

SHORT COMMUNICATION

Young Onset Type 2 Diabetes in India: A Growing Preventive Challenge

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ABSTRACT

India is experiencing a rapid rise in young-onset type 2 diabetes mellitus (T2DM), with a growing proportion of new cases occurring below 40 years of age. Compared with later onset disease, young onset T2DM follows a more aggressive course with earlier complications and longer lifetime exposure to hyperglycaemia. This trend is largely driven by rising childhood and adolescent obesity, physical inactivity, unhealthy diets, excessive screen time, and psychosocial stress. A large hidden burden of prediabetes among young adults further reflects missed opportunities for early prevention. Although national programs offer scope for screening and counselling, their reach among adolescents and young working populations remains limited. Strengthening early, life course based prevention is urgently needed.

KEYWORDS

• Young Onset Diabetes • Type 2 Diabetes • India • Prediabetes • Obesity
• Prevention • Adolescents

INTRODUCTION

India is facing a disturbing rise in type 2 diabetes mellitus (T2DM) among young adults. Recent evidence from the ICMR-INDIAB study suggests that nearly one-fourth

of newly diagnosed individuals with diabetes in urban India are below 40 years of age.¹ The International Diabetes Federation estimates that India currently has over 101 million people with diabetes, with a rapidly increasing contribution from younger age groups.¹⁵ This

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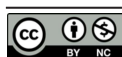
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epidemiological shift has serious implications for long-term health, workforce productivity, and healthcare costs.

Young-onset T2DM follows a more aggressive clinical course when compared with late-onset disease. These patients develop complications earlier, show faster β -cell failure, and remain exposed to hyperglycemia for a longer duration of life.⁸ Indian studies have documented high rates of nephropathy, retinopathy, and premature cardiovascular disease within the first decade of diagnosis.^{3,11} This results in prolonged dependency, repeated hospitalizations, and a substantial economic burden on families and the public health system.

The roots of this epidemic largely lie in preventable lifestyle transitions. Childhood and adolescent obesity, declining physical activity, increasing intake of ultra-processed foods, excessive screen exposure, poor sleep hygiene, and psychosocial stress now characterize the lives of many Indian youth. NFHS-5 and national surveys have demonstrated a steady rise in overweight and obesity among adolescents and young adults, particularly in urban and semi-urban regions.^{2,5,12,13} However, current school health programs remain predominantly focused on undernutrition and communicable diseases, with limited attention to metabolic risk screening.

Equally concerning is the large hidden burden of prediabetes among young adults, most of whom remain undiagnosed.^{4,6} Opportunistic screening remains sporadic and risk-based assessment is rarely implemented at the primary care level. As a result, many individuals present only after significant and often irreversible metabolic damage has occurred.

Although national initiatives such as the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) and the Ayushman Bharat Health and Wellness Centres offer valuable platforms for early detection and counselling, their outreach among adolescents, college students, and young working adults remains inconsistent.¹¹ In parallel, regulatory control over marketing of sugar-sweetened beverages, junk foods, and digital promotion of sedentary lifestyles remains inadequate.

From a preventive medicine standpoint, urgent corrective steps are required. These

should include:

1. Routine screening for obesity, hypertension, and fasting glucose in schools, colleges, and primary care settings.
2. Structured lifestyle education integrated into the formal school curriculum.
3. Community-based prediabetes detection and counselling through Health and Wellness Centres.
4. Stronger policy regulation of ultra-processed foods, especially those targeting children and adolescents.

CONCLUSION

Young onset T2DM is no longer a rare or future entity—it is already shaping India's present disease burden. If prevention is not strengthened urgently, the country risks nurturing a generation with premature complications, reduced productivity, and lifelong dependence on healthcare. A decisive shift from reactive treatment to proactive, life-course-based prevention is the need of the hour.

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