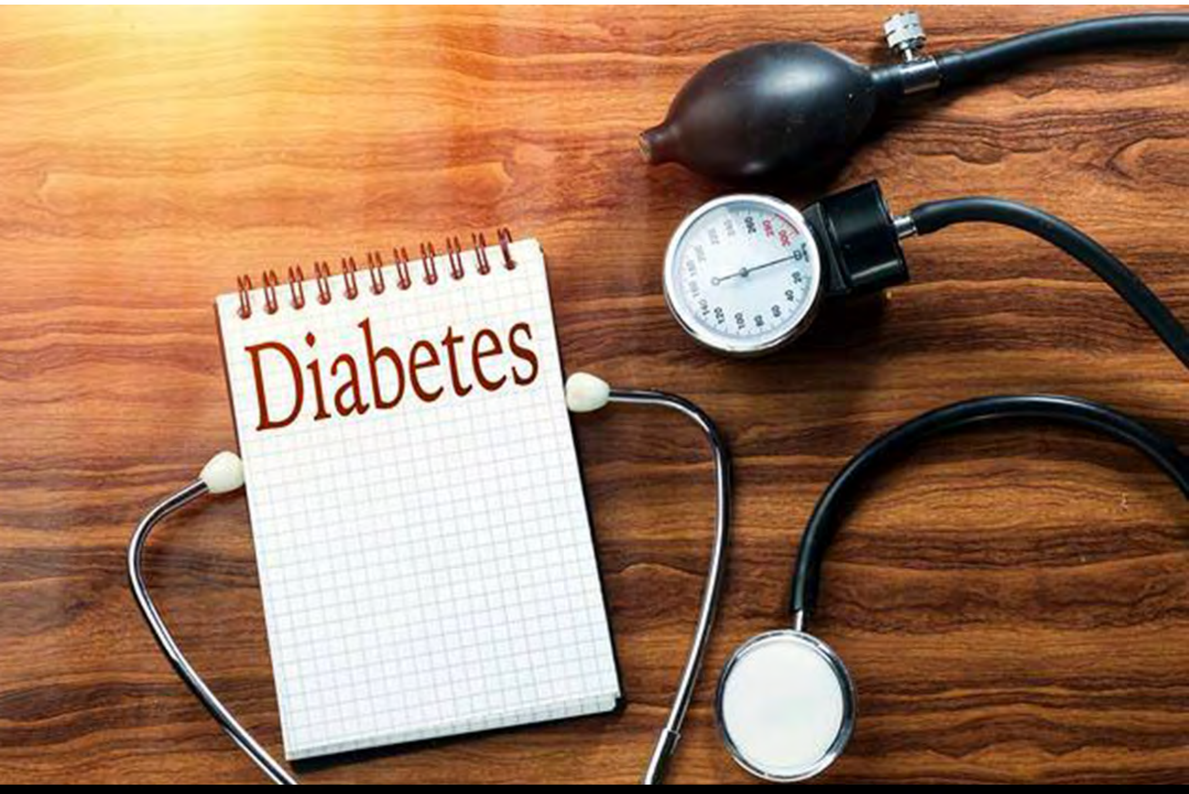
The study also found that rates of diabetes were similar among men and women (19.6 per cent of men vs 20.1 per cent of women). Urban diabetes prevalence (30 per cent) was approximately twice as high as rural prevalence (15 per cent). “Around 60 per cent of individuals are aware of their diabetes. So there is a need for better awareness campaigns and universal screening for diabetes. The silver lining is that among those who are aware about their diabetes, LASI found that 94 per cent are undergoing treatment. This is the most important finding. Once people are aware, then treatment coverage is good,” Dr Sekher explained.

What about state-wise prevalence?

The study also provides updated evidence on the patterns of diabetes within India. States in southern India tend to have a higher rate of diabetes after adjusting for age, while others in central and northeastern India have a lower rate. The states/UTs with the highest age-adjusted diabetes rates among adults aged 45 and above were Chandigarh (36.9 per cent), Kerala (36.0

per cent) and Puducherry (36 per cent). The states with the largest number of adults having diabetes were Tamil Nadu (6.1 million people), Maharashtra (5.8 million people) and Uttar Pradesh (4.7 million people).

LASI used the blood samples for testing their HbA1c (an integrated measure of diabetes over the previous 90 days) in a laboratory (ICMR- NITVAR, Pune). This is a more accurate and appropriate method for testing diabetes compared to field-level testing of random glucose levels (most other large surveys used this method in India).



