EDITORIAL

The Unrelenting Epidemic of Diabetes in India: Do the Numbers Matter?

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Globally, and in India, the prevalence of type 2 diabetes is rising rapidly. The estimated number of individuals with diabetes in India was 32 million in the year 2000, which rose to 63 million by 2012, 74 million in 2021,[1] and it is now 101 million, according to the ICMR–INDIAB Study.[2] The situation got even more alarming when a more recent report from the NCD Risk Factor Collaboration (NCD-RisC) survey reported the number of people with diabetes in India to be 212 million.[3] What is surprising is that the data from the ICMR–INDIAB study was mostly used to make these estimations by the NCD-RisC Collaboration. The difference in numbers is because, in the original ICMR–INDIAB study, we used the oral glucose tolerance test (OGTT) criteria to diagnose diabetes, while in the NCD-RisC survey, fasting glucose and/or HbA1c >6.5% was used as the criteria. We have shown earlier that use of HbA1c can lead to grossly elevated prevalence rates of diabetes.[4]

So that brings us to the question, do the numbers of people with diabetes in a country matter? Of course, they do, as governmental health policies are driven by the disability-adjusted life years (DALYs) and the morbidity and mortality due to a condition. However, in reality, it is not the number of people with diabetes that we are worried about but rather the number of people with complications of diabetes.

Having said that, there are three worrying trends as far as the epidemiology of diabetes in India is concerned.[5] Firstly, it is now affecting people at a younger age.[6] Secondly, earlier a disease of the affluent, diabetes has now started affecting the middle and even the lower socioeconomic strata. Thirdly, the disease, which was mostly confined to urban areas earlier, is now affecting the rural population as well. As the life expectancy of the nation is increasing, we can expect to have more cases of diabetes, as age is a nonmodifiable risk factor for diabetes. Hence, more than the prevalence of diabetes, one is more worried about the incidence of diabetes because this reflects the new-onset diabetes and gives us a better idea about the actual increase in diabetes in the community.[7]

Why is Diabetes Increasing So Rapidly in India?

While genetic factors are obviously important, the epidemic of diabetes is driven more by environmental factors. Excess carbohydrate consumption, particularly in the form of white rice or wheat, has been linked to type 2 diabetes (T2D).[8,9] Conversely, changing white rice to brown rice with legumes leads to lower glucose and insulin responses.[10]

While we can attempt to prevent diabetes in those with prediabetes by changing lifestyle habits, doing this at a national level is not easy. Hence, what we should put most effort into is preventing the complications of diabetes. This is a more realistic goal, and it can be achieved by attaining the ABC targets of therapy (i.e., A1c <7.0%, BP < 140/90 mm Hg, cholesterol, especially LDL cholesterol <100 mg/dL or lower). We have shown that it is possible for people with T2D to live for 40 or even 50 or more years if these targets are achieved.[11,12]

However, there are several challenges in achieving these targets.[13] The ICMR–INDIAB study showed that only 7% of people with T2D achieved all three targets.[14] Elevated glucose levels lead not only to microvascular complications but also to cardiovascular disease (CVD) and mortality.[15] Conversely, good control of diabetes can help to reduce markers of inflammation[16] and also prevent accelerated aging.[17]

So, the short answer to the question posed in the title of this editorial—do the numbers of people with diabetes matter—is: YES, the numbers of people with diabetes do matter, particularly in relation to complications of diabetes. Assuming that even 20% of people with diabetes develop complications, this would mean that there would be 20 million people who are at risk of blindness, kidney failure, amputations, and heart attacks. This implies a huge financial burden, not only for the individual and the family but also for society and the health system—something a country like India can ill afford. Hence, the only thing we can do is either prevent diabetes or, in those who already have diabetes, keep the ABC parameters under control. The good news is that if we focus on the ABC targets of therapy, not only the microvascular and macrovascular complications but also the newly emerging complications of diabetes, like metabolic dysfunction-associated steatotic liver disease (MASLD) or Alzheimer's, can be prevented or slowed down. The time to act is NOW!

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