

Research Article

Effectiveness and clinical inertia in the management of hypertension in patients in Colombia



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Abstract

Determine the effectiveness of treatment and the frequency of clinical inertia in the management of hypertension in Colombian patients. A retrospective study with prospective follow-up of individuals on antihypertensive medication who were treated on medical consultation for 1 year was conducted in 20 Colombian cities. Clinical inertia was considered when no modification of therapy occurred despite not achieving control goals. A total of 355 hypertensive patients were included. From a total of 1142 consultations, therapy was effective in 81.7% of cases. In 18.3% of the cases, the control goal was not achieved, and of these, 81.8% were considered clinical inertia. A logistic regression showed that the use of antidiabetics (odds ratio: 2.31; 95% confidence interval: 1.290–4.167; $P = .008$) was statistically associated with an increased risk of clinical inertia. With a determination of the frequency of inertia and the high effectiveness of antihypertensive treatment, valuable information can be provided to understand the predictors of clinical inertia. *J Am Soc Hypertens* 2015;9(11):878–884. © 2015 American Society of Hypertension. All rights reserved.

Keywords: Antihypertensive agents; inertia; pharmacoepidemiology; treatment effectiveness.

Introduction

Hypertension (HT) is a highly prevalent disease worldwide.^{1,2} In Colombia, according to the 2007 National Health Survey, approximately 22.8% of people between 18–69 years of age have high blood pressure, and this highly prevalent disease generates great social and economic costs to the population.³

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Conflict of interest: The authors declare that they have no conflict of interest.

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Proper control of this disease is complex due to the large number of factors associated with therapy such as patient lifestyle, therapeutic adherence, and clinical inertia; the latter is a variable that has begun, in the last decade, to be recognized to interact with poor control of HT from ineffective medical therapy.⁴ Clinical inertia is defined as the tendency of doctors to not modify or intensify treatment despite indications, mainly due to fear of the doctor of intensifying therapy or failure to recognize a lack of control (ignoring clinical practice guidelines, underestimating patient risk, and lack of motivation in long-term control).^{4,5} This phenomenon is directly related to poor effectiveness of antihypertensive treatment, which can lead to a worse outcome in these patients because it is estimated that proper control of HT can reduce mortality from coronary heart disease (CHD) by 20% and mortality from cerebrovascular disease by 24%.⁶

Studies have been conducted in several countries to evaluate the factors associated with and the prevalence of clinical inertia in HT and have found a prevalence of this behavior in 37%–58% of patients in Spain and 88% of cases in Brazil.^{7–12} A meta-analysis of more than 46,000

patients showed that approximately 87% have experienced inertia,¹³ whereas indirect data from Colombia on HT showed that antihypertensive therapy was not changed in 41.2% of patients despite not meeting the treatment goals.¹⁴

Currently, there are no specific data on clinical inertia in Colombia or Latin America or on how much this phenomenon affects the effectiveness of therapy in hypertensive patients by producing a higher risk of morbidity and mortality from cerebrovascular causes because of ineffective antihypertensive therapy. As a result, there is a need to determine the rate of clinical inertia in a population of Colombian patients covered by the General System of Social Security in Health (SGSSS in Spanish) and establish which factors influence poor control of HT due to a lack of behavior modification in treatment. This knowledge would create strategies to improve care of this disease and avoid consequences that may be caused by a lack of disease control.

Methodology

A retrospective study was conducted with prospective follow up, and data were included from individuals with HT, more than 18 years, of either sex, and covered by the paid regimen of Social Security Plan of Colombia (SGSSS, in Spanish), which covers more than 50% of the population of the country. They were treated by medical consultation for control of HT for at least 1 year, between January 1, 2013 and December 31, 2013 in 20 Colombian cities that were selected for convenience because relevant and reliable databases are available at those locations. Patients under 18 years of age or who were not followed for 12 or more months were excluded.

Sample

A random sample of the total population of hypertensive patients in chronic management was taken, with an expected clinical inertia proportion of 42%, a permissible error of 5.0%, and a 95% confidence interval. The sample size calculated for a population of 7076 hypertensive patients identified in a Health Promoting Company (EPS, in Spanish), a health insurer covering 4.2% of the Colombian population throughout the country, was 355 patients. Information was obtained, with prior consent, by a physician from medical records, and the following variables were evaluated:

1. Sociodemographic: age, sex, and city of origin.
2. Anthropometric measures: weight, height, and body mass index.
3. Comorbidity/risk factors: diabetes mellitus (DM) type 2, smoking, family history of premature coronary disease (CHD in a first-degree relative <55 years in men or <65 in women), age (≥ 55 years in men and ≥ 65 in women), personal history of acute myocardial

infarction (AMI) or cerebrovascular disease (DM is considered an equivalent risk of CHD), and chronic kidney disease (CKD).

4. Antihypertensive medications dispensed with their respective doses and regimens: antihypertensive agents (angiotensin-converting enzyme inhibitors, angiotensin receptor blockers-II, diuretics, β -blockers, calcium channel blockers, and so forth).
5. Comedications dispensed: (1) antiplatelet drugs; (2) anti-inflammatories; (3) antidiabetics; and (4) hypolipidemic drugs.
6. Follow-up and effectiveness: measurement of systolic blood pressure (SBP) and diastolic blood pressure (DBP) at consultations with the general physician or specialist during the study year, effectiveness of therapy at each consultation, proportion of consultations at control goals, and counseling on lifestyle changes.
7. Clinical inertia: no change in therapy or therapeutic modifications by the physician (addition of an antihypertensive agent, increased dosage, or change of medications) if there was difficulty reaching the therapeutic goal set in at least one medical consultation (clinical inertia was not considered if there were significant problems dispensing or adhering to prior medical consultations reported by the patient and established by the physician in the clinical history as a trigger for lack of control of blood pressure).

The effectiveness of antihypertensive therapy was established based on recommendations from the Seventh Report of the Joint National Committee—7JNC¹ because it was the current guide at the time of study. HT was considered controlled if the SBP was below 140 mm Hg and the DBP was below 90 mm Hg in adults, or the SBP was less than 130 mm Hg and the DBP was less than 80 mm Hg in adult patients with DM or CKD (stage 3—glomerular filtration rate ≤ 60 mL/min). Clinical inertia was considered if, despite not achieving the target objective, no change was made to the therapy.

The investigation was approved by the Bioethics Committee of the Universidad Tecnológica de Pereira, respecting the confidentiality principles of the Declaration of Helsinki. Data were analyzed with the statistical package SPSS Statistics version 22.0 for Windows (IBM, USA). The frequencies and proportions were determined; Student *t* or analysis of variance tests were used for comparisons of quantitative variables, and chi-squared tests were used for comparisons of categorical variables. Binary logistic regression models were applied using the presence or absence of inertia of antihypertensive therapy as the dependent variable, and the independent variables consisted of those that were significantly associated with inertia in the bivariate analyses. The statistical significance level was set at $P < .05$.

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