

THE PREVELENCE OF HIGH BLOOD PRESSURE IN ADULT AND ELDERLY: IMPLICATION AND REMEDIES

By

Dorothy Emmanuel Asanga
Department of Human Kinetics and Health Education
Faculty of Education
University of Uyo

AND

Mercy Joseph EKANEM
Akwa Ibom State College of Nursing Sciences
Eket Campus

ABSTRACT

The study assessed the prevalence of high blood pressure in adults and the elderly and its implications and remedies. High blood pressure is a common medical condition that affects people of all age groups, including the elderly. Lifestyle factors such as diet, physical inactivity, excessive alcohol consumption, and tobacco use continue to play a significant role in the development and exacerbation of hypertension. The study revealed that high blood pressure can lead to complications such as stroke, heart attack, kidney damage, and cognitive decline, significantly impacting the overall quality of life for affected individuals. Addressing the prevalence of high blood pressure requires a comprehensive approach involving lifestyle modifications, pharmacological interventions, and public health initiatives. The study concluded that the prevalence of high blood pressure in adults and the elderly is a pressing global health issue with far-reaching implications for individuals and healthcare systems. The increasing prevalence of hypertension, particularly with advancing age, underscores the urgency of addressing this condition to improve overall health outcomes. The implications of high blood pressure are not confined to cardiovascular risks alone; they extend to various organs and functions within the body, affecting overall well-being. One of the recommendations made was that blood pressure screening tests should be encouraged among adults and the elderly during regular health check-ups. Early detection and monitoring are crucial to managing hypertension effectively.

KEYWORDS: High Blood Pressure, Adult, Elderly, Implication and Remedies

INTRODUCTION

Hypertension, sometimes known as high blood pressure, is a common health issue that affects people of all ages, including adults. It is a prevalent ailment that has attracted a great deal of attention because of the possible harm it can do to people's health. With the help of pertinent references, this introduction will examine the prevalence of high blood pressure in different communities, as well as its consequences and possible treatments.

The World Health Organization (WHO) states that one of the main causes of cardiovascular illnesses and a significant contributor to the burden of morbidity and mortality worldwide is excessive blood pressure. As people age, hypertension becomes more common, which makes it a serious health concern for adults and the elderly. The risk factors for high blood pressure—such as poor eating habits, sedentary lifestyles, and genetic predispositions—amplify with age (Chobanian, 2017). Uncontrolled hypertension has numerous effects that go beyond cardiovascular dangers. The overall quality of life for those with chronic high blood pressure can be greatly impacted by problems like stroke, heart attack, renal damage, and cognitive impairment. Special difficulties may arise for the elderly because of physiological changes associated with aging and the possibility of polypharmacy, in which the use of several medications may affect blood pressure.

Addressing the prevalence of high blood pressure requires a comprehensive approach involving lifestyle modifications, pharmacological interventions, and public health initiatives. Lifestyle changes encompassing regular physical activity, a balanced diet rich in fruits and vegetables, and stress management can contribute to blood pressure control. Additionally, medications prescribed by healthcare professionals play a crucial role in managing hypertension, with various classes of antihypertensive drugs available. This introduction sets the stage for a deeper exploration of the prevalence of high blood pressure in adults and the elderly, emphasizing the implications of this condition on health and well-being. By understanding the magnitude of the issue and considering potential remedies, researchers, healthcare professionals, and policymakers can work collaboratively to develop effective strategies for prevention, early detection, and management of hypertension.

CONCEPT OF BLOOD PRESSURE

According to Walker HK, Hall WD, and JW.H. (2023), blood pressure is the pressure, measured in millimeters of mercury, within the major arterial system of the body. It is conventionally separated into systolic and diastolic determinations. Systolic pressure is the maximum blood pressure recorded during contraction of the ventricles; diastolic pressure is the minimum pressure recorded just prior to the next contraction. Kara Rogers (2023) states that blood pressure is a force originating in the pumping action of the heart, exerted by the blood against the walls of the blood vessels; the stretching of the vessels in response to this force and their subsequent contraction are important in maintaining blood flow through the vascular system. Shahoud JS, Aeddula NR (2020) Blood pressure is traditionally measured using auscultation with a mercury-tube sphygmomanometer. It is measured in millimeters of mercury and expressed in terms of systolic pressure over diastolic pressure.

