



## Socio-economic variations in awareness, treatment, and control of hypertension in adults aged 45+ in India

*A nationally representative cross-sectional study*

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### BACKGROUND

Older adults are at higher risk of mortality, disability and hospitalization attributable to cardiovascular diseases (CVDs). Hypertension or raised blood pressure (BP) is a major risk factor of CVDs and hypertension is a growing epidemic in India. One of the most effective ways to mitigate the spread of the CVDs is to increase the level of awareness, treatment and control (ATC) of hypertension. The Govt. of India has targeted a 25% reduction in hypertension prevalence between 2013 and 2025, in line with the Global Action Plan for the Prevention and Control of NCDs and committed to population based screening and management for hypertension and other NCD risk factors<sup>1</sup>. Currently, no nationally representative estimates of Awareness, Treatment and Control (ATC) of Hypertension are available from India. This study is the first to provide ATC estimates and socio-economic inequality in ATC of hypertension among adults 45+ in India.

### OBJECTIVE

This brief summarises the socioeconomic variation in awareness, treatment and control of hypertension across socio-economic groups among adults aged 45 and older in India.

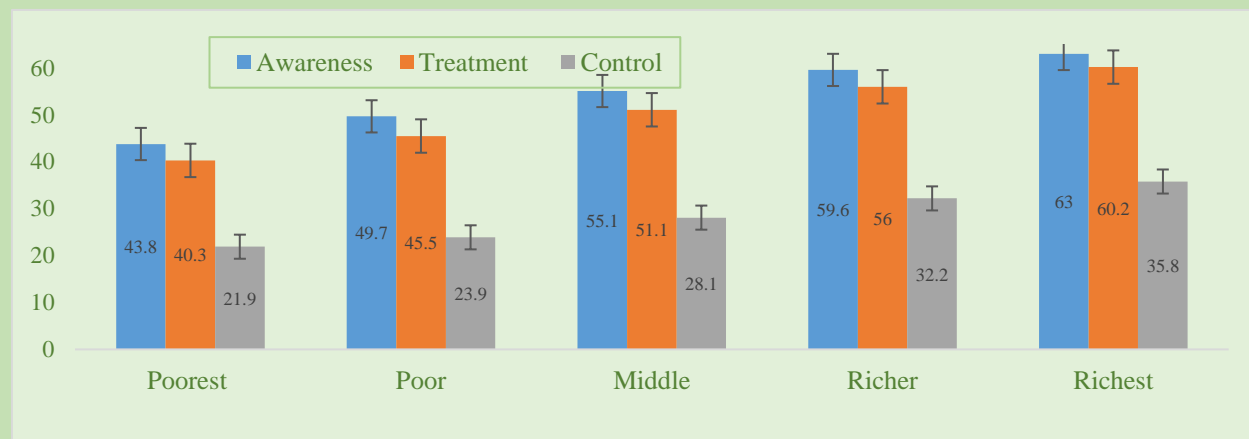
### DATA AND METHODS

We used a nationally representative sample of 58,400 adults 45+ that used self-reported diagnosed and measured BP in recently conducted Longitudinal Ageing Study in India (LASI)<sup>2</sup>. We classified a participant as hypertensive if (a) they had systolic blood pressure  $\geq 140$  mm Hg or diastolic BP  $\geq 90$  mm Hg (b) or they have been told they had hypertension and they reported currently taking medications or being under salt or diet restriction to monitor BP. Participants were classified as “aware” if they reported having been diagnosed with hypertension, (ii) treated if they reported currently under medication or being under salt/diet restriction and (iii) controlled if they had systolic BP  $< 140$  mm Hg and Diastolic BP  $< 90$  mm Hg. We used descriptive statistics, concentration curves and estimated the marginal effect on probability of ATC of hypertension among those with hypertension using probit model.

