Change, prevalence and determinants of hypertension in Bangladesh: Evidence from two national surveys Bangladesh Demographic Health Surveys (BDHSs) 2011 and 2017-18.

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Hypertension is the leading risk factor for cardiovascular diseases (CVDs) and caused premature deaths across the globe. Risk factors vary by place of origin, culture, religion and gender. Lack of knowledge on such regional differences and determinants may impede targeted management of this condition. We aimed to estimate rates of hypertension in the older population and to assess differences in these rates across socio-demographic groups and regions in Bangladesh. We used datasets from nationally representative surveys Bangladesh Demographic Health Surveys 2011 and 2017-18. We identified hypertension by blood pressure (BP) measurement ≥140/90 mm Hg. We employed bivariate and logistic regression analyses, estimated prevalence, changes and determinants of hypertension among older population aged 35+ years over two time periods 2011 (n=8,835) and 2017-18 (n=14,706). Results suggested that the sample was distributed equally across seven administrative regions over surveys 2011 and 2017-18. About 51% female, 66% rural samples were in 2011 against 45% female and 62% rural sample in 2017-18. Equally about fifty percent sample was older than 50 years in both surveys. Sample adults are two times more obese (28%) in 2017-18 compared to the obese adults in 2011 (14%). We estimated overall hypertension prevalence to be 26.02% and 29.6% (2011 and 2017-18), however, by regions they vary substantially. Compared to baseline prevalence of hypertension in 2011 for Dhaka, the marginal effects showed that it reduced hypertension prevalence in Dhaka by 1.3% (95% CI -0.042 to 0.016), however, it increased for other regions Barisal (8.0%; 95% CI 0.033 to 0.127), Chittagong (10.3%; 95% CI 0.059 to 0.147), Khulna (3.1%; 95% CI -0.012 to 0.074), Rajshahi (7.6%; 95% CI 0.031 to 0.120), Rangpur (3.9%; 95% CI -0.005 to 0.083) and Sylhet (6.6%; 95% CI 0.019 to 0.113), respectively. The prevalence rates were lower (p < 0.001) in poorer, body mass index (<18.5 kg/cm²), males, adults <40 years old and the employed. The covariates effects significantly influenced the likelihood of hypertension for Dhaka sample in 2017-18. Conclusions on risk factors pointed to opportunities to target hypertension management equitably and effectively across regions and vulnerable groups.