



ARTICLE REVIEW

Prevalence of arterial hypertension in older adults. Systematic review

Prevalencia de hipertensión arterial en adultos mayores. Revisión sistemática

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ABSTRACT

Introduction: Arterial hypertension in older adults is a chronic condition that affects cardiovascular health and increases morbidity and mortality associated with heart disease.

Objective: to analyze the causes and factors associated with the prevalence of high blood pressure in older adults. **Methods:** the PRISMA methodology was used to examine studies published between 2019 and 2024. 15 scientific articles obtained through a digital search in various databases were reviewed: Pubmed, Scielo and Scopus, through the Google Scholar search engine.

Results: with aging, blood pressure tends to increase due to changes in arterial stiffness and other physiological mechanisms, leading to a higher incidence of hypertension in this population. The prevalence of hypertension in adults over 60 years of age is high, reaching 42,9 % worldwide. Regarding gender disparities, it is observed that older women have a higher prevalence of hypertension than men, with a progressive increase in blood pressure in women up to age 80. Factors such as inadequate diet, sedentary lifestyle, excessive consumption of sodium and saturated fats, As well as stress, contribute to the development of hypertension in older adults. In addition, structural alterations in the arteries, such as vascular stiffness, play a crucial role in the increase in systolic blood pressure.

Conclusions: arterial hypertension in older adults is a relevant problem that requires specialized care and preventive measures to reduce its impact on cardiovascular health and improve quality of life.

Keywords: Arterial Hypertension; Prevalence; Older Adult.

RESUMEN

Introducción: la hipertensión arterial en adultos mayores es una condición crónica que afecta la salud cardiovascular y aumenta la morbilidad y mortalidad asociada a enfermedades del corazón.

Objetivo: analizar las causas y factores asociados a la prevalencia de hipertensión arterial en adultos mayores.

Métodos: se empleó la metodología PRISMA para examinar los estudios publicados entre 2019 y 2024. Se revisaron 15 artículos científicos obtenidos a través de una búsqueda digital en diversas bases de datos: Pubmed, Scielo y Scopus, a través del motor de búsqueda Google Académico.

Resultados: con el envejecimiento, la presión arterial tiende a aumentar debido a cambios en la rigidez de las arterias y otros mecanismos fisiológicos, lo que conlleva a una mayor incidencia de hipertensión en esta población. La prevalencia de hipertensión en adultos mayores de 60 años es alta, alcanzando un 42,9 % a nivel mundial. En cuanto a las disparidades de género, se observa que las mujeres mayores tienen una mayor prevalencia de hipertensión que los hombres, con un incremento progresivo de la presión arterial en mujeres hasta los 80 años. Factores como la alimentación inadecuada, el sedentarismo, el consumo excesivo de sodio y grasas saturadas, así como el estrés, contribuyen al desarrollo de la hipertensión en adultos mayores.

Conclusiones: la hipertensión arterial en adultos mayores es un problema relevante que requiere atención especializada y medidas preventivas para reducir su impacto en la salud cardiovascular y mejorar la calidad de vida.

Palabras clave: Hipertensión Arterial; Prevalencia; Adulto Mayor.

INTRODUCTION

Systemic arterial hypertension is a chronic disease of multiple causes, which produces systemic vascular damage and increases the morbidity and mortality of various cardiovascular diseases. Blood pressure increases with age due to the aging process, increased stiffness of the arteries, vascular remodeling and changes in renal and hormonal mechanisms, therefore, the incidence of arterial hypertension is expected to increase in older adults. The prevalence of high blood pressure in older adults is a topic of relevance due to its impact on public health. According to recent studies, the prevalence of hypertension in adults over 60 years of age is significantly high, reaching 42,9 %.⁽¹⁾

This condition is associated with an increased risk of cardiovascular disease, with high blood pressure being a prevalent cardiovascular risk factor in the elderly population. Since the prevalence of HBP increases progressively with aging, the majority of elderly people in the United States are hypertensive (with a prevalence of almost 80 % among women and close to 70 % among men over 75 years of age).⁽²⁾

