

## Convergence of Prevalence Rates of Diabetes and Cardiometabolic Risk Factors in Middle and Low Income Groups in Urban India: 10-Year Follow-Up of the Chennai Urban Population Study

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### Abstract

#### *Aim:*

The aim of this study was to look for temporal changes in the prevalence of diabetes and cardiometabolic risk factors in two residential colonies in Chennai.

#### *Methods:*

Chennai Urban Population Study (CUPS) was carried out between 1996–1998 in Chennai in two residential colonies representing the middle income group (MIG) and lower income group (LIG), respectively. The MIG had twice the prevalence rate of diabetes as the LIG and higher prevalence rates of hypertension, obesity, and dyslipidemia. They were motivated to increase their physical activity, which led to the building of a park. The LIG was given standard lifestyle advice. Follow-up surveys of both colonies were performed after a period of 10 years.

#### *Results:*

In the MIG, the prevalence of diabetes increased from 12.4 to 15.4% (24% increase), while in the LIG, it increased from 6.5 to 15.3% (135% increase,  $p < .001$ ). In the LIG, the prevalence rates of central obesity (baseline vs follow-up, male: 30.8 vs 50.9%,  $p < .001$ ; female: 16.9 vs 49.8%,  $p < .001$ ), hypertension (8.4 vs 20.1%,  $p < .001$ ), hypercholesterolemia (14.2 vs. 20.4%,  $p < .05$ ), and hypertriglyceridemia (8.0 vs 23.5%,  $p < .001$ ) significantly increased and became similar to that seen in the MIG.

#### *Conclusion:*

There is a rapid reversal of socioeconomic gradient for diabetes and cardiometabolic risk factors in urban India with a convergence of prevalence rates among people in the MIG and LIG. This could have a serious economic impact on poor people in developing countries such as India.

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**Abbreviations:** (BMI) body mass index, (CUPS) Chennai Urban Population Study, (HDL) high-density lipoprotein, (IDPP) Indian Diabetes Prevention Programme, (LIG) lower income group, (MIG) middle income group, (NCD) noncommunicable disease, (SES) socioeconomic status, (WHR) waist-to-hip ratio

**Keywords:** Asian Indians, cardiometabolic risk factors, community empowerment, diabetes, physical activity, socioeconomic gradient

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