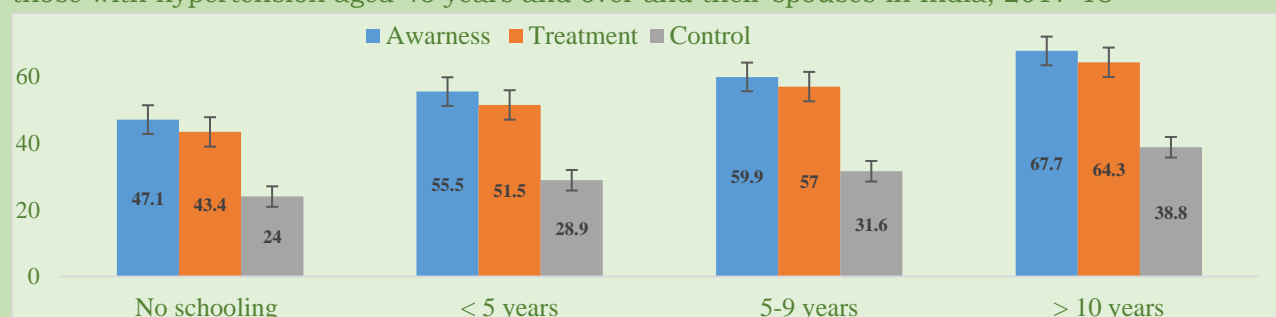
### KEY FINDINGS

- Two fifth (43.7%) of individuals aged 45 or above in India are hypertensive.
- Of these, 54.8% are aware of their hypertension, 51.2% are treated and 28.8% have controlled their hypertension. Awareness, treatment, and control rates were lower among rural residents and male.
- ATC of hypertension has strong economic gradient (Fig 1).
- The difference in the ATC of the poorest and richest per capita consumption quintile was 19 percent point (Fig 1).
- ATC of hypertension was the lowest among less educated and highest among those with 10+ years schooling (Fig 2).
- The concentration curves of awareness and treatment is pro-rich suggesting socio-economic disadvantages in hypertension awareness and treatment (Fig 3).

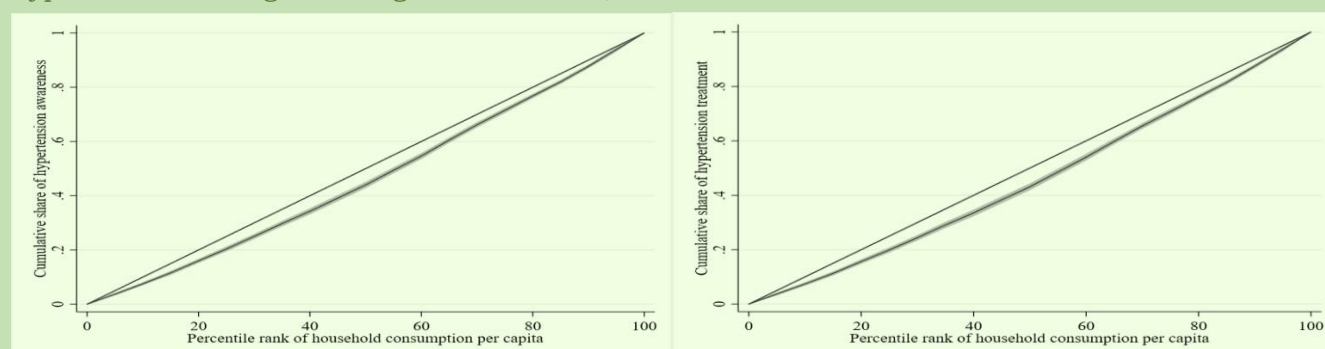
**Figure 1:** Adjusted percent awareness, treatment, controlled by wealth quintile among those with hypertension aged 45 years and over and their spouses in India, 2017-18



**Figure 2:** Adjusted percent awareness, treatment, controlled by education level among those with hypertension aged 45 years and over and their spouses in India, 2017-18



**Figure 3:** Concentration curves for hypertension a) awareness and b) treatment among those with hypertension among adults aged 45+ in India, 2017-18.



## CONCLUSION AND IMPLICATIONS

Achieving SDG target of reducing premature mortality due to NCDs and realising the National Action Plan required programmatic attention on increasing diagnosis, treatment and control of hypertension among older adults (45+) in India. Low treatment and control of hypertension among poor and less educated suggests difficulty in accessing and affording primary health care. Creating awareness and screening for hypertension can reduce the burden of CVDS in India.

## REFERENCES

1. Ministry of Health and Family Welfare. National Action Plan and Monitoring Framework for Prevention and Control of Noncommunicable Diseases (NCDs) in India. New Delhi: Government of India. [cited 2021 Apr 27]. Available from: [https://www.who.int/docs/default-source/searo/india/health-topic-pdf/national-action-plan-and-monitoring-framework-prevention-ncds.pdf?sfvrsn=d7826a3f\\_2](https://www.who.int/docs/default-source/searo/india/health-topic-pdf/national-action-plan-and-monitoring-framework-prevention-ncds.pdf?sfvrsn=d7826a3f_2).
2. IIPS, NPHCE, MOHFW, Harvard T. H. Chan School of Public Health (HSPH), & University of Southern California (USC). Longitudinal Ageing Study in India Wave 1, 2017–18, Report. Mumbai: International Institute for Population Sciences; 2020.

## CITATION

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