

## Editorial

# Diabetes in India: a long way to go

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Diabetes mellitus, a major lifestyle disease is undoubtedly the most challenging public health problem of 21<sup>st</sup> century with a worldwide prevalence of 387 million (8.3%) and predicted to be 592 million by 2035.<sup>1,2</sup> 77% of people with diabetes live in low- and middle-income countries. India, once known as the 'diabetes capital of the world' was home to 61.3 million patients with T2DM in 2011 with predictions of 101.2 million diabetics by 2030.<sup>1,3</sup> India is second only to China which is home to 92.3 million diabetics. The International Diabetes Federation estimated a doubling of diabetic population between 1995 and 2005, and predicted 70 million diabetics by 2025.<sup>4</sup>

The overall crude prevalence of diabetes using WHO criteria in CURES was 15.5 per cent while that of IGT was 10.6 per cent.<sup>5</sup> The WHO-ICMR national NCD risk factor surveillance study reported an overall frequency of self-reported diabetes of 4.5% with urban population scoring higher (7.3%), over the rural areas (3.1%).<sup>6</sup> These studies also reported three-fold higher (18.9/1000 person-years) mortality in diabetes compared to non-diabetic (5.3/1000 person-years,  $p=0.004$ ). The World Health Organization predicted a 50% increase in deaths from diabetes over next 10 years, and by 2030, diabetes is projected to be the seventh leading cause of death.<sup>7</sup> Although worrisome statistics, considering the inherent variability in biological phenomenon and widespread interventions for control of disease, these estimated extrapolations and predictions may prove tentative in relation to the potential burden that diabetes may impose upon the country.

Indians have a peculiar genetic composition and Asian Indian phenotype that predisposes them to have higher propensity to metabolic syndrome, diabetes mellitus and coronary artery disease. Indians characteristically have increased insulin resistance, greater abdominal adiposity (higher waist circumference despite lower body mass index), higher prevalence of impaired glucose tolerance,

lower adiponectin and higher high sensitive C-reactive protein levels; contributing to a greater risk of developing disease at a relatively younger age.<sup>8</sup> Additionally epidemiological transition, economic boom, physical inactivity, trendy dietary patterns and environmental factors also add to this risk.

Indian healthcare professionals and patients in India face a number of challenges such as clinical inertia in achieving glycemic control, inadequate follow-up and lack of disease awareness.<sup>9</sup> Various studies have reported that Indian patients with T2DM fail to achieve treatment targets and have higher mean HbA1C indicating poor glycemic control.<sup>10,11</sup> While HbA1c is the gold standard test for measuring glycemic control, it is not readily available. An inadequacy in Indian guidelines is also responsible for wide variation in treatment preferences across the country.<sup>12</sup>

The current scenario of diabetes in India is likely to worsen in the coming decade. The greatest numbers of people with diabetes are between 40 and 59 years of age. High prevalence of obesity in Indian adolescents may aggravate the situation.<sup>13</sup> The most disturbing trend is the shift in age of onset of diabetes to a younger age in the recent years.<sup>14</sup> The recent trend of rising diabetes among rural Indians and women is also alarming. Even though the prevalence of microvascular complications of diabetes like retinopathy and nephropathy are comparatively lower in Indians, premature coronary artery disease is much higher in Indians compared to other ethnic groups. Given the lifelong costs associated with diabetes, many individuals and families are unable to cope with the economic, emotional and social disease burden.

Early identification of at-risk individuals and appropriate lifestyle intervention would significantly help in preventing or postponing the onset of diabetes. Awareness, education, and empowerment of community

could prevent a cluster of non-communicable disorders, an exemplary effort in this direction is the Prevention Awareness Counseling and Evaluation (PACE) Diabetes programme underway in Chennai.<sup>15</sup> As a matter of fact, CURES has already shown some degree of leveling of the predicted prevalence line, evidenced by the fact that the prevalence of diabetes in Chennai showed a rise of 39.8% between 1989-1995, 16.3% between 1995-2000 and 6% between the year 2000-2004.<sup>13</sup>

Yet, a lot needs to be done. There is an imminent need for urgent contextual research and implementing inexpensive intervention with sincere efforts at regional and national levels to mitigate the potentially catastrophic increase in diabetes that is predicted for the upcoming years.

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