How to spot prediabetes

– Dr V Mohan

Most patients keep asking me about the symptoms of prediabetes — a condition when blood sugar levels are higher than normal but not high enough to be declared diabetes. They want to know if something is to be made out of their hunger cravings or not. The fact is that there are virtually no symptoms of prediabetes, and it can only be diagnosed by routine screening. If symptoms like exhaustion, frequent urination, or unexplained bouts of hunger or thirst show up, then you have already progressed to diabetes.

What constitutes prediabetes

Before one develops overt diabetes, the intermediate stage called prediabetes may be

defined as a condition of Impaired Fasting Glucose (IFG) (if you have higher than normal sugar levels after a period of fasting), or as Impaired Glucose Tolerance (IGT) (if you have higher than normal sugar levels after eating) or a combination of both. According to the WHO definition of prediabetes, the plasma glucose level in the fasting state is between 110 and 125 mg/dL. The two hours after a meal reading should be 141-199 mg/dL. If the fasting blood sugar level is above 126 mg/dL, you have diabetes.

Why prediabetes must be reversed immediately

Prediabetes is not an innocuous state and can lead to heart attack, disease and strokes. Its diagnosis becomes important because, besides isolated spikes of blood sugar, it also elevates blood pressure and cholesterol. Some of the long-term damage to the blood vessels, heart and kidneys may have already started in this stage. Hence, a comprehensive approach is required to control it.

What many do not realise is that the division of prediabetes and diabetes was made because those overtly diabetic were more susceptible to developing eye infection, kidney and nerve complications.

Interventions to roll back prediabetes

Studies both in India and abroad have proven

that lifestyle interventions — that is diet, exercise and weight loss — are the most effective way to halt diabetes. For those in whom lifestyle corrections do not work, metformin has been cleared by the drug controller for prediabetes. Other drugs are not approved for use at this stage.

Who should be screened?

All adults above 30 should be screened for prediabetes. But if that may seem overwhelming, those with a family history of diabetes, obesity, polycystic ovary disease (PCOD), those who are physically inactive and have a lot of stress should undergo screening. Take the oral glucose tolerance test (OGT) and the haemoglobin A1C (HbA1c) test, which maps blood glucose for three months. In the US, anybody with a reading between 5.7 per cent to 6.4 per cent is considered to be living with prediabetes even if their blood glucose test is normal.

Those with full-blown diabetes have difficulty reversing their condition but can keep it under control and lead a long life if they keep their ABC levels under control. This means you should keep your A or haemoglobin A1c levels below 6.4 per cent, B or blood pressure in the normal range, and C or cholesterol levels under control.

(Dr Mohan is chairman, Dr Mohan's Diabetes Speciality Centre, Chennai)

Can diabetes affect mental health, and vice versa?

– *Shreya Agrawal*

A metabolic condition characterised by a spike in blood glucose levels, diabetes affects a patient's life in myriad ways. Apart from the various physical implications, the condition can also lead to several mental and emotional disorders. So much so that, as compared to the general population, the prevalence of depression is up to three times higher in type 1 diabetes patients and twice as high in type 2 diabetes patients, Dr Venkatesh Babu G M, Consultant, Mental Health and Behavioural Sciences, Fortis Hospital, Bannerghatta Road, said. As such, why and how exactly does diabetes affect a person's

mental health?

“Glucose is used by the brain for all of its processes, including memory, emotions, thought, and behaviour. In addition to our skin, eyes, and feet, our brain also gets impacted by an excessive amount of glucose flowing through our body,” Dr Gorav Gupta, Senior Consultant, Psychiatrist and Mental Health Expert, Tulasi Healthcare, Delhi said.

He explained that distress from having diabetes is an emotional reaction to having the disease. “It happens when someone feels overburdened by the constant self-management requirements and possible long-term effects of diabetes,” he added.

Calling it “completely normal”, Dr Ravi Shankarji Kesari, General Physician, Apollo Spectra Hospital, Bangalore, added that a patient may feel frustrated, defeated, or overwhelmed by diabetes. “It is slightly more common for people on insulin. It happens due to looking after diabetes all day, every day, and fear of complications. Diabetes distress can turn into depression if their feelings are there for a while and they aren’t going away.”

Some other reasons behind mental distress among diabetics include “financial anxiety of diabetes, such as insurance and treatment costs, as well as the social effects or social isolation of

the condition, such as stigma, discrimination, or dealing with other people's unhelpful reactions or lack of understanding," Dr Gupta shared.