Considering that population growth estimates indicate that by 2030 the proportion of individuals over 65 years of age in the United States will increase by approximately 80 % compared to today, the economic cost of treating and managing these patients will be very significant.⁽²⁾

In older adults, the prevalence of hypertension has been observed to be higher in women than in men, with a progressive increase in blood pressure in women up to the age of 80. This increase in the prevalence of hypertension in older adults is attributed to the aging of the population and related risk factors.⁽³⁾

There are numerous behavioural factors that can contribute to the development of hypertension, including: eating foods high in sodium and saturated fat, insufficient intake of fruits and vegetables, high consumption of alcoholic beverages, a sedentary lifestyle, lack of physical exercise and stress. The living and working conditions of individuals have a significant influence on these metabolic factors that increase the risk of cardiovascular disease, stroke, kidney failure and other complications of hypertension, such as diabetes, hypercholesterolemia and overweight or obesity.⁽³⁾

The mechanism by which systolic pressure increases is determined by the stiffness of the conduction arteries, mainly the aorta. In each heartbeat, the volume ejected by the left ventricle generates a pulse wave that travels from the heart to the periphery, which is in turn reflected back to the heart once it reaches the periphery. When the arteries are distensible, the speed is slower and returns to the heart during diastole, which produces an increase in diastolic pressure.⁽⁴⁾

Structural alterations in the vascular walls due to the loss of elastin and an increase in rigid collagen fibers, calcification and the disarrangement of the fibers produce rigidity of the walls, producing an increase in the speed of the pulse wave, determining that the return of the wave reaches the heart during systole, increasing the systolic pressure and reducing the diastolic pressure.⁽⁴⁾

METHODS

In this systematic review of the scientific literature, the PRISMA methodology was used to examine studies published between 2019 and 2024. 15 scientific articles were reviewed, obtained through an electronic search in various databases: Scielo, Scopus, Pubmed, and were selected using the following criteria:

Inclusion criteria

- a) Articles published within the period: 2019-2024.
- b) Articles with access to their summary or full content.
- c) Articles published in high-impact scientific journals.
- d) Articles containing information related to the present research topic.
- e) Articles written in Spanish.

Exclusion criteria

- a) Articles that do not allow access to their content
- b) Articles that are not relevant or useful for the research topic.
- c) Articles published outside the established period (2019-2024).
- d) Articles written in languages other than Spanish.

RESULTS

The results are presented according to the selection parameters defined in the methodology, in accordance with the stages of the PRISMA method, detailed in Figure 1 and Table 1.

