



RISK FACTORS ASSOCIATED WITH THE PREVALENCE OF SYSTEMIC ARTERIAL HYPERTENSION (SAH) AMONG THE BRAZILIAN POPULATION

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ABSTRACT

Systemic Arterial Hypertension (SAH) is a chronic condition that affects about 30 million Brazilians, associated with high risks of cardiovascular complications and impacting the health system. The study seeks to identify risk factors related to SAH in order to develop more effective interventions that are appropriate to the Brazilian reality.

Keywords: Hypertension, Risk factors.

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INTRODUCTION

Systemic Arterial Hypertension (SAH) is a multifactorial chronic condition characterized by high and persistent blood pressure levels, usually associated with a series of cardiovascular complications (Julião; Souza; Guimarães, 2021). According to data from the Ministry of Health, it is estimated that approximately 30 million Brazilians currently live with this condition, with increasing prevalence even in the face of health programs aimed at its control and the free distribution of specific drugs (Brasil, 2023). This growth indicates the need to better identify and understand the risk factors associated with SAH, especially considering the particularities of the Brazilian population, which include sociodemographic, economic, and cultural issues (Brasil, 2016).

SAH is recognized as a public health problem, as it is often asymptomatic in the early stages, but is associated with high risks of developing other serious conditions, such as stroke, acute myocardial infarction (AMI) and kidney failure (Scola; Winkler; Marrone, 2021). Thus, investigating the risk factors that increase their prevalence can be crucial for the development of more effective and personalized intervention strategies for the Brazilian reality.

The high prevalence of SAH also significantly impacts health systems, generating high costs and challenges for the care of the population, especially in low-income regions and in areas with greater social vulnerability (Manso, 2023). In Brazil, where the Unified Health System (SUS) plays a central role in free and accessible care, the need to improve preventive and hypertension control strategies is even more urgent. The adoption of healthy habits, including a balanced diet and regular physical activity, is recommended as a preventive measure. However, adherence to these practices is often compromised by external factors, such as financial limitations and lack of access to health resources and information, which aggravate the situation (Gomes, 2021).

In addition, social and regional inequalities play a role in the distribution of risk factors for SAH, with different epidemiological profiles being observed in urban and rural areas, as well as between different regions of the country. It is estimated that the prevalence of hypertension is higher in regions where there are limitations in access to health services and education, conditions that hinder adherence to preventive practices and continuous medical follow-up (Santos; Wedge; Moraes, 2022).

In addition, factors such as the level of education, occupation, and characteristics of the residential environment are also associated with the development of SAH, as they directly influence lifestyle and exposure to risky habits. Therefore, identifying these aspects in a national context becomes crucial so that public policies can be targeted more precisely,



reducing the vulnerability of specific population groups and promoting a positive impact on public health (Bricarello et al, 2020.)

OBJECTIVE

The main objective of this study is to identify and analyze the risk factors associated with the prevalence of SAH among the Brazilian population, seeking to support new health intervention proposals that contribute to reducing the impact of this condition in the country. Specific objectives include:

- To evaluate the most prevalent lifestyle habits associated with SAH;
- To explore the influence of socioeconomic and demographic conditions on the prevalence of the disease;
- Propose recommendations based on the evidence collected for the formulation of public health policies.

METHODOLOGY

This study is characterized as a descriptive, cross-sectional research, carried out through a literature review of the scientific literature. This approach was chosen in order to compile relevant information on the risk factors associated with SAH, based on recent studies, ensuring an analysis based on the most current evidence on the subject. This methodology allows the identification of patterns and variables commonly associated with the prevalence of hypertension among the Brazilian population.

The selection of materials was carried out in recognized scientific databases, such as Scielo, PubMed, and VHL, using as inclusion criteria articles published between the years 2019 and 2024, available in Portuguese, and which addressed the search term "risk factor" in combination with the descriptor "SAH". This choice allowed us to filter studies that presented a direct relationship with the proposed theme and were applicable to the Brazilian context. In addition, articles that dealt with populations from other countries or did not specify the risk factors in the general Brazilian population were excluded, in order to ensure an analysis focused on local specificities.

For the analysis, 15 studies were selected that met the defined criteria and contained quantitative or qualitative data on the prevalence of SAH and its risk factors. The data extracted from the articles were organized in a systematic way, allowing the categorization of the main risk factors identified, such as age, lifestyle habits, and socioeconomic status. This process also made it possible to construct an overview of the most recurrent variables



in the literature, which contributes to a better understanding of the interrelationships between these factors and the prevalence of SAH.

DEVELOPMENT

- Age Group and Prevalence of Systemic Arterial Hypertension

The relationship between age and the prevalence of hypertension is widely documented in the literature, especially in the Brazilian context. Studies suggest that individuals in older age groups have a higher risk of developing SAH, due to the accumulation of risk factors over the years, such as alcohol consumption, smoking, inadequate diet and sedentary lifestyle (Silva; Ferrari; Ribeiro, 2020). Data indicate that hypertension is less prevalent in young individuals, however, lifestyle habits at this stage have a direct impact on the development of SAH in adulthood. According to Bernardes et al. (2023), individuals who, in their 20s and 30s, maintain a routine of bad habits have an increased risk of developing SAH after the age of 50, reflecting the importance of preventive measures from a young age.