For those with preexisting mental health conditions, diabetes can make their depression or anxiety worse, according to Dr Nivedita Gautam, BAMS, SR Institute of Advanced Ayurvedic Science. "Having diabetes can cause the problematic condition called 'diabetes distress' which shares some traits of depression, stress, and anxiety. Diabetic people are 2-3 times more likely to have depression than individuals without diabetes. Only 25 per cent to 50 per cent of individuals with diabetes who have depression get diagnosed and treated," she said.

Notably, the converse stands true, as well. "Having depression can boost the risk of diabetes by 60 per cent," Dr Babu said.

How to deal with it?

The first step in managing distress is understanding that it happens to a lot of people and not blaming ourselves, according to Dr Kesari. "Patients should remember that sugar levels are just a number. They must try to let go of really high expectations on things like blood test results and set smaller, more realistic goals. They should stop using phrases like 'good' or 'bad' sugar, and instead talk about high or low sugar. Patients

should inform the treating doctor and take their help," he suggested.

Here are some other ways you can manage mental health if suffering from diabetes, according to Dr Gupta.

- Adapt a new healthy lifestyle.
- Eat a healthy and well-balanced diet to maintain your blood sugar levels.
- Start doing exercise and yoga, which can help to reduce stress and improve your emotional state.
- Set achievable diabetes management goals and try achieving them.
- Avoid taking too much stress on small things, try being happy and get social.

Dr Babu further highlighted that management of depression among diabetes involves "antidepressant drugs, psychotherapies like cognitive behavioural therapy, supportive therapies, interpersonal therapies, relaxation techniques, mindfulness exercises, brain stimulation procedures like rTMS etc."

How menu changes can curb Type 2 diabetes in children

– Anonna Dutt

This is a story of two 12-year-old food addicts, separated by geography but united by their food choices. A boy in Kochi ordered burgers and fries twice a day, alternating between McDonald's and KFC for variety. His counterpart in Delhi lived on carbohydrates exclusively, beginning with cheeseburger buns for breakfast, albeit home-made, rice and rajma at school lunch, sub-sandwiches as filler snacks, chocolate chip cookies or pastries for hungry bites, and cheesy pastas for dinner. All of these were interspersed with Coke cans or energy drinks. Both of them

gained weight and were diagnosed with Type 2 diabetes, a condition where the sugar-regulating hormone insulin is not enough to keep blood sugar levels in range.

Both boys had built addictive behaviours because of unchecked and indulgent food habits in their early years without a commensurate increase in physical activity and sticking to desk-bound routines given their academic pressure. A 2023 report by the Indian Council of Medical Research (ICMR) found the prevalence of Type 2 diabetes in the 10 to 19 age group as almost two per cent. In metropolitan areas, this figure was as high as 3–4 per cent.

That's why the Central Board of Secondary Education (CBSE) has mandated the establishment of sugar boards in affiliated schools to modify children's habit-forming behaviour from the very beginning. As part of this effort, schools will remove high-sugar, high-fat items like sodas, chocolates and pastries from the canteen and come up with healthier menus. They will also help build awareness on calorie-dense foods and their health impacts.

The beginning of an addiction

The Kochi boy was introduced to fast food during twice-a-week outings. This turned into one meal every day and soon multiple meals a day.

“When his parents came to me, their child’s food addiction was akin to a drug. That’s what processed, packaged, high sugar, high salt and high fat food does. He would shout, cry and break things around the house, compelling his parents to keep some frozen fries and burgers in the fridge. In fact, they moved back from the Middle East to Kerala to curb his addiction,” says Dr Jothydev Kesavadev, founder and chairman of Jothydev’s Diabetes Research Centre in Kerala. The child now suffers from obesity, Type 2 diabetes and liver disease. “While these conditions can be managed with medication, we have to address the underlying problem of food addiction. Just diet correction won’t help, this child has to be counselled,” says Dr Jothydev.

Extreme cases may need paediatric doses of newer anti-obesity drugs like semaglutide. The expanded label now includes semaglutide’s use in adolescents 12 years or older, who have a very high body mass index (BMI). Its use is advised along with a reduced-calorie meal plan and increased physical activity. “These drugs can address the craving for energy-dense foods. Due to their action on the hypothalamus, these drugs are now thought to be effective in addressing several types of addictions,” says Dr Jothydev. The key, however, is to prevent the condition instead of treating it once it happens.

What the CBSE directive means

The CBSE noted a significant increase in Type-2 diabetes among children over the past decade, adding that sugar constitutes 13 per cent of the daily calorie intake of children between the ages of four and 10 years and 15 per cent for those between the ages of 11 and 18 years. This is much higher than the recommended five per cent.