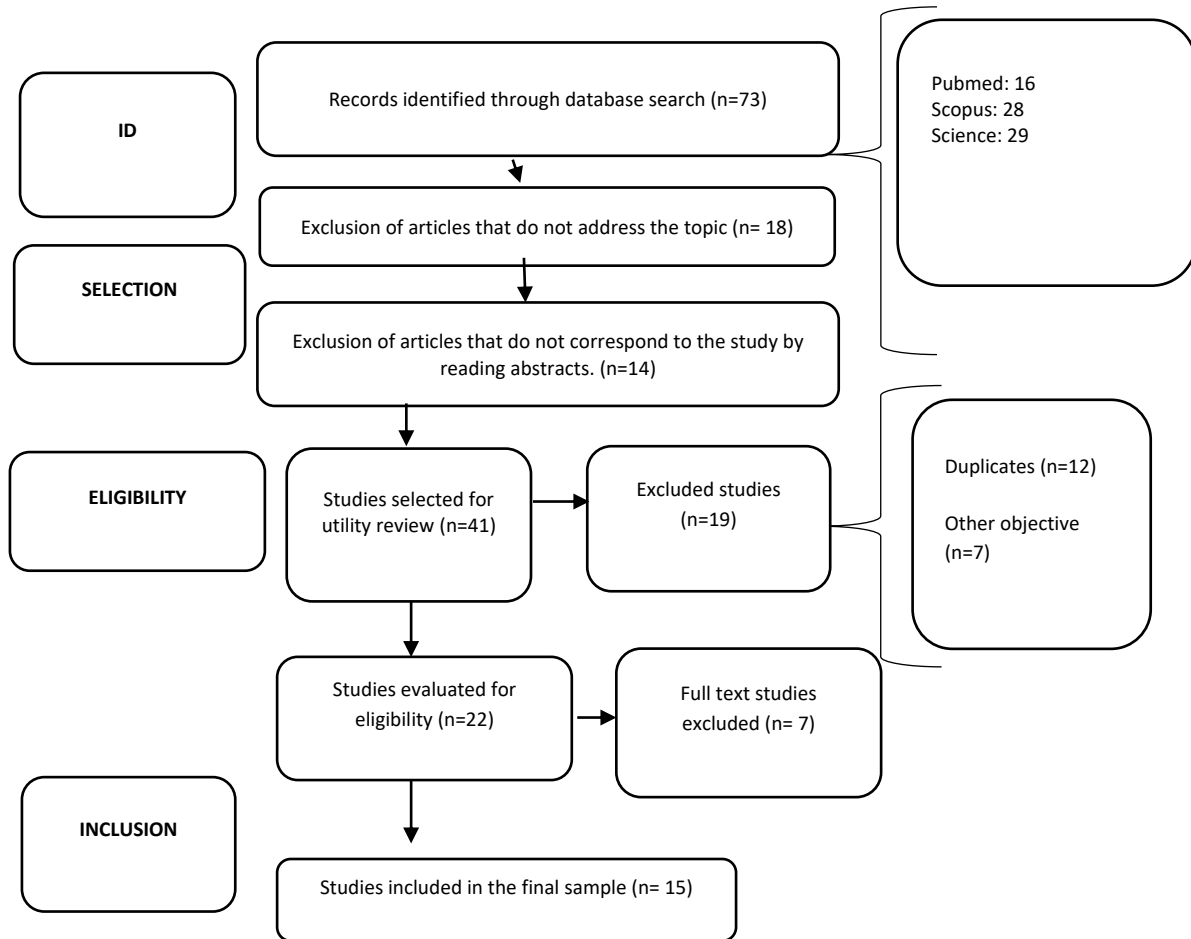


Fig. 1 Search flow chart for articles.

Table 1. Relevant research on arterial hypertension.

	DATA	CATEGORY
Aranda JE Cross, ⁽¹⁾	Blood pressure increases with age due to the aging process, increased stiffness of the arteries, vascular remodeling, and changes in renal and hormonal mechanisms; therefore, the incidence of high blood pressure in older adults is expected to increase.	Relationship between blood pressure and aging
Sans Atxer L, ⁽²⁾	Cardiovascular disease is the main cause of mortality in developed countries, and high blood pressure (HBP) plays an important role in this mortality as it is the most prevalent cardiovascular risk factor. The population of developed countries is experiencing progressive aging, and since the prevalence of HBP increases with age, adequate treatment of this pathology in the elderly or very elderly population is essential.	High blood pressure is a significant cause of mortality.
Osorio E, Amariles P., ⁽³⁾	There are numerous behavioural factors that can contribute to the development of hypertension, including: eating foods high in sodium and saturated fat, insufficient intake of fruits and vegetables, high consumption of alcoholic beverages, a sedentary lifestyle, lack of physical exercise and stress. The living and working conditions of individuals have a significant influence on these metabolic factors that increase the risk of cardiovascular disease, stroke, kidney failure and other complications of hypertension, such as diabetes, hypercholesterolemia and overweight or obesity.	Risk factors related to high blood pressure
Salazar M, Rotta A, Otiniano F, ⁽⁴⁾	Blood pressure shows a progressive increase with age and the hypertension pattern changes. It is observed that systolic blood pressure shows a continuous increase while diastolic pressure begins to decline from the age of 50 in both sexes, increasing pulse pressure which constitutes a very strong predictor for the development of cardiovascular events.	Relationship between blood pressure and aging
Vasquez J, Vasileva M, ⁽⁵⁾	High blood pressure is one of the most prevalent medical and health problems. Coping strategies and social support play an important role in the adaptation and management of this chronic disease.	Prevalence of hypertension.
Rezende R, De Assumpção D, Stolses P. ⁽⁶⁾	The progressive increase in blood pressure is associated with the incidence of premature deaths and other cardiovascular conditions, such as heart failure, coronary artery disease and stroke. Hypertension is one of the causes of the greatest reduction in life expectancy and quality of life of individuals.	High blood pressure causing other cardiovascular conditions.

