
Association Between BMI and Risk of Diabetes



The incidence of obesity and diabetes has been increasing at an alarming rate in low- and middle-income countries (LMICs). According to latest figures, of the 463 million people with diabetes worldwide, nearly 79% live in LMICs. Despite these figures, there is very little data to guide clinicians and health systems as to how to determine which individuals should be screened for diabetes based on body mass index (BMI).

The World Health Organization recommends screening individuals age 40 and over and with a BMI of 25 kg/m² and above for diabetes. However, are BMI and age thresholds optimal for diabetes screening in all regions of the world?

A study was conducted to estimate the relationship between BMI and diabetes risk across low- and middle-income. The goal was to determine the most effective screening programmes for their populations.

Researchers compiled datasets of more than 680,000 people in LMICs. Every individual's weight, height and a diabetes biomarker - either a blood glucose measurement or haemoglobin A1c was recorded.

Findings show substantial regional differences in the association between BMI and diabetes risk. Across all LMICs, people with a BMI of 23 kg/m² or greater had an increased risk of diabetes. There was variability in the optimal BMI to choose for diabetes screening among regions and genders, ranging from 23.8 kg/m² among men in East/Southeast Asia to 28.3 kg/m² among women in the Middle East, North Africa, Latin America and the Caribbean.

Differences were also observed in the risk of diabetes across BMI categories in several regions. Men and women in sub-Saharan Africa and East/Southeast Asia had more than a 100% increase in the risk of diabetes between being overweight and obese. These findings highlight the importance of using lower BMI thresholds to better characterise metabolic risk in these populations.

The authors stress on the need to diagnose diabetes in younger adults as this can help prevent long-term complications of the disease. These findings can thus be useful for LMICs as they can guide screening and allocation of resources in these regions. Researchers also highlight the need for greater collaboration among countries for better information sharing and improved public health guidelines. The WHO has also created a global strategy called the Global Diabetes Compact to scale up care for people with diabetes.

Researchers emphasise that the actual burden of diabetes in LMICs is underestimated because of the current screening guidelines and there is an urgent need to improve screening guidelines in these regions and to ensure that health systems in every country make the best use of their resources to improve the health of their people.

Source: [The Lancet](#)

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