Systolic pressure refers to the maximum pressure within the large arteries when the heart muscle contracts to propel blood through the body. Diastolic pressure describes the lowest pressure within the large arteries during heart muscle relaxation between beatings. Blood pressure is one of the most commonly measured clinical parameters, and blood pressure values are major determinants of therapeutic decisions.

Debra Sullivan (2023) Blood pressure is a measurement of the extent of the force of blood on your blood vessel walls as your heart pumps. It's measured in millimeters of mercury (mm Hg). Systolic blood pressure is the top number in a reading. It measures the pressure on blood vessels as your heart squeezes blood out of your body. Diastolic blood pressure is the lowest number in a reading. It measures the pressure on blood vessels in between heartbeats while your heart fills up with blood returning from your body. Hypotension, or blood pressure that's too low, can cause serious symptoms like dizziness or fainting. Severely low blood pressure can damage organs by depriving them of blood flow and oxygen.

CONCEPT OF ADULT PERSON

An adult person refers to an individual who has reached a legally defined age of maturity, typically 18 years or older in many countries. This transition from childhood to adulthood is marked by various social, legal, and psychological changes, often including increased rights and responsibilities (Arnett, 2016). In the context of legal adulthood, individuals gain the right to vote, enter into contracts, marry without parental consent, and, in some cases, consume alcohol and tobacco. These age-based legal milestones are established to ensure that individuals possess the cognitive and emotional maturity necessary to make informed decisions and take on adult responsibilities. Psychologically, becoming an adult is a multifaceted process. It encompasses the development of cognitive skills, emotional intelligence, and the ability to navigate complex social relationships. Erik Erikson's theory of psychosocial development highlights the stages of identity formation, intimacy, and generativity that individuals typically experience during adulthood. Additionally, adulthood often comes with the pursuit of higher education, career development, and financial independence. However, the specific markers of adulthood can vary across cultures and historical periods, reflecting the dynamic nature of this concept. Cultural and societal factors play a significant role in shaping the definition of an "adult person." Different societies have varying expectations and rites of passage that mark the transition to adulthood, such as bar and bat mitzvahs in Judaism, quinquennia's in Latinx culture, or the "coming of age" ceremonies in some African cultures. Additionally, the evolving nature of adulthood is influenced by economic, technological, and demographic changes. For instance, the prolonged transition to adulthood, characterized by extended education and delayed marriage and parenthood, has become more common in many Western societies.

CONCEPT OF ELDERLY

Elderly person encompasses a wide range of issues and considerations related to individuals in their later stages of life, typically aged 65 and older. Over the past decade, the world has witnessed significant demographic shifts, with an increasing proportion of the population falling into the elderly category. This demographic transformation, often referred to as the "aging population," has profound implications for healthcare, social services, economics, and the overall societal structure. It has been largely driven by factors such as increased life expectancy and declining birth rates. As a result, there has been a growing emphasis on understanding the unique needs and challenges of the elderly.

As people age, they typically experience a higher prevalence of chronic health conditions, which necessitates increased medical care and support services. This has raised questions about the sustainability of healthcare systems and the need for innovative approaches to elder care. In addition, mental health issues among the elderly, such as depression and cognitive decline, have gained attention. The social isolation often experienced by older individuals, particularly during the COVID-19 pandemic, has highlighted the importance of addressing their psychological well-being and social integration (United Nations, 2019).

Furthermore, there has been a growing emphasis on the concept of "aging in place." This trend has led to the development of home healthcare services and age-friendly urban planning to facilitate independent living. Policymakers and researchers have explored various strategies to promote active aging, including community engagement, physical activity, and access.

