



# Systemic arterial hypertension: a public health problem worldwide

## *Hipertensión arterial: un problema de salud pública a nivel mundial*

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### INTRODUCTION

Systemic arterial hypertension (SAH) is the most prevalent cardiovascular risk factor in low- and middle-income countries and includes more than 1.13 billion people worldwide. It is considered the main modifiable risk factor for all causes of death, accounting for more than 10 million deaths and 218 million disability-adjusted lives per year.<sup>1</sup>

During 2019, in a campaign that included 92 countries around the world, of 1'508,130 persons examined, 482,273 (32.0%) never had their blood pressure measured, and 513,337 (34.0%) had hypertension, of which 58.7% knew it, and 54.7% received antihypertensive medication.<sup>2</sup> In Latin America,<sup>3</sup> prevalence of 44% (range 17.7% to 52.5%) were found, only 53.3% of them receive treatment and 37.6% reach control levels (< 140/90 mmHg), control is better in urban populations than in rural ones (39.6% vs 32.4%), only 36.4% used two or more antihypertensive drugs.<sup>4</sup> In Mexico, it is estimated that one in three Mexicans over 20 years old have SAH. It has been found in more than 50% of patients with acute coronary syndrome.<sup>5</sup> Although the 2021 National Health and Nutrition Survey (ENSANUT 2021 on COVID-19) identified a reduction in adults who attended for SAH detection, it is recognized that a high percentage of the population is unaware of having the diagnosis and its control is deficient, the total prevalence was 28.2%. It is known that the prevalence increases with

aging, being 54.4% at 60 years and 57.0% at 69 years, respectively.<sup>6</sup>

Cardiovascular diseases have been the leading cause of death for over 20 years. In 2021, according to the National Institute of Statistics and Geography (INEGI), there was excess mortality of more than 40%, with more than 226,000 deaths from cardiovascular causes. Which represents 70 thousand more deaths than in 2019, exceeding those caused by COVID-19.<sup>7</sup> One of the main cardiovascular risk factors is SAH. In the Mexican Institute of Social Security (IMSS), SAH has a prevalence of 20.7%, representing a financial risk since it occupies the second place in the most significant financial impact with 52,284 million pesos (3,120 USD) only after diabetes mellitus (96,823 million pesos; 5,779 USD) followed by cancer (19,951 million pesos).<sup>8</sup>

SAH represents a growing public health problem, and cost-effective interventions are necessary, focusing on health promotion, preventing the risk of suffering it, and standardization of treatment protocols based on cardiovascular risk. Of the patient and distribute the tasks in the health team.<sup>9</sup>

### PUBLIC POLICIES FOR COMPREHENSIVE CARE FOR SYSTEMIC ARTERIAL HYPERTENSION

Comprehensive public policies are required for the care of SAH; an example of this has occurred in the IMSS (Mexican Institute of Social Security), which, to standardize and systematize the care of its beneficiaries with

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HAS, created the Comprehensive Care Protocol (*del español Protocolo de Atención Integral, PAI*), which contains evidence-based activities on changes in diagnostic criteria, highlighting the importance of proper blood pressure measurement, home measurement, and the use of ambulatory blood pressure monitoring (ABPM), migrating to dual combined therapies, and triples in one pill; without neglecting non-pharmacological treatment.<sup>10</sup> It also seeks to empower the patient, improve self-control and self-care, and promote closer interaction with the health system, including lifestyle changes.<sup>11</sup> The multidisciplinary activities range from the first level of care, with a focus on primary health care, to strengthening it, with the participation of the expanded health team at the first level, with the participation of medical, nursing, nutrition, social work, and psychology personnel. Stomatology and medical assistants help establish health promotion actions and identify the risk of suffering SAH in people aged 20 and over.<sup>12</sup>

### CONCLUSIONS

SAH is a public health problem, global policies are required to reduce its prevalence, as well as to address population situations, which include detection, patient education, as well as protocolized and multidisciplinary strategies, with a focus on primary health care to standardize the preventive, diagnostic, and therapeutic approach, especially with emphasis on the preferential use of double and triple fixed-dose combinations, destining monotherapy to low-risk, fragile patients, and pregnant women. Non-pharmacological measures, with an emphasis on patient participation, self-care, and empowerment, are a fundamental part.

### REFERENCES

1. Nadar SK, Lip GY. Hypertension. In: Nadar SK, Harrison S. Chap 1. Epidemiology of hypertension. 3rd edition. Oxford University Press; 2023. p. 3.
2. Beaney T, Schutte AE, Stergiou GS, Borghi C, Burger D, Charchar F et al. May measurement month 2019:

- the global blood pressure screening campaign of the International Society of Hypertension. *Hypertension*. 2020; 76 (2): 333-341.
3. Mills KT, Bundy JD, Kelly TN, Reed JE, Kearney PM, Reynolds K et al. Global disparities of hypertension prevalence and control: a systematic analysis of population-based studies from 90 countries. *Circulation* 2016; 134 (6): 441-450. doi: 10.1161/CIRCULATIONAHA.115.018912.
  4. Lamelas P, Diaz R, Orlandini A, Avezum A, Oliveira G, Mattos A et al. Prevalence, awareness, treatment and control of hypertension in rural and urban communities in Latin American Countries. *J Hypertens*. 2019; 37 (9): 1813-1821.
  5. Borrayo-Sánchez G, Rosas-Peralta M, Ramírez-Arias E, Saturno-Chiu G, Estrada-Gallegos J, Parra-Michel R et al. STEMI and NSTEMI: real-world study in Mexico (RENASCA). *Arch Med Res*. 2018; 49 (8): 609-619. doi: 10.1016/j.armed.2019.01.005.
  6. Shamah-Levy T, Romero-Martínez M, Barrientos-Gutiérrez T, Cuevas-Nasu L, Bautista-Arredondo S, Colchero MA et al. Encuesta Nacional de Salud y Nutrición 2021 sobre Covid-19. Resultados nacionales. Cuernavaca, México: Instituto Nacional de Salud Pública; 2022.
  7. Comunicado de prensa núm. 378/22. 27 de julio de 2022. Disponible en: [https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2022/dr/dr2021\\_07.pdf](https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2022/dr/dr2021_07.pdf)
  8. Informe de Labores y Programa de Actividades, 2020-2021. México: Instituto Mexicano del Seguro Social; 2021. p. 470.
  9. Kostova D, Spencer G, Moran AE, Cobb L, Husain MJ, Datta BK et al. The Cost-effectiveness of hypertension management in low-income and middle-income countries: a review. *BMJ Glob Health*. 2020; 5 (9): e002213. doi: 10.1136/bmjgh-2019-002213.
  10. Borrayo Sánchez G, Rosas Peralta M, Guerrero León MC, Galván Oseguera H, Chávez Mendoza A, Ruiz-Batalla JM et al. Protocolo de atención integral: hipertensión arterial sistémica. *Rev Med Inst Mex Seguro Soc*. 2022; Supl 1: S34-46.
  11. Arnett DK, Blumenthal RS, Albert MA, Buroker AB, Goldberger ZD, Hahn EJ et al. 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation*. 2019; 140 (11): e596-e646. doi: 10.1161/CIR.0000000000000678.
  12. Instituto Mexicano del Seguro Social. Protocolos de atención integral - Enfermedades cardiovasculares - Hipertensión arterial sistémica. ISBN 03-2022-011011473900-01.

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