http://www.banglajol.info/index.php/JACEDB

Editorial

DOI: https://doi.org/10.3329/jacedb.v4i1.80314

Journal of Association of Clinical Endocrinologist and Diabetologist of Bangladesh
January 2025, Vol. 4, No. 1, pp. 01-03

ISSN (Online): 2959-8176
ISSN (Print): 2958-0307

Global epidemic of diabetes, growing burden of young-onset diabetes, and regional perspective

Siddiqui NI

Md. Nazrul Islam Siddiqui, Ex-Professor and Head of Endocrinology, Mymensingh Medical College, Mymensingh, Bangladesh;
E-mail: mnsiendo@yahoo.com; Cell no. +8801712781000

Diabetes is an epidemic disease, increasing all over the world and affecting people of all ages, geographic locations, and genders. It is one of the most common causes of morbidity and mortality.[1] Currently, diabetes has emerged as one of the most prevalent chronic and serious diseases with disability, life-threatening, costly complications and curtailing the expectancy of life.[2] It was estimated that in 2021 about 536 million people aged 20-79 years were suffering from diabetes mellitus in 215 countries and territories. By 2045 it is projected to rise to 783 millinon (Figure-1).[3]

About 10.5% of men and 10.2% of females aged 20-79 years are suffering from diabetes mellitus all over the world. The prevalence of diabetes increases with age and the highest prevalence is about 24% among people aged 75-79 years.[3] About 80.6% of people with diabetes live in low and middle-income countries. From 2021 to 2045, the highest relative increase in prevalence is projected to occur in middle-income countries, followed by high and low-income countries, about 21.1%, 12.2% and 11.9% respectively. The highest increase in the number of people with diabetes will occur in the Africa (AFR) Region. There is a gross difference in the prevalence of diabetes in urban and rural areas. In 2021, the prevalence of diabetes in urban and rural areas was 12.1% and 8.3% respectively, accounting for 360 million and 176.6 million people with diabetes. It was projected that the number of urban people living with diabetes will increase to 596.5 million by 2045 with a prevalence of 13.9% due to global urbanization and population ageing.[4]

