# Unmet challenges of diabetes in India

Diabetes has emerged as a major health challenge in India due to its rapid surge in the form of an epidemic. As per the International Diabetes Federation (IDF) report, India ranks second after China for the highest number of diabetes cases in the world with an estimated prevalence rate of 8.7% among adults of age between 20-79 years. The IDF reports 69.2 million cases of diabetes in India, which will rise to 123.5 million by 2040. Of the three main types of diabetes, i.e. Type1, Type2 and Gestational diabetes, Type2 is the most prevalent form constituting more than 90% of all the diabetes cases.

India has also the highest number of pre-diabetics (IGT) in the world. The number is projected to rise from 36.5 million in 2015 to 63.6 million in 2040. Both pre-diabetes & gestational diabetes are associated with an increased risk of developing type2 diabetes later in life.[1] Although, not all the people with IGT develop type2 diabetes, but a large proportion (40-55%) develop the disease over a period of 3-5 years in India.[2]

Genetic susceptibility for developing diabetes and its complications coupled with rapid changes in the lifestyle of the people like "fast food culture" & sedentary lifestyle[3] brought about by urbanization & economic development[4] are the major factors responsible for the rapid rise in the number of diabetes cases in India. Children & youth are spending more time in front of the television or computers rather than playing outdoors[3]. Hence, obesity an important risk factor for diabetes is reaching an epidemic proportion among India's middle-class children & adolescents.[5]

The other area of concern regarding diabetes is that the onset of diabetes is seen at a much younger age in Indians, thus predisposing them for the chronic complications during the most productive period of their lives. A national study has reported the onset before the age of 50 years in 54.1% of the cases.[6]

There is also low awareness regarding diabetes due to which majority of the cases (>50%) remain unaware of their diabetic status[7] and thus untreated & prone for the complications, disability & mortality. Many are diagnosed only when they develop complications. Agrawal *et al* reported nephropathy in 32.5%, neuropathy in 30.1%, retinopathy in 28.9%, CAD in 19.2% & PVD in 18.1% of diabetic patients.[8] The prevalence of complications is high in low socio-economic groups due to the lack of good control of glycaemia and Hypertension and also due to behavioural factors.[6]

Poor compliance to the pharmacological & non pharmacological management of diabetes is another major challenge faced in India. In a study by Taruna *et al,* adherence to the prescribed anti diabetic drugs is reported to be as low as 16.6% and to the diet restrictions & moderate exercise, only 23.3% & 31.7% respectively.[9] One of the major factors for poor compliance is the high cost of treatment. Diabetes causes a huge economic burden on the nation, the society and on the patient and their families. The low-income group spends nearly 25-35% of their annual income on diabetes care. Poor treatment outcome is another major problem in majority of the patients.[10]

Considering the many varied unmet challenges related to diabetes, there is an urgent need to intensify the efforts at all the levels of prevention with special emphasis on the most neglected primordial prevention. People should be educated to help their children adopt healthy dietary habits & regular physical exercise right from the childhood itself to prevent the emergence of risk factors in them.[11] As the risk of diabetes can be reduced by lifestyle modification,[6] emphasis must be given on behaviour change. There is also a pressing need to identify the hidden cases of pre-diabetes & diabetes in the community through screening & bring them under appropriate care. The Indian Diabetes Risk Score (IDRS) is the simple & cost effective tool for the early detection of undiagnosed cases in the community on a large-scale.[12] The individuals with high risk score may further be screened by the oral glucose tolerance test (OGTT).[10] Motivation of the diabetics for compliance to treatment & self-care practices needs to be strengthened. More efforts are required to create awareness among the people regarding prevention of diabetes & its complications. Further research is also needed on this major health issue in India.

The National Programme for Prevention & Control of Diabetes, Cardiovascular disease and Stroke is an important step to curb the rising prevalence of diabetes & its complications in India. Joining together in the battle against diabetes and its consequences would be crucial for winning it in the coming years.

**Dr. Vidhya Wilson**

**Address for correspondence: Associate Professor Department of Community Medicine, Prathima Institute of Medical Sciences, Karimnagar, Telangana, India.**

**Email: v_burankar@rediffmail.com**

**REFERENCES**


1. IDF Diabetes Atlas seventh edition 2015. www.IDF_Atlas2015_UK.pdf
2. Muthunarayanan L, Ramraj B, Russel JK. Prevalence of Prediabetes & its associated risk factors among rural adults in Tamil Nadu. www.amhsjournal.org/text.asp?
3. V. Mohan, S.Sandeep, R. Deepa, B. Shah, C. Varghese. Epidemiology of Type 2 diabetes: Indian Scenario. Indian Journal Med Res 2007 March; 125:217-230.
4. A.Ramachandran. High prevalence of Diabetes & Cardiovascular Risk factors associated with urbanization in India. Diabetes care 2008 May;31(5):893-898.
5. IDF. www.idf.org/BRIDGES/map/india
6. A. Ramachandran, C. Snehalatha, Vijay Viswanathan. Current Science 2002 Dec;83(12):1471-1476.
7. Chowdhury Ranadip, Mukherjee Abhijit, Lahiri Saibendu K. A study on distribution & determinants of Indian Diabetic Risk Score (IDRS) among rural population of West Bengal. National Journal of Medical Research 2012 July-Sept;2(3):282-286.
8. RP Agrawal, M Ranka, R Beniwal, S Sharma, VP Purohit, DK Kochar, RP Kothari. Prevalence of Micro & Macrovascular complications in Type 2 Diabetes & their Risk factors. Int. J. Diab. Dev.Countries 2004;24:11-16.
9. Taruna Sharma, Juhi Kalra, DC Dhasmana, Harish Basera. Poor adherence to treatment: A major challenge in Diabetes. Journal Indian Academy of Clinical Medicine 2014 Jan-March;15(1):26-29.
10. Ambady Ramachandran, Ananth Samith Shetty, Arun Nanditha, Chamukuttan Snehalatha. Type2 Diabetes in India: Challenges and possible solutions. www.apiindia.org/medicine_update_2013/chap40.pdf
11. Park K. Diabetes. Textbook of Preventive & Social Medicine. Jabalpur:Bhanot B, 2011 21st edition:365.
12. Viswanathan Mohan, Viknesh Prabu Anbalagan. Expanding role of the Madras Diabetes Research Foundation-Indian Diabetes Risk Score in Clinical Practice. Indian J Endocrino Metab. 2013 Jan-Feb;17(1):31-36.


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