CONCEPT OF HIGH BLOOD PRESSURE

According to William L., hypertension, also called high blood pressure, is a condition that arises when the blood pressure is abnormally high. Hypertension occurs when the body's smaller blood vessels (the arterioles) narrow, causing the blood to exert excessive pressure against the vessel walls and forcing the heart to work harder to maintain the pressure. Although the heart and blood vessels can tolerate increased blood pressure for months and even years, eventually the heart may enlarge (a condition called hypertrophy) and be weakened to the point of failure. Injury to blood vessels in the kidneys, brain, and eyes may also occur.

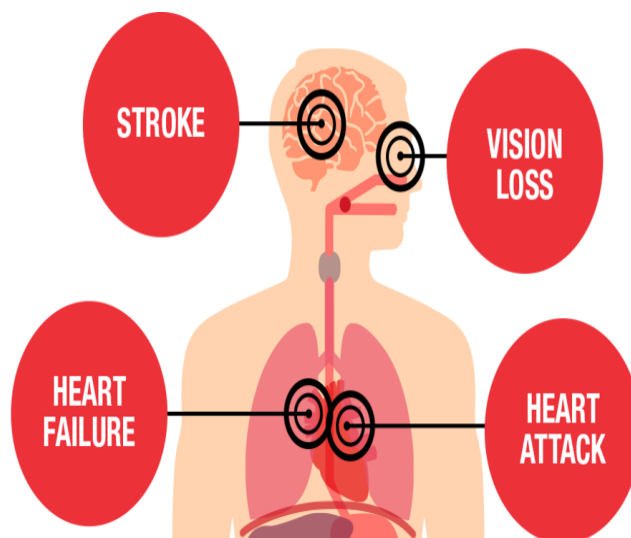


Fig.1: Effects of High Blood Pressure

Matthew R Alexander (2022) states that High blood pressure (BP), or hypertension, is defined by two levels by 2017 American College of Cardiology/American Heart Association (ACC/AHA) guidelines: (1) elevated BP, with a systolic pressure (SBP) between 120- and 129-mm Hg and diastolic pressure (DBP) less than 80 mm Hg, and (2) stage 1 hypertension, with an SBP of 130 to 139 mm Hg or a DBP of 80 to 89 mm Hg. Is the most common primary diagnosis in the United States it affects approximately 86 million adults (≥ 20 years) in the United States and is a major risk factor for stroke, myocardial infarction, vascular disease, and chronic kidney disease. See the image below.

NORMAL BLOOD PRESSURE IN ADULT AND ELDERLY

Normal blood pressure in adults is an important indicator of overall cardiovascular health. Blood pressure is the force of blood against the walls of the arteries as the heart pumps it around the body. It is typically measured in millimeters of mercury (mm Hg) and is expressed as two numbers: systolic and diastolic pressure. The normal blood pressure range for adults is generally considered to be around 90/60 mm Hg to 120/80 mm Hg. Systolic Pressure: This is the higher of the two numbers and represents the pressure in the arteries when the heart beats or contracts to pump blood. A normal systolic blood pressure is typically around 90 to 120 mm Hg.

- **Diastolic Pressure:** This is the lower number and reflects the pressure in the arteries when the heart is at rest between beats. A normal diastolic blood pressure is usually in the range of 60 to 80 mm Hg. These values can vary slightly among individuals, and factors such as age, gender, and overall health can influence what's considered normal. However, consistently elevated or low blood pressure outside of the typical range can be a cause for concern and may require medical attention. It is typically measured in millimeters of mercury (mm Hg) and expressed as two numbers: systolic and diastolic pressure. The normal blood pressure range for adults is generally considered to be around 90/60 mm Hg to 120/80 mm Hg.
- **Systolic Pressure:** This is the higher of the two numbers and represents the pressure in the arteries when the heart beats or contracts to pump blood. A normal systolic blood pressure is typically around 90 to 120 mm Hg. It's important to note that blood pressure can change throughout the day and can be influenced by various factors, including stress, physical activity, diet, and medication. Therefore, it's essential to monitor blood pressure under consistent conditions for an accurate assessment of your cardiovascular health. High blood pressure, also known as hypertