Socioeconomic inequalities in the prevalence and management of hypertension:

Analyses of the Chilean National Health Surveys 2003, 2010 and 2017

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Background

Hypertension causes 9.4 million deaths annually and is the primary cause of cardiovascular morbidity and mortality worldwide.[1] In Chile, one in three adults have this chronic health condition.[2] Chilean evidence has shown inequalities in hypertension prevalence by various measures of socioeconomic position (SEP).[3] However, information on SEP inequalities in the three key aspects of hypertension management (awareness, treatment, and control of high blood pressure [BP]) is only partially known. More research is needed to assess if SEP inequalities have narrowed since the launch of the Chilean Universal Access to care for hypertension programme in 2005.

Purpose

To assess SEP inequalities in hypertension prevalence and in management among Chilean adults and evaluate whether they have changed over time.

Methods

Data came from the Chilean National Health Surveys 2003, 2010 and 2017. Participants were selected using a probability sample of non-institutionalized adults aged ≥17y from urban and rural areas. A trained nurse took standardized BP measurements and inventoried the medicines in use. Prevalence of hypertension and management outcomes were defined as follows:

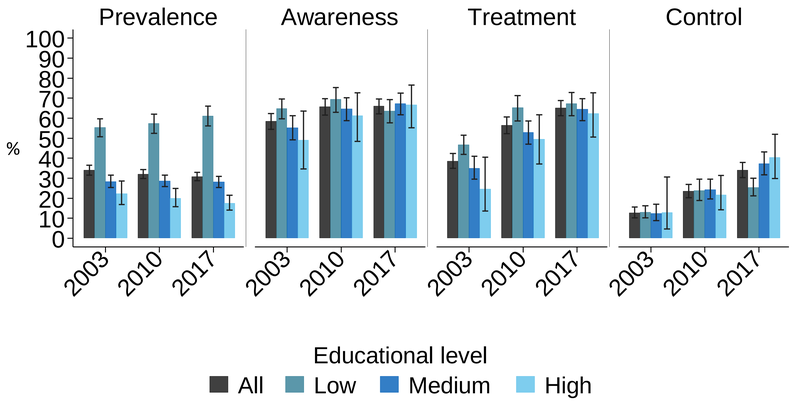
- **Hypertension**: SBP/DBP≥140/90mmHg or on treatment.
- **Awareness**: hypertensives with prior diagnosis of hypertension.
- **Treatment**: hypertensives on treatment.
- **Control**: hypertensives with BP<140/90mmHg.

SEP was measured using years of formal education, categorized into low (<8y), medium (8-12y) or high (>12y). Age-and gender-specific Slope and Relative Indices of Inequality (SII and RII) were calculated for each outcome.

Results

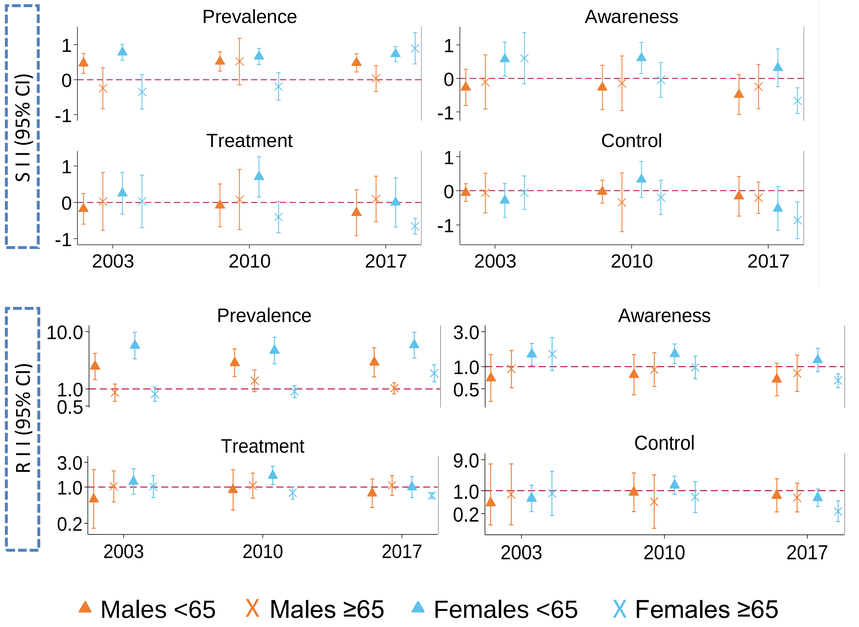
Analytical sample comprised 3,416; 4,820 and 5,369 participants aged ≥17y with valid BP and medicine data for years 2003, 2010 and 2017, respectively. Prevalence of hypertension was 34.0%, 32.0% and 30.8% for the years 2003, 2010 and 2017, respectively (**Figure 1**). Among those classed as hypertensive, levels of awareness increased from 58.4% in 2003 to 66.0% in 2017. Over the same time period, levels of treatment increased from 38.5% to 65.2%, and levels of control increased from 12.7% to 34.0%. Descriptive statistics showed higher levels of prevalence and treatment - but lower levels of control - in the low vs high educational group.

Figure 1. Prevalence and management of hypertension by educational level.



According to the SII and RII, males and females aged <65y showed higher hypertension prevalence among those with fewer years of education in 2003, 2010 and 2017 (**Figure 2**). SEP inequalities in hypertension management – with better outcomes for the most educated – were highest among females aged ≥65y.

Figure 2. Indices of SEP inequalities in the prevalence and management of hypertension by gender and age.



Values above the red line indicate higher levels in the least educated group

Conclusion and implications

Introduction of Universal Access to care for hypertension in Chile in 2005 accounted partly for the rise of hypertension management levels since 2003. Chile currently needs interventions to improve the management of hypertension and simultaneously, decrease SEP inequalities, first, in the prevalence among males and females aged <65y and, second, in the management among females aged ≥65y.

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