Schools are getting proactive too. “We have more than 120 doctor-parents and I have roped them in to help with plans to lower sugar in children’s diets. We are teaching children about the glycemic index — a measure of how quickly food raises blood sugar — of different food items. We are telling them how they can replace certain high sugar or high carbohydrate items from their diet. For example, they can have shikanji instead of Coke or energy drinks, they can replace their roti at night with millets,” says Sudha Acharya, principal, ITL Public School, Dwarka, Delhi.

Before the summer vacations, the school is even teaching children how to plan their weekly meals and maintain a chart of what they are eating. “This is an effort to take healthy eating habits home. Because if the family is having chole bhature, the child is likely to,” she says. Acharya has made sure that the school canteen serves healthy options only. “It does not serve

cold drinks, fried snacks such as samosa or aloo bonda. We serve simple meals such as rajma chawal, upma, beetroot cutlets, millet tikkis. Drinks are sattu buttermilk and aam panna. We serve fruits with meals," says Acharya.

Plump babies are not healthy babies

Dr Jothydev has seen a consistent increase in the number of children, teenagers and young adults coming to him with obesity or Type 2 diabetes. He talks about a 17-year-old girl, who was overfed by her grandmother. "In her time, the grandmother saw cases of malnutrition such as Kwashiorkor, a severe protein deficiency, and marasmus, a macronutrient deficiency. She was trained to look out for undernutrition. Now, the challenge is the opposite. A chubby baby may not be a healthy baby. Most people do not understand the concept of normal weight for children, which has to be relative to their age, gender, and height," says Dr Jothydev.

The school routine can work with certain home interventions too. Having set meal times for the family, taking time to prepare meals and involving the children in the meal preparation process can help introduce healthy habits, according to Dr Jothydev. Nutrition should now be a family challenge.

Can you reverse diabetes with weight loss and a rigid diet?

– Dr Ambrish Mithal

It was a hot summer evening in 2008 when I received a panic call from a friend. She was breaking down and couldn't explain herself clearly. All I could figure out was that her 24-year-old son Saurabh had been found to have a blood sugar of 400+. Could he really be a diabetic? What would be his future? I saw Saurabh the same evening. He did not seem sick at all, except that he was about 20 kg overweight, despite losing some weight over the last few weeks.

How lifestyle affected patient's HBA1C reading

Saurabh's HbA1c concentration was 13 per cent. HbA1c is a measure of blood sugar as a three-month average. The normal range is <5.7, 5.7-6.4 is considered prediabetes, and 6.5 or above is labelled as diabetes. As is the protocol for young patients with such high blood sugar values, insulin treatment was initiated. His laboratory tests came back, and he was found to have Type 2 diabetes, the common type of diabetes that usually affects older adults and does not always require insulin for treatment.

Saurabh worked in a law firm, had 10-14-hour-long days, ate in the office, and partied on weekends. Sleep hours were erratic and interrupted. He had a family history — his mother had developed diabetes at the age of 50. Diabetes hit him earlier because of his obesity and lifestyle.

A radical reversal of numbers with a simple discipline

Since that day, Saurabh turned a new leaf. He gave up junk food altogether and started regular exercises. He lost 12 kg over the next six months with lifestyle modification and behavioural discipline. In a few weeks, his insulin was discontinued. His blood sugar values remained

under control on progressively lower doses of oral medication. Another six months passed and Saurabh lost an additional 6 kg. Soon, he was able to maintain normal blood sugar levels without any medication. To date, he continues to monitor his blood sugar and all his other parameters every few months. All parameters are within range. He has not regained his body weight. For the last 12 years, he is off all medication and continues to be “normal.”

A miracle or weight loss?

Is this a miracle? Can this be reproduced? Let me first state that some patients of Type 2 diabetes can go off medication and remain fine for years. It’s not called cure or reversal, which implies permanency. Rather, the term remission is used, since we don’t know if it is permanent. Type 2 diabetes is an ongoing, progressive disease, and it is expected to make a comeback at some point. Clearly, however, several years of postponement of diabetes is possible. This has tremendous benefits for our long-term health and well-being.

The key to achieving remission in Type 2 diabetes is weight loss. Weight and diabetes have a direct and powerful connection. Much of the increase in diabetes prevalence worldwide is linked to increasing obesity. Shedding off those extra kilos can reverse many metabolic processes and

can induce remission in diabetes, particularly if diabetes is of recent onset. Type 2 diabetes results from a combination of insulin resistance (resistance to insulin action at the cellular level) and insulin deficiency (the pancreatic beta cells are unable to make enough insulin). Weight loss can partially reverse both of these processes.