From these findings, the need for interventions focused on different stages of life is perceived, with programs that encourage healthy practices, especially for young people and adults (Souza, 2022). Such interventions can include educational campaigns, programs to encourage sport and physical exercise, as well as awareness about the effects of excessive alcohol and tobacco consumption. These preventive strategies, if applied continuously and encouraged by the health system, could significantly minimize the number of cases of SAH at older ages.

- Socioeconomic Conditions and Access to Health

Socioeconomic conditions are a crucial factor for the prevalence of SAH, as observed in studies that correlate low income and lower education with higher rates of the disease. In Brazil, where social inequality strongly impacts access to health and the adoption of healthy habits, low-income individuals face additional challenges. According to Lopes, Mendes, and Silva (2022), the population with a per capita income of less than one minimum wage tends to face greater stress, in addition to limitations in maintaining a balanced diet and seeking regular medical follow-up.

This socioeconomic context is aggravated by the limitation of time and resources for preventive care, such as periodic consultations and routine exams, making SAH an even more prevalent condition in underserved communities. In low-income areas, access to health programs aimed at preventing SAH is also limited, which reinforces the need for



inclusive public policies. Primary care programs (Costa et al, 2021.), which offer nutritional support and encourage preventive health practices, are essential to reverse the negative impact of socioeconomic conditions on the control of SAH.

- Family Environment and Social Pressure

Another relevant aspect for understanding the prevalence of SAH is the family environment and social pressure. Studies indicate that the number of people in the household can influence the risk of developing SAH, due to the increase in emotional and physical stress in large families, especially in low-income households (Freitas; Olive tree; Cavalcante, 2023). Living with multiple family members in small spaces and without adequate privacy can contribute to stress, which is a known risk factor for hypertension.

These data suggest that psychological and social support programs can be allies in health promotion (Oliveira, 2021), particularly in communities where families live in environments with high population density. Interventions aimed at managing stress and strengthening family support networks, such as free psychological care and community leisure programs, could help reduce hypertension rates in more populated and vulnerable areas.

- Associated Comorbidities

The coexistence of comorbidities, such as obesity, acute myocardial infarction (AMI), stroke, and dyslipidemia, was identified as an important additional risk factor for the development and worsening of SAH. Obesity, for example, contributes to insulin resistance and increased oxidative stress, factors that promote the elevation of blood pressure. According to Miranda et al. (2020), the presence of two or more of these comorbidities makes it difficult to manage SAH and often requires combined treatments, which are not always available to the low-income population.

These comorbidities are often the result of unhealthy lifestyle habits, such as a diet rich in fats and sugars, a sedentary lifestyle, and the absence of regular medical follow-up. These findings reinforce the need for a comprehensive health approach, which includes the control of comorbidities in hypertension care programs. Health policies that provide access to preventive exams and multidisciplinary treatments are essential for the control of SAH and its complications (Severino Nunes et al, 2019).

- The Importance of Preventive Programs and Public Policies



The analysis of risk factors makes it evident that SAH in the Brazilian population is influenced by a combination of factors, including age, socioeconomic conditions, family environment and the presence of comorbidities. To reduce the prevalence of SAH, it is necessary to expand the reach of preventive programs and ensure that public policies address all risk variables. The Unified Health System (SUS) already has programs for the prevention and control of SAH, but the results indicate the need to also include the at-risk population that has not yet been diagnosed, which can be achieved through screening in basic health units (Borges et al., 2023).

The implementation of public policies aimed at health education, the improvement of living conditions, and access to multidisciplinary treatment is essential to combat SAH and its risk factors effectively. Based on these results, it is recommended that actions be directed to specific populations, such as young adults, low-income families, and individuals with comorbidities, for a more segmented and assertive health approach (Dos Santos Dias et al, 2021).

FINAL CONSIDERATIONS

It is concluded that the risk factors associated with the prevalence of Systemic Arterial Hypertension (SAH) in the Brazilian population are intrinsically linked to unhealthy habits and lifestyles, in addition to socioeconomic conditions and family environment. Age emerges as one of the main determinants, with habits acquired in youth directly impacting health in old age. Socioeconomic conditions, in turn, hinder access to preventive care and adequate treatment, especially in low-income groups, highlighting the need for public policies that promote equity in health.

In addition, social and family pressure, as well as the coexistence of comorbidities, contribute significantly to the increase in the prevalence of SAH, requiring a comprehensive approach that addresses not only hypertension, but also the conditions that favor it. The implementation of prevention and control programs that consider the reality of the population, with an emphasis on screening and educational actions, is essential to mitigate risks and promote a better quality of life. Health education, which can be provided by health professionals in a multi-professional way (doctors, pharmacists, nurses, nutritionists, psychologists, dentists and physiotherapists), in the waiting room strategy (while patients wait for their appointments and care in basic and emergency care units), informative materials, and municipal social actions can promote informative dialogue to bring to society the knowledge of the associated risk factors, and thus facilitate treatment and ensure appropriate habits to prevent the evolution of Hypertension.



Therefore, a joint effort between health institutions and society is necessary to promote significant changes in the health profile of the Brazilian population, with a focus on the prevention of SAH and its consequences. This collaboration should focus on the prevention of Systemic Arterial Hypertension (SAH) and the mitigation of its consequences, promoting integrated actions that consider the social, economic and cultural particularities of the communities, in this way, it will be possible to build a future where hypertension and its complications are effectively controlled, contributing to the improvement of quality of life and the strengthening of public health in Brazil.

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