

# Awareness, treatment and control of hypertension: Trend from population-based surveys conducted in a low-middle income country

Otero J<sup>1</sup>, Camacho PA<sup>1</sup>, López-Jaramillo P<sup>1</sup>, Torres A<sup>2</sup>, Díaz M<sup>2</sup>, Herrera VM<sup>1,3</sup>

Conflictos de interés: Los autores declaran no tener conflictos de interés alguno.

## Abstract

**Aim:** To estimate and determine temporal trends for awareness, treatment and control of hypertension in adults from the urban area in Colombia. **Methods:** We conducted two population-based surveys (years 2010 and 2015) in the Metropolitan Area of Bucaramanga-Santander, Colombia, using the WHO STEPwise approach. Participants were asked to provide demographic, socioeconomic and cardiovascular risk factors data. Blood pressure (BP) was measured twice using an automated device. Hypertension was defined as a systolic BP $\geq$ 140 mmHg, a diastolic BP $\geq$ 90 mmHg or self-reported antihypertensive treatment. We estimated age, sex, and socioeconomic status (SES) adjusted prevalence ratios (PR), with 2010 as the reference survey, using poisson regression and correcting standard errors by clustering. **Results:** We evaluated 1,136 (mean age: 35.7 years; 43% male) and 872 (mean age: 37.7 years; 41% male) adults from the 2010 and 2015 surveys, respectively. There were a larger proportion of individuals sampled from low SES in the 2015 as compared to the 2010 survey (93.6% vs. 70.9%). Overall, prevalence of hypertension was 16.4% (95%CI: 14.8 – 17.9): It increased significantly with age (from 2.4% among individuals 15-19 years old to 41.1% among individuals 50 years and older; p-trend<0.001) but did not differ by sex (17.8% in men vs. 15.4% in women) or year (16.1% vs. 16.6% in 2010 and 2015, respectively). Overall, prevalence of awareness, treatment and control of hypertension were 65.0%, 84.1%, and 62.2%, respectively. Although awareness and control increased from 2010 to 2015 (PR=1.05 and PR=1.12, respectively), only the prevalence of treatment showed a statistically significant increment of 11% (PR=1.11; 95%CI: 1.01 – 1.24). **Implication:** The STEPwise is a suitable surveillance strategy to estimate the burden of cardiovascular risk factors in low-middle income countries. Our results are consistent with national data from urban areas and show for the first time a short-time improvement in antihypertensive coverage.

**Keywords:** awareness; treatment; hypertension; population

---

<sup>1</sup> Fundación Oftalmológica de Santander, Floridablanca-Santander, Colombia

<sup>2</sup> Secretaría de Salud de Santander, Bucaramanga-Santander, Colombia

<sup>3</sup> Universidad Autónoma de Bucaramanga, Floridablanca-Santander, Colombia