Studies have shown that very low-calorie diets can help achieve weight loss and remission of diabetes. About 600-800 calories per day, consumed for two to three months, followed by a maintenance diet, were able to normalise blood glucose levels in about half the participants and also maintain them, for at least a year.

Clinical trials prove efficacy of restrictive diets

A large community-based clinical trial called DiRECT (Diabetes Remission Clinical Trial) was conducted in the UK. DiRECT enrolled people with Type 2 diabetes for less than six years and not receiving insulin treatment. They were provided either standard diabetes care or a low-calorie meal replacement diet (825–850 kcal/day) for three to five months, followed by stepwise food re-introduction and a long-term weight maintenance programme. At a one-year follow-up, 46 per cent of patients had achieved diabetes remission (HbA1c <6.5 per cent without

medication). At two years, the remission rate was 36 per cent.

The diets used in these trials were quite restrictive, requiring strong, sustained motivation, and could only be followed under close medical supervision. The long-term effects of such severe diet restriction are unknown at present. Some individuals achieve calorie reduction by following different types of intermittent fasting protocols. Although remission is reported with long-standing diabetes too, the shorter the duration of diabetes (usually less than 5-6 years), the greater the chances of success.

Only exercise is not enough

What about exercise? Exercise keeps us healthy in many ways and helps control our blood glucose too. But exercise alone, even 10,000 steps a day, is not enough to induce remission. It has to be combined with calorie restriction.

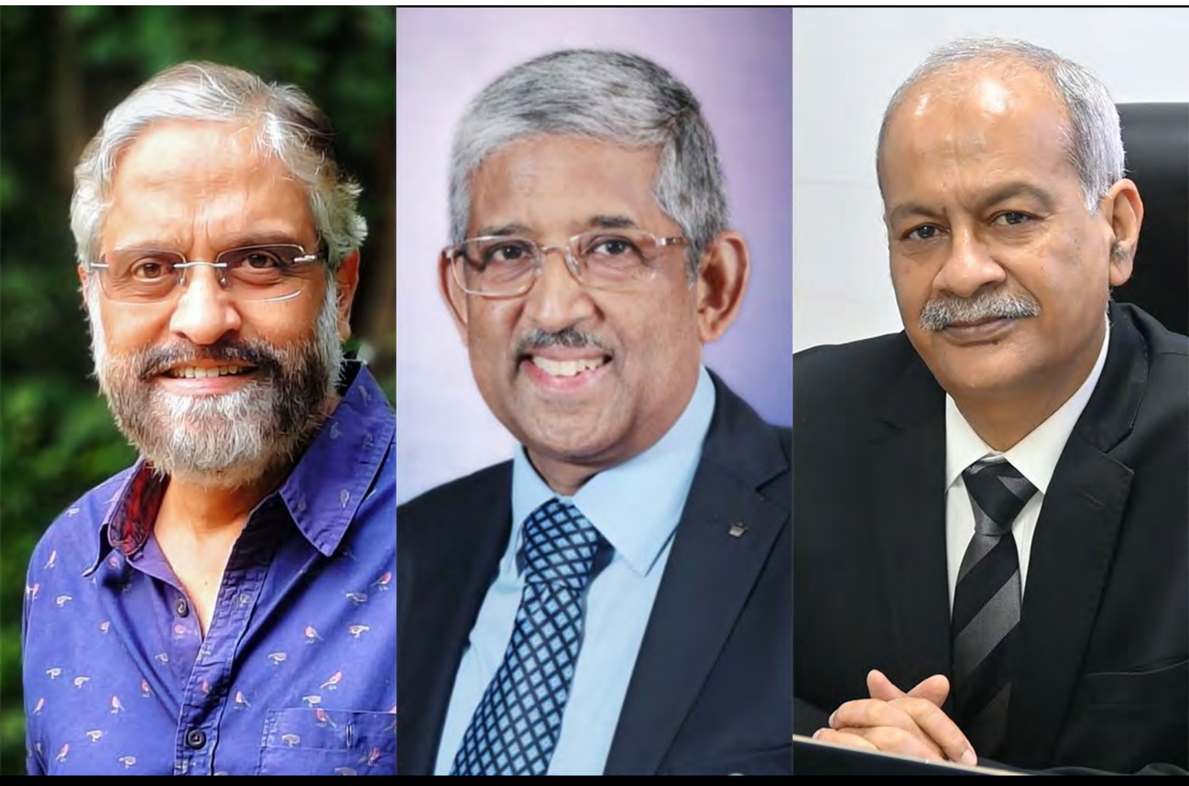
Weight loss (bariatric) surgery has been known to induce remission in patients with diabetes. The signs of diabetes reduce or disappear within a few days, even before any major weight loss, suggesting that severe limitation in food intake or changes in gut hormones could be a reason. In the long term, weight loss seems to be the main factor responsible for better diabetes control.

