

# The Silent Killer: Investigating Undiagnosed Hypertension in Bangladesh Using Evidence from a Nationwide Health Survey

P1-E15

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13.8% of adults in Bangladesh have undiagnosed hypertension. Higher odds are linked to older age, high salt intake, and being overweight or obese. Lower odds are associated with agricultural work and sufficient vegetable and fruit intake. Targeted interventions and routine screenings are essential for early detection and management.

## BACKGROUND

Hypertension, a leading contributor to global premature mortality, is increasingly prevalent in lower-income countries like Bangladesh. With a WHO goal to cut hypertension by a third by 2030, Bangladesh aims for a 25% reduction from 2010 levels. This study aims to identify dynamic determinants associated with undiagnosed hypertension prevalence, utilizing nationwide non-communicable disease risk factor data.

## METHODS

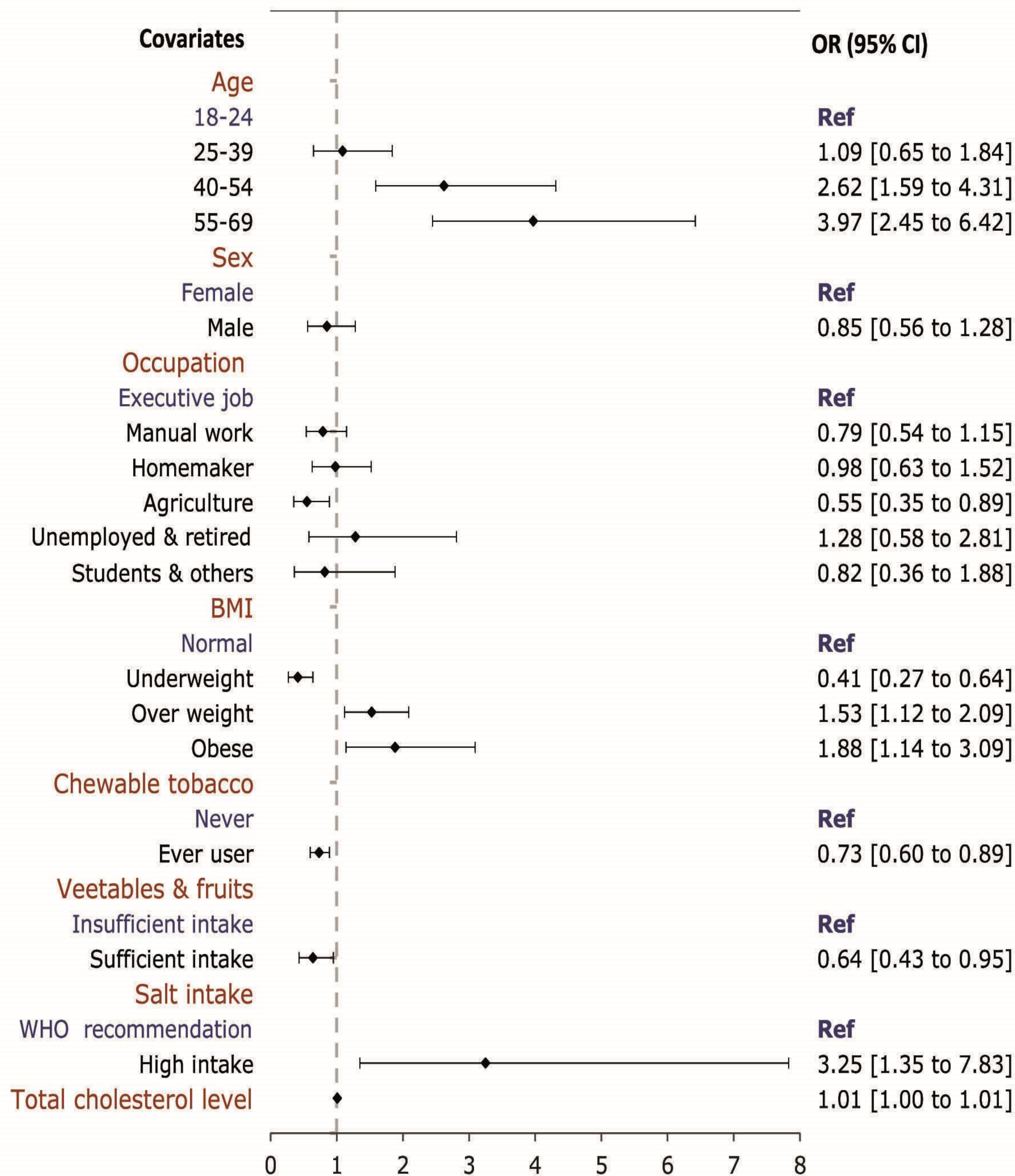
- This cross-sectional study analyzed data from the 2018 Bangladesh STEPS survey, involving 5,558 individuals aged 18-69 of both genders from urban and rural regions nationwide.
- Undiagnosed hypertension was identified in individuals with systolic blood pressure  $\geq 140$  mm Hg and/or diastolic blood pressure  $\geq 90$  mm Hg, who had no history of hypertension diagnosis or antihypertensive medication before this study.
- Step wise design multivariate logistic regression, adjusted for confounders, evaluated the impact of factors such as socio-demographic: age, sex, occupation, lifestyle: diet, salt intake, tobacco use and metabolic risk factors: BMI and cholesterol on undiagnosed hypertension prevalence by using STATA.

## RESULTS

Mean age:  $38.4 \pm 11.96$ . Prevalence of undiagnosed hypertension: 13.8% (95% CI: 12.2-15.5); Female: 15.9% (95% CI: 13.7-18.4), Male: 11.8% (95% CI: 9.9-14.0). Age groups 40-54 and 55-69 had higher odds (OR: 2.62, 95% CI: 1.59-4.31; OR: 3.97, 95% CI: 2.45-6.42) vs. 18-24; agricultural workers had lower odds (OR: 0.55, 95% CI: 0.35-0.89) vs. executive job. High salt intake increased odds (OR: 3.25, 95% CI: 1.35-7.83) vs. WHO recommendation (<5g/day); sufficient vegetables and fruits intake reduced odds (OR: 0.64, 95% CI: 0.43-0.95). Being overweight (OR: 1.53, 95% CI: 1.12-2.09) or obese (OR: 1.88, 95% CI: 1.14-3.09) increased odds.

## CONCLUSIONS

This study highlights the diagnostic gap by addressing undiagnosed and untreated hypertension in Bangladesh. Given significant association with high salt intake, necessitating targeted reduction initiatives. Active lifestyles like agricultural work have shown opportunity of lowering undiagnosed hypertension prevalence. Addressing obesity through lifestyle modifications and healthy diet practice remains crucial. Implementing comprehensive strategies, including routine annual screening and establishing dedicated hypertension centers, alongside raising awareness about silent nature of hypertension, is essential for early detection and treatment. Such integrated approaches are critical for mitigating hypertension's burden and reducing cardiovascular disease rates in low-income settings.



Adjusted Odds Ratio (ORs) compared to reference category. or per 1 unit increase

Figure-1: Forest plot showing adjusted ORs as appropriate for sociodemographic: age, sex, occupation, Lifestyle: diet, salt intake, tobacco use, and metabolic risk factors: BMI, cholesterol level associated with undiagnosed hypertension.

Significant level for main effect:  $p < 0.05$  and for interaction:  $p < 0.001$   
( $n=5,558$ , stata: 16, PSUs: 495, population size: 79,411,687)

## ADDITIONAL KEY INFORMATION

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