Recalde L, Arguello V, Báez P, Benítez C, Cubelli M, Jara N et al, ⁽⁷⁾	Adherence to the treatment of arterial hypertension is the main problem in achieving good blood pressure control and reducing chronic complications that this pathophysiological condition entails.	Treatment of high blood pressure
Gopar R, Ezquerra A, Chávez N, Manzur D, Raymundo G ⁽⁸⁾	Hypertension is a disease that affects almost half of the population. Its complex pathophysiology, which mainly affects the renal, hormonal, cardiovascular and neurological systems, has allowed different pharmacological strategies to be available to treat each of these systems and thus regulate blood pressure.	High blood pressure is a significant cause of mortality.
Campos I, Oviedo C, Vargas J, Ramírez D, Medina C, Gómez E, et al ⁽⁹⁾	Adherence to treatment and the level of knowledge in patients with high blood pressure are key factors in controlling this condition and avoiding complications.	Treatment of high blood pressure
Clear M ⁽¹⁰⁾	In 2019, nearly 10 million deaths were directly attributed to hypertension. No other disease causes as many deaths and has as high a projected increase in deaths as cardiovascular disease (CVD). By 2030, more than 22 million people a year are projected to die from cardiovascular disease, almost 5 million more than in 2012.	High blood pressure is a significant cause of mortality.
Galvis S, Candamil A, Herrera J, Calzada M. ⁽¹¹⁾	Global mortality for 2019 attributable to high blood pressure (HBP) was 19.2%, making it the main global risk factor. Broken down by age groups, HBP was the main risk factor responsible for deaths in people aged 50 to 74 years and over 75 years.	High blood pressure is a significant cause of mortality.
Boreu F, Garcia A ⁽¹²⁾	Psychosocial stress can be the result of a wide variety of causes and circumstances. The experience of stress is often unique and experienced in a very personal way, although with common physiological responses. It is expected to increase in the modern world, subject to rapid social, cultural and technological changes. Individual and collective strategies for the prevention of psychosocial stress can be decisive in reducing the prevalence of high blood pressure (HBP) and cardiovascular risk (CVR).	Factors related to high blood pressure.
Sanchez G, Peralta R, Guerrero M, Oseguera H, Mendoza A, Ruiz J, et al ⁽¹³⁾	High blood pressure is the most common cardiovascular risk factor responsible for complications such as cerebrovascular events, heart failure, acute myocardial infarction, kidney failure, arrhythmias and blindness.	Risk factors related to high blood pressure.
Rosales A, Bustos A ⁽¹⁴⁾	Arterial hypertension is generally classified as primary or essential (90%) and secondary (10%). Among the rare causes of the latter is Cushing's syndrome, classified as adrenocorticotrophic hormone (ACTH)-dependent and -independent.	Classification of arterial hypertension.

Serrat M, Coll de Tuero G, Bertran C, Martí R, Ramos R, Baltasar A, et al ⁽¹⁵⁾	Arterial hypertension (HTN), the main risk factor in terms of attributable mortality, is a major public health problem, especially in primary care, where most patients are diagnosed and followed up. Correct diagnosis of HTN requires adequate theoretical knowledge and technical skills on the part of physicians and nurses.	Risk factors related to high blood pressure.
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DISCUSSION

Aranda Cross,⁽¹⁾ It recognizes that blood pressure increases with age due to the aging process, increased stiffness of the arteries, vascular remodeling and changes in renal and hormonal mechanisms, therefore, it is expected that the incidence of arterial hypertension in older adults will increase. Likewise, Sans Atxer,⁽²⁾ completes that blood pressure shows a progressive increase with age and the hypertension model changes, it is observed that systolic blood pressure shows a continuous increase while diastolic pressure begins to decline from the age of 50 in both sexes, increasing pulse pressure which constitutes a very strong predictor for the development of cardiovascular events.

Vasquez J and Vasileva M,⁽⁵⁾ emphasize that high blood pressure is one of the most prevalent medical and health problems. Coping strategies and social support play an important role in the adaptation and management of this chronic disease. Rezende et al ⁶They reveal that the progressive increase in blood pressure is associated with the incidence of premature deaths and other cardiovascular conditions, such as heart failure, coronary artery disease and stroke. Hypertension is one of the causes of the greatest reduction in life expectancy and quality of life of individuals.

Osorio E and Amariles P,⁽³⁾ They recognize that there are numerous behavioral factors that can contribute to the development of hypertension, including: consumption of foods with excess sodium and saturated fats, insufficient intake of fruits and vegetables, high consumption of alcoholic beverages, sedentary lifestyle, lack of physical exercise and stress. The living and working conditions of people have a significant influence on these metabolic factors that increase the risk of cardiovascular disease, stroke, kidney failure and other complications of hypertension, such as diabetes, hypercholesterolemia and overweight or obesity.

Recalde et al,⁽⁷⁾ report that Adherence to the treatment of arterial hypertension is the main problem in achieving good blood pressure control and reducing chronic complications that this pathophysiological state entails. Likewise, Gopar et al,⁽⁸⁾ and Campos et al,⁽⁹⁾ mentioned that hypertension is a disease that affects almost half of the population. Its complex pathophysiology, affecting mainly the renal, hormonal, cardiovascular and neurological systems, has allowed for the availability of different pharmacological strategies to treat each of these systems and thus regulate blood pressure.

Without Atxer,⁽²⁾ In their study, they mention that cardiovascular disease is the main cause of mortality in developed countries, and high blood pressure (HBP) plays an important role in this mortality as it is the most prevalent cardiovascular risk factor. The population of developed countries is experiencing progressive aging, and since the prevalence of HBP increases with age, adequate treatment of this pathology in the elderly or very elderly population is essential.

Likewise, Claros M,⁽¹⁰⁾He said that eIn 2019, nearly 10 million deaths were directly attributed to hypertension. No other disease causes as many deaths and has as high a projected increase in deaths as cardiovascular disease (CVD). By 2030, more than 22 million people a year are projected to die from cardiovascular disease, almost 5 million more than in 2012.

Cardiovascular disease, the main cause of death in developed countries, sees high blood pressure as a predominant risk factor, aggravated by population ageing. Lifestyle habits, such as a diet rich in sodium and saturated fats, a sedentary lifestyle, stress and other behavioural factors, influence the development of hypertension and its complications, such as cardiovascular disease, stroke and diabetes.

The progressive increase in blood pressure with age, with a continuous increase in systolic pressure and a decrease in diastolic pressure from the age of 50, highlights the importance of monitoring pulse pressure as a predictor of cardiovascular events. Adherence to hypertension treatment is crucial to reduce chronic complications and improve quality of life. Coping strategies and social support play a fundamental role in the management of this prevalent disease, which negatively impacts the life expectancy and quality of life of individuals.

CONCLUSIONS

Systemic arterial hypertension, a multifactorial chronic disease, triggers widespread vascular damage and increases morbidity and mortality from various cardiovascular diseases. With aging, blood pressure increases due to changes in arterial stiffness, vascular remodeling, and alterations in renal and hormonal mechanisms, which anticipates an increase in the incidence of hypertension in older adults. The high prevalence of hypertension in this age group, especially in women, is associated with increased cardiovascular risk and a significant impact on public health.

Conflicts of Interest

The authors declare that there are no conflicts of interest.

Authorship Contribution

JRMC: Conceptualization, Formal analysis, Research, Project management, Resources, Validation, Visualization, Writing - original draft, Writing - review and editing.

JChHG: Conceptualization, Formal Analysis, Research, Resources, Validation, Visualization, Writing - original draft, Writing - review and editing.

DEChHG: Conceptualization, Formal analysis, Research, Resources, Validation, Visualization, Writing - original draft, Writing - review and editing.

TTA: Data Curation, Methodology, Software, Supervision.

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