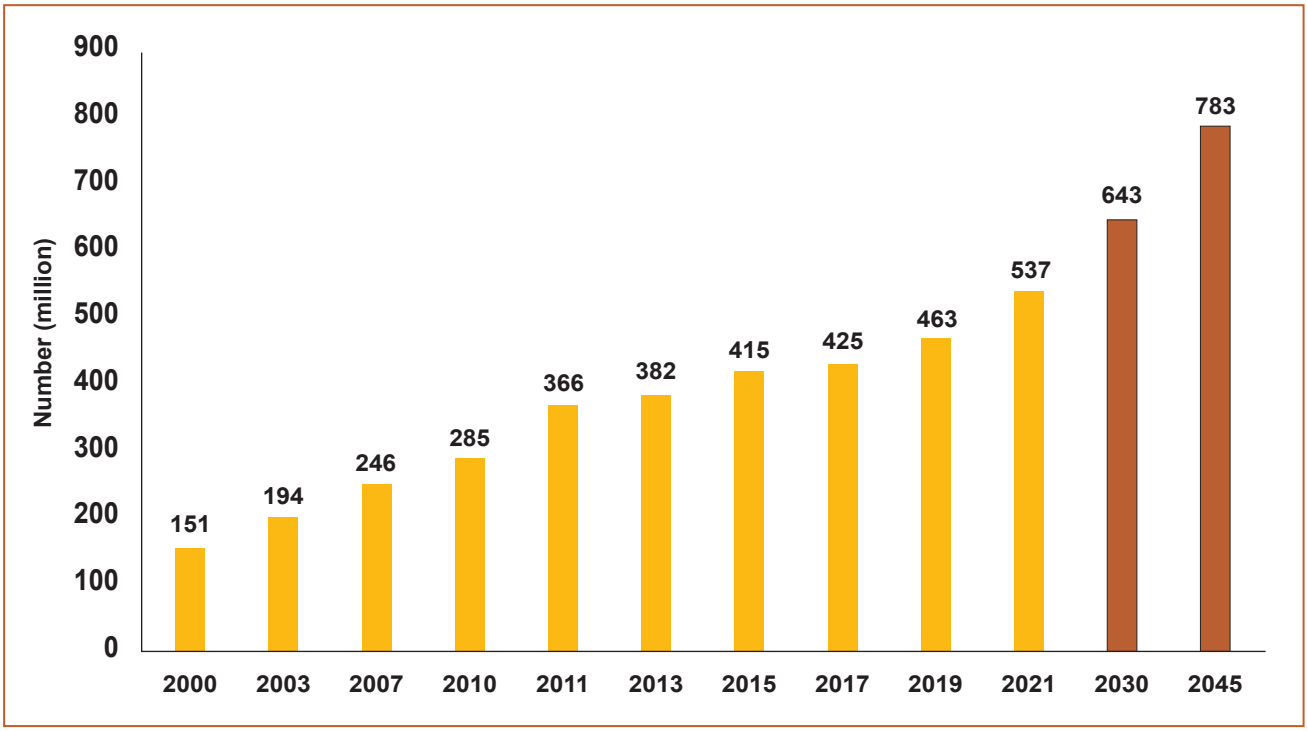

Figure-1: The number (millions) of people aged 20-79 years having diabetes worldwide (projected numbers in case of 2030 and 2045 [the data was retrieved form the 10th edition of IDF atlas, found from: https:diabetesatlas.org].

The Middle East and North Africa (MENA) Region showed the highest prevalence of diabetes, 18.1% and the AFR Region was found with the lowest prevalence of 5.3%. The Western Pacific (WP) Region showed the highest number of people with diabetes, about 206 million. The predicted largest relative growth in the number of people with diabetes will be in AFR and MENA Regions and the smallest relative growth will be in Europe (EUR), North America and Caribbean (NAC) and WP Regions. The highest prevalence of diabetes was found in Pakistan in 2021, 30.8% and is predicted to rise to 33.6% in 2045 remaining in the top position. The top ten countries have a prevalence exceeding 20%. In 2021, China had 140 million people with diabetes and projected to rise to over 174 million by 2045. India has the second highest number of diabetes, with about 74 million in 2021 and predicted to increase to 125 million by 2045.[4]

With the current trend of increasing diabetes, it is projected that by 2045, 46% of people will have diabetes, with the greatest absolute growth between 2021 and 2045 and middle-income countries will be the most prevalent countries. Among the regions of IDF, EUR, South and Central America (SACA), and NAC will have the greatest relative increase in comparative prevalence from 2021 to 2045, while AFR and MENA regions will have the largest relative increase in the number of people with diabetes. The Southeast Asia (SEA) and MENA regions are projected to have the greatest absolute growth in the number of people with diabetes by this time.[5]

There is a faster increase in the prevalence of diabetes in low-income and middle-income countries than in high-income countries and the vast majority of patients with diabetes are residing in these regions.[6,7] Prevalence of diabetes in Bangladesh is steadily rising.[8,9] Currently, Bangladesh is in 8th position, (13.1 million) of the top ten countries with the highest number of people with diabetes and is predicted to move to 7th position with 22.3 million people with diabetes by 2045.[3]

Like many other countries, Bangladesh is transitioning from communicable to non-communicable diseases as a result of improving socio-economic conditions and rapid urbanization.[10] Lifestyle changes like sedentary habits and transition to fast food culture from traditional dietary habits contribute to the rise of diabetes and other non-communicable diseases.[11] Prevalence of diabetes in Bangladesh is higher in urban than rural areas without any significant difference between males and females.[12]

Youth-onset type 2 diabetes, broadly defined as type 2 diabetes when diagnosed under 20 years of age, is increasingly recognized as an emerging chronic disease in children and adolescents.[3] Youth-onset diabetes is progressively rising to be a medical and social concern in developing countries like Bangladesh. The Study on Obesity and Diabetes in Young (SODY) group of BSMMU, Bangladesh carried out several studies in this youth population. It was observed that one in every 25 Bangladeshi youth aged 10-34 years have diabetes and two-thirds of them are not aware of their disease. The prevalence of pre-diabetes is alarming, one in every 5 individuals, about 18.5%. Predisposing factors for dysglycemia at an early age include family history of diabetes, overweight/obesity, smoking, smokeless tobacco use, urban dwelling and higher socio-economic conditions.[13]

The epidemic of diabetes, with an increasing trend all over the world poses a huge burden to the healthcare system, economic taxation, lot of morbidity and mortality. The progressive rise of youth-onset diabetes is another alarming social and medical concern, particularly in developing countries like Bangladesh. Prevention is the only effective tool to mitigate this huge burden of diabetes by creating awareness, a healthy lifestyle, dietary modifications and regular physical exercise.