Can only drastic checks ensure remission?

Are such aggressive measures always required to induce remission in diabetes? In our experience, many patients — like Saurabh — who are overweight or obese and initiate calorie restriction (not necessarily drastic, as in the UK trials), early in the course of diabetes, are able to achieve remission. I don't believe it is always necessary to resort to very low-calorie diets. Any combination of diet and exercise that helps one knock off the extra kilos in a young individual with recent onset diabetes has the potential to induce remission. Even a 10 per cent patient weight loss is sufficient in some cases to normalise blood glucose.

More recent approaches that have shown good results include custom-designed diets and programmes based on a large number of data points acquired through continuous monitoring of body parameters.

(Dr Ambrish Mithal is Chairman and Head, Endocrinology and Diabetes, Max Healthcare)



5 tbsp rice, 7-hour sleep, no doom scrolling: Top diabetologists share fitness secrets

– ***Rinku Ghosh***

You have been reading their advisories on managing blood sugar from time to time. But do experts ever follow their own advice and execute it in their lives? For a few minutes, Dr Anoop Misra, Dr V Mohan and Dr Ambrish Mithal take the chair and face the very same questions they ask their patients. Read on to find out how you, too, can prevent and manage diabetes.

Dr Anoop Misra, Chairman, Fortis CDOC Hospital for Diabetes, New Delhi

When he's through seeing his last patient for the day, Dr Misra spends time on his research papers and demystifies the latest findings as editor-in-chief of the journal, Diabetes and Metabolic Syndrome. He is also looking into the efficacy of harnessing technology, AI and ChatGPT, in medical diagnosis. He unwinds with his dogs.

Morning routine: I'm up at 5:30 am, courtesy Alexa's dutiful alarm. Mask on, headphones in, shoes tied and out I go, listening to morning prayers that kick-start my day. There's no skipping this routine — unless Alexa takes a day off (becomes offline)!

Fitness regime: A mix of 40 minutes of walking and a quick five-minute "pump iron" session. It's all about consistency. Deviations? Not in this plan!

My meal pattern: I stick to a three-meal plan with one snack. Breakfast is eggs and a besan chila; lunch is soup, fruits and two paneer wraps. Dinner is slightly indulgent: a bit of rice, besan rotis, leafy greens, and daal, with salad twice daily. Occasionally, I'll sneak in a piece of chocolate before bed for good measure.

Diabetes status: Yes, with a strong family history (my father had complications), I'm at high risk. I'm diligent with my checks, and while I have prediabetes, I'm committed to keeping things in check. My willpower won't let it get the best of me.

Health checks: I get regular blood and cardiac checks. Partly because I'm careful, and partly because my wife owns a lab. Let's just say convenience helps!

Sleep: I aim for seven hours, winding down by 10.30 pm. A dark, quiet room and cool temperature do the trick, with eye shades for extra help when needed.

One tip to manage diabetes: Discipline in diet, exercise, medication, and regular check-ups. Master that, and diabetes doesn't stand a chance.

Destress mantra: Short walks, music (90s rock, jazz, and Kishore Kumar), Stephen King, Michael Connelly, and Trueman Capote novels, and conversations with my wife and kids. No alcohol needed!

Dr V Mohan, Chairman, Dr Mohan's Diabetes Specialities Centre, Chennai

"I still fit into the same Marks and Spencer's suit that I bought in London in 1984," says Dr

V Mohan, who has maintained the same body weight since. Of course, that has meant a lot of discipline and compartmentalising his day — he even has a couple of hours slotted for exclusively answering emails and connecting on social media. And he avoids watching negative news or doomscrolling before sleeping. “I cannot help victims of an earthquake at the other end of the earth, so I don’t need the breaking news moment, I can catch up with it the next morning. And if it were an emergency around me that requires my attention and expertise, there are other ways of communication and immediate action than just watching the news,” he says.

Morning routine: Wake up at 5.15 am, have water, go out for a walk with friends by 5.30 am (walking in a group helps you stick to routine). Back at 6.45 am, have half a litre of water, a cup of tea, and read newspapers. Then I exercise at my home gym, shower, pray, meditate, and have breakfast by 8.30 am. Leave for work by 9 am.

