

How should India tackle diabetes load?

What is the controversy over the numbers? What is the difference in testing methodology? What are the issues raised in the Lancet study on controlling diabetes? Why are doctors concerned about the number of diabetics in India? What steps need to be taken?

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The story so far: On International Diabetes Day (November 14), a paper published in *The Lancet*, based on a global study, recorded over 800 million adults living with diabetes, with more than half not receiving treatment. According to the study, the total number of adults living with either Type 1 or Type 2 diabetes in the world has surpassed 800 million — over four times the total number in 1990. Of this, over a quarter (212 million) live in India, with another 148 million in China. The estimate came as a bit of a shock, because

the last scientific countrywide estimate by the Indian Council of Medical Research-INDIAB study last year had pegged the number at slightly over 100 million.

Why is there a discrepancy in numbers?

The nub of it is in the means used to measure blood sugar, experts have pointed out. *The Lancet* study, conducted by the NCD Risk Factor Collaboration (NCD-RisC), along with the World Health Organization (WHO), used data from over 140 million people (18+ years) culled from more than 1,000 studies in different countries. They estimated trends from 1990 to 2022 in diabetes prevalence and treatment for 200 countries and territories. As such they had to use what was available as data in these nations — picking fasting glucose or HbA1c or a three-month glycated haemoglobin average. The ICMR study, however, used a fasting measure and a two-hour post prandial value to come up with the number of people who have elevated blood sugar levels.

It is the use of differing measures to estimate diabetes that has led to the variation. V. Mohan, chairman, Madras Diabetes Research Foundation, Chennai, who was part of the ICMR-INDIAB study says, while a number of countries have moved to measuring HbA1c, India still sticks to the measure of the fasting and two-hour post prandial readings with an Oral Glucose Tolerance Test (OGTT) as the gold standard. “If they had taken the OGTT values alone, then the number would be half of what was recorded,” he says. “Using HbA1c, they preferred a single cut-off point to determine diabetes — 6.5%. Even in those with normal glucose, a small percentage will spill over into the 6.5% HbA1c value, depending on whether individuals are ‘fast’ or ‘normal glycaters’. Glycation is influenced by many things, including anaemia, and advancing age. Someone who is nondiabetic too, but is older, may have a high A1c value. In some earlier studies, when we used HbA1c, we found a doubling of the figures,” he adds, reasoning out why the OGTT figures are considered the gold standard.

However, he adds that a global study the size of what was attempted as part of this exercise would have to use the information already available in countries, and not all nations have OGTT fasting and post prandial values.

Anoop Mishra, chairperson, Fortis CDOC Hospital for Diabetes and Allied Sciences, adds that sources of data are multiple here, thereby giving rise to apparent differences in total numbers. Also, he adds that Type 1 diabetics are a small proportion of the total diabetes cases in India, and it is Type 2 diabetes that poses problems for the future.

What are the areas of concern?

Whether 100 million or 200 million, the fact remains that India already has a large number of people requiring treatment for their diabetes, and who, as a consequence are prone to several life-threatening complications involving the heart, eyes, kidneys, and peripheral nervous system. Quibbling over numbers apart, the *Lancet* study must be seen as yet another reminder that in India, diabetes has grown — and is growing — across populations, and efforts should be made on a war footing to both prevent diabetes and treat persons with the condition.

Another aspect that the study highlighted was the lack of access to treatment for people with diabetes. Senior author of the paper, Majid Ezzati, of the Imperial College, London, says: “Our study highlights widening global inequalities in diabetes, with treatment rates stagnating in many low-and middle-income countries, where numbers of adults with diabetes are drastically increasing. This is especially concerning as people with diabetes tend to be younger in low-income countries, and in the absence of effective treatment, are at risk of life-long complications, including amputation, heart disease, kidney damage or vision loss, or in some cases, premature death.”

No country in the world can afford to treat patients when the complications of diabetes set in, explains Dr. Mohan. “Even if we assume we have 100 million people with diabetes and 20% of them move to kidney failure, then that is 20 million people who will need a kidney transplant. How are we going to help all those people?” Dr. Mishra invokes a war metaphor, to stress the urgency of the fight ahead for challenges that might seem, like the labours of Hercules, impossible to achieve and yet only require near superhuman effort. “Unless war-like efforts, using mass media for raising awareness on nutrition, physical activity, are put in, and more legal provisions to cut down carbs and sugar-sweetened beverages, it will be a tall order to keep the numbers from rising,” he says. Speaking ahead of World Diabetes Day, International Diabetes Federation Peter Schwarz spoke about prevention as the primary, crucial aspect in this game: “My heart is beating for prevention. And then the next step is prevention, and then prevention again.”

Dr. Mishra adds that nations such as India have a duty to focus on the vulnerable, lower middle class, semi-urban and rural people. “We have to majorly educate women since they are prone to obesity post pregnancy and have a heightened risk at menopause. We need to cut off the rising trend of obesity, [Abdominal obesity has been identified as one of the key causes of diabetes among Indians] with all these efforts. A long-term vision for about 10 years is required,” he explains.

What can individuals do?

The Lancet paper identifies obesity and poor diets as important drivers of the rise in Type 2 diabetes rates. Diabetes rate was either already high or increased more in some of the regions where obesity was or became prevalent between 1990 and 2022, compared to many high-income countries, especially those in the Pacific and western Europe, where, in general, obesity and diabetes rates did not rise or rose by a relatively small amount. The writing is on the wall: a measure of mindful eating and exercising have a proven effect in preventing diabetes, and controlling blood sugar levels.

The challenge for governments, however, is to make it possible for people to exercise these healthy choices, and for people to demand it of their rulers. As Anjana Ranjit, a collaborator on the ICMR-INDIAB study, says: “We need to see more ambitious policies that restrict unhealthy foods, make healthy foods affordable. Opportunities to exercise must be ensured, besides promoting safe places for walking and exercising, including access to public parks and fitness centres, subsidies provided for healthy foods and free, healthy school meals.”

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