References

1. The Lancet. Diabetes: A defining disease of the 21st century. The Lancet. 2023;401(10394):2087. DOI: 10.1016/ S0140-6736(23)01296-5.
2. Heald AH, Stedman M, Davies M, Livingston M, Alshames R, Lunt M, et al. Estimating life years lost to diabetes: Outcomes from analysis of National Diabetes Audit and Office of National Statistics data. Cardiovasc Endocrinol Metab 2020;9:183–85. DOI: 10.1097/ XCE.0000000000000210.
3. International Diabetes Federation. IDF Diabetes Atlas, 10th edn. Brussels, Belgium: 2021. Available at: https://www.diabetesatlas.org
4. Sun H, Saeedi P, Karuranga S, Pinkepank M, Ogurtsova K, Duncan BB, et al. IDF Diabetes Atlas: Global, regional and country-level diabetes prevalence estimates for 2021 and projections for 2045. Diabetes Res Clin Pract 2022;183:109119. DOI: 10.1016/j.diabres.2021.109119.
5. Sudharsanan N, Bloom DE. The demography of aging in low- and middle-income countries: Chronological versus

functional perspectives. In: National Academies of Sciences, Engineering, and Medicine; Division of Behavioral and Social Sciences and Education; Committee on Population; Majmundar MK, Hayward MD, editors. Future directions for the demography of aging: Proceedings of a workshop. Washington (DC): National Academies Press (US); 2018. 11. Available from: https://www.ncbi.nlm.nih.gov/books/NBK513069/

6. Dagenais GR, Gerstein HC, Zhang X, McQueen M, Lear S, Lopez-Jaramillo P, et al. Variations in diabetes prevalence in low-, middle-, and high-income countries: results from the prospective urban and rural epidemiological study. Diabetes Care 2016;39:780–87. DOI: 10.2337/dc15-2338.
7. Mkuu R, Barry A, Yonga G, Nafukho F, Wernz C, Gilreath T, et al. Prevalence and factors associated with overweight and obesity in Kenya. Prev Med Rep 2021;22:101340. DOI: 10.1016/j.pmedr.2021.101340.
8. Rahim MA, Hussain A, Azad Khan AK, Sayeed MA, Keramat Ali SM, Vaaler S. Raising prevalence of type 2 diabetes in rural Bangladesh: A population based study. Diabetes Res Clin Pract 2007;77:300–05. DOI: 10.1016/j.diabres.2006.11.010.
9. Bhowmik B, Afsana F, MyDiep L, Binte Munir S, Wright E, Mahmood S et al. Increasing prevalence of type 2 diabetes in a rural Bangladeshi population: A population based study for 10 years. Diabetes Metab J 2013;37:46–53. DOI: 10.4093/dmj.2013.37.1.46.
10. Chowdhury MAB, Islam M, Rahman J, Uddin MT, Haque MR, Uddin MJ. Changes in prevalence and risk factors of hypertension among adults in Bangladesh: An analysis of two waves of nationally representative surveys. PLoS One 2021;16:e0259507. DOI: 10.1371/journal.pone.0259507.
11. Amuna P, Zotor FB. Epidemiological and nutrition transition in developing countries: impact on human health and development. Proc Nutr Soc 2008;67:82–90. DOI: 10.1017/S0029665108006058.
12. Akhtar S, Nasir JA, Sarwar A, Nasr N, Javed A, Majeed R. Prevalence of diabetes and pre-diabetes in Bangladesh: A systematic review and meta-analysis. BMJ Open 2020;10:e036086. DOI: 10.1136/bmjopen-2019-036086.
13. Hasan M. Youth-onset diabetes: Sharing experience from a nationwide prevalence study by 'Study on diabetes in young' group. J Assoc Clin Endocrinol Diabetol Bangladesh, 2024;3(Suppl 1): S9.