Fitness regime: Stretching and light weights (resistance training). I use the treadmill only when rains halt my outdoor walks. Every Tuesday and Thursday, a personal trainer works with me for an hour on stretching, lifting weights and bending (these two days I skip walking). I end each session with 15 minutes of pranayama and five minutes of meditation, 365 days a year. I am a Type A personality (outgoing, impatient, anxious, hyperactive), so slowing down is necessary. At

work, I get up every hour with the help of my smartwatch and walk for two minutes. I never take the lift but climb stairs during my rounds.

My meal pattern: Breakfast is an apple, an egg white omelette and milk with pumpkin seeds. Have water during breaks. Lunch is anywhere between 1.30 to 3 pm. One or two vegetable dishes, steamed or boiled, usually beans, cauliflower, broccoli, cabbage, and any gram, Bengal gram, black or green gram, rajma or mushroom. I have them with about five tablespoons of rice, sambhar and curd. I have just a cup of tea between 4.30 and 5 pm. Dinner is at 9 pm. Since digesting protein becomes difficult, I combine them with very little carbs, so I choose idiyappam with lentils, a scoop of rice with curd, even bread and cheese. Except for eggs and dairy, I only have plant proteins.

Diabetes status: Negative

Health checks: Full body checkup once a year with ultrasound and echocardiogram. Tests for liver function, kidney function, sugar, cholesterol, thyroid (since I had hypothyroidism once), and vitamin D levels every three months.

Sleep: By 10.30 pm

One tip to manage diabetes: Reduce your carbs, increase protein, take green leafy vegetables or fruit, exercise every day, cut down on screen time.

Destress mantra: Reduce TV time, build a social circle instead, travel.

Dr Ambrish Mithal, Chairman, Endocrinology and Diabetes, Max Healthcare, New Delhi

When he is not doing a deep dive into how our food choices are impacting our blood sugar levels or studying the gut-brain axis, Dr Mithal could be mistaken as a botanist for documenting every kind of pink flower at Delhi's Sundar Nursery. Making room for hobbies with as much passion as work is the reason he stays anchored at work. "It's all in your food. Just know when to have what and how," he says.

Morning routine: I wake up between 5.30 am and 6 am, and go for a walk at least five days a week. Usually, I go to the Yamuna Biodiversity Park or Vasant Vatika on weekdays, Sundar Nursery and Lodhi Gardens on Sundays. I like catching the morning sun and gathering energy for the day.

Fitness regime: A physio comes in three days a week and helps me stretch, loosen my muscles and keep me pain-free. I am not a great exerciser but I do strength training and some weight training.

My meal pattern: Breakfast at 8 am comprises three eggs or dal ka chila, fruit, milk and cereal.

I skip bread altogether. I have a single fruit at 12 noon. Lunch is anytime between 1 and 3 pm, usually a roti roll with chicken or paneer stuffing. No matter where I am, be it work or conference, dinner is at 8 pm, mostly a bowl of vegetables and curd. I must admit that sometimes in social settings, I do get tempted by a salted snack. If I have a sweet craving, just have a bite of a dark chocolate.

Diabetes status: No. I have a good metabolism and am careful about my food, always doing checks and balances.

Health checks: Once in two years, I get a detailed cardiac workup, I do routine tests twice a year. Sleep: 10.30 pm, 11 pm at a stretch but am a sound sleeper.

One tip to manage diabetes: Just correct your lifestyle, walk 10,000 steps, watch your weight, and exercise for 45 minutes. Don’t go crazy about workout routines or fad diets. Don’t let diabetes control you. Instead, control your diabetes.

Destress mantra: Photographing birds and flowers during my walks, listening to Hindustani classical music, and reading books.

In a world of swipe-lefts, these couples matched on insulin and empathy

– Jayashree Narayanan

In the heart of Mumbai, amid the city's relentless bustle, a love story unfolded between two people who wore insulin pumps with pride.

Aarav and Isha (names changed), both in their mid-20s, had lived with Type 1 diabetes for over a decade. Their paths crossed not in a café or classroom, but in a support group run by one of India's leading diabetologists. It was a safe space where young adults on insulin pumps shared experiences and fought the daily glucose battle together.

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Aarav, sarcastic, cracked jokes about CGMs and carb-counting; Isha was quieter, methodical, always taking notes. Their friendship deepened as they messaged outside the group, discussing basal rates and boluses. When Aarav was hospitalised with diabetic ketoacidosis in a life-threatening emergency, Isha never left his side. During his recovery, she proposed: “I don’t want to be your diabetes buddy anymore. I want to be your everything.”

