



## Diabetes: ICMR Study

### Why in News?

- A recent study, published by the Madras Diabetes Research Foundation and the Indian Council of Medical Research, revealed that approximately 101 million people in India are currently living with diabetes, while an additional 136 million individuals are in the pre-diabetic stage.

### Findings of the study:-

- The study involved a sample size of over 113,000 individuals from 31 states and union territories.
- Prevalence of metabolic disorders, including diabetes, was assessed.
- More than a quarter of the population was either diabetic or pre-diabetic.
- 11.4% of India's population (101 million people) were found to be living with diabetes.
- 15.3% of the population (approximately 136 million people) were identified as pre-diabetic.
- The study focused on the prevalence of metabolic disorders.
- The metabolic disorders studied included diabetes, high blood pressure, obesity, and high cholesterol levels.

Diabetes, also called "sugar" or "diabetes mellitus," can result from genetic factors and an unhealthy lifestyle.

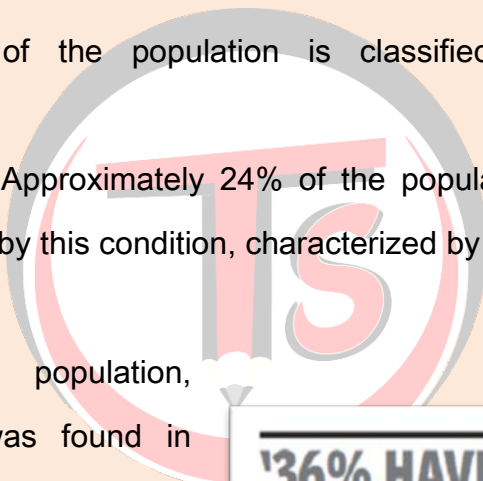
Insufficient insulin production by the pancreas leads to increased blood glucose levels, causing diabetes.

Insulin is a hormone produced by the body's digestive gland.

Insulin's role is to convert food into energy.

Non-communicable diseases (NCDs)	National prevalence	Urban	Rural	Estimated number of people in India, in millions
Diabetes	11.4%	16.4%	8.9%	101
Prediabetes	15.3%	15.4%	15.2%	136
Hypertension	35.5%	40.7%	33%	315
Generalized Obesity	28.6%	39.6%	23.1%	254
Abdominal Obesity	39.5%	51.6%	33.5%	351
Hypercholesterolemia	24.0%	27.4%	22.3%	213

- The study aimed to determine the occurrence of these disorders in the population.
- **Obesity:** Indians may face a greater risk of obesity-related diseases, even with a normal BMI.
- Approximately 28.6% of the population is classified as obese based on BMI measurements.
- **Hypercholesterolemia:** Approximately 24% of the population, equivalent to 213 million individuals, are affected by this condition, characterized by elevated levels of LDL, or "bad" cholesterol.
- Among the population, hypercholesterolemia was found in 27.4% of urban areas and 22.3% of rural areas.
- Kerala had the highest prevalence of hypercholesterolemia at 50.3%.
- **Hypertension:** The study revealed a high prevalence of hypertension or high blood pressure in the country, affecting approximately 35.5% of the population, equivalent to 315 million individuals.



### '36% HAVE HYPERTENSION'

- > While 11.4% of India's population is diabetic, 15.3% have prediabetes
- > Ratio of diabetic to prediabetic people is 1:1 in Delhi, 1:1.2 in Maha, 1:1.5 in Haryana and 1:3.8 in UP
- > 35.5% of people have hypertension and 81.2% dyslipidemia (abnormal levels of cholesterol)
- > While 28.6% Indians have generalised obesity, 39.5% have abdominal obesity

\*Source: Metabolic non-communicable disease health report of India/ICMR-INDIAB

% Of Popn With	10 WORST AFFECTED	
	Diabetes	Prediabetes
Goa	26.4	20.3
Puducherry	26.3	25.8
Kerala	25.5	18.3
Chandigarh	20.4	15.6
Delhi	17.8	18
Tamil Nadu	14.4	10.2
W Bengal	13.7	23.5
Sikkim	12.8	31.3
Punjab	12.7	8.7
Haryana	12.4	18.2

- In urban India, the prevalence of hypertension was found to be 40.7%, while in rural India it was 33%.
- Punjab had the highest prevalence of hypertension at 51.8%.
- The study indicated a clear rural-urban divide in disease prevalence. Urban India showed a diabetes prevalence of 16.4%, whereas rural India had a prevalence of 8.9%.
- Diabetes was found to be more prevalent in southern states and selected north Indian states such as Delhi and Punjab. Uttar Pradesh had the lowest prevalence of diabetes at 4.8% of the population.
- The study found a similar prevalence of pre-diabetes in both rural and urban India.
- What is Indiab?
- The India Diabetes or Indiab Study is a 12-year-long project with over 113,000 participants.
- The study aims to investigate the prevalence and trends of diabetes in India.
- It has observed a continuous increase in the cases of diabetes in the country.
- In the future, the study plans to re-sample from states like Arunachal Pradesh and Tamil Nadu.
- These states had the lowest and highest prevalence of non-communicable diseases at the beginning of the study in 2008.
- The findings from these additional samples will guide the implementation of the nationwide strategy.

### **Status of other countries-**

- No other country has conducted a study as extensive as India's, which includes participants representing all states.
- The largest study conducted in China involved 40,000 participants from only five or six sites.
- In contrast, India's study involved door-to-door screening of 113,000 people, representing all states and the country's population of 1.4 billion.

- The collected data was normalized for the year 2021 using demographic data from the most recent National Family Health Survey.
- Data from individual states was collected between 2008 and 2020 to ensure comprehensive coverage.
- **Note:** The World Health Organization estimates that there are 77 million people living with diabetes in India.

### **Benefits-**

- The study findings can inform the development of targeted health policies by states to address non-communicable diseases.
- Screening for NCDs will be implemented in 150,000 government health and wellness centers.
- Emphasis will be placed on intervention strategies promoting lifestyle changes, including healthier diet, regular exercise, adequate sleep, and avoiding smoking and excessive drinking.
- Drug interventions such as statins or metformin may be provided to manage cholesterol or blood sugar levels.