They married in 2018, and now, they mark each anniversary with a visit to their diabetologist, Dr Rajiv Kovil, head of diabetology at Zandra Healthcare and co-founder of the Rang De Neela Initiative, where they first met.

“Both had faced rejection in arranged setups because of their condition. Some couldn’t understand the midnight alarms, others feared the ‘complications’ of living with such a partner,” Dr Kovil told indianexpress.com. “They’d begun to wonder if love was even possible for people like them. Now they share bolus calculators, and a beautiful life.”

Diabetes is a long-term condition where the body cannot process glucose properly, leading to high blood sugar levels. In type 1 diabetes, the pancreas produces little to no insulin because of an autoimmune response. “It typically starts in childhood or adolescence and requires insulin

therapy for life," said Dr Pranav Ghody, consultant endocrinologist and diabetologist, Wockhardt Hospitals, Mumbai Central. Type 2 diabetes, more common in adults, is often associated with insulin resistance, where the body does not respond well to insulin. It is affected by lifestyle and genetics and is often managed with oral medication, lifestyle changes, and sometimes, insulin.

Matching on insulin and empathy

India has the highest number of children and adolescents with Type 1 diabetes, according to the International Diabetes Federation. And with over 100 million diabetics overall, the country is often referred to as the "Diabetes Capital of the World." Amid this alarming reality, some couples are choosing life partners who know the condition intimately, because they live with it too.

Vaishali and Neel Vakil, both Type 1 diabetics, met through an arranged match in 2003. "For us, diabetes was the primary eligibility criterion," said Vaishali, now a certified diabetes educator from National Diabetes Education Program (NDEP) and Indian Society for Pediatric and Adolescent Endocrinology (ISPAE). "I was already checking blood sugars multiple times a day. After we got engaged, Neel learnt diabetes self-management and kept his levels in range."

The couple also shares a love for adventure sports and exercise. “He’s into cricket, I prefer yoga and long walks,” she said.

But the shared diagnosis doesn’t make life easy. “If one of us has a hypo episode, the other knows how to respond immediately,” she added. “We’ve learnt to take care of each other.”

When traditional matchmaking doesn’t work, diabetic-only matrimony platforms step in.

For many diabetics, finding a partner in conventional matrimonial settings is daunting. That’s what led Harsh Shah, a Type 1 diabetic, to launch Diabliss Matrimony in 2023, an online platform where diabetics can look for partners without stigma.

“I was looking for a life partner myself and realised how hard it is,” said Harsh. “So, I started a WhatsApp group with other diabetics. It grew fast. Today, we’ve helped over 16 couples get married.”

The platform now has over 400 members, and their website diabeticmatrimony.in lists more than 350 active profiles. While registration is free, a nominal fee is charged to access contact details, with KYC verification for privacy.

That’s where Rinkal Patel, 26, met her husband

Virag, 28, both Type 1 diabetics. “I was rejected multiple times,” Rinkal said. “Society still hesitates to accept someone with diabetes, due to concerns over pregnancy, medical costs, or complications. But when both partners have it, there’s more empathy, less fear.”

Another couple, both 27, who recently got engaged, echoed the sentiment: “Life with diabetes is not so different from anyone else’s, except that we don’t fear accountability. We support each other fully.”

How couples with diabetes support each other

“Diabetes doesn’t just affect individuals, it affects relationships,” said Dr Ghody. “The key is partnership.”

Dr Chandni Tugnait, psychotherapist and founder of Gateway of Healing, said, “Like any challenge, whether financial or emotional, chronic illness requires adaptability. Managing diabetes requires adjustments, but teamwork and open communication are key to overcoming these hurdles together,” said Dr Tugnait.

Here are expert-backed ways to help future couples support each other:

☑ Adopt routines together: Shared meals,

regular walks, or fitness classes help both partners stay healthy and connected.

☑ Avoid 'food policing': Respect autonomy. Support without control.

☑ Do diabetes management as a team: Attend doctor visits together, help with insulin adjustments, and celebrate small wins.

☑ Offer emotional check-ins: Diabetes burnout is real. A quiet "How are you feeling today?" can go a long way.

☑ Be patient during sugar episodes: React calmly, offer quick help, and avoid blame.

Because in the end, what these couples prove is this –– love doesn't just live in sweet moments, sometimes, it lives in blood sugar charts, 2 am, glucose checks, and a partner who always knows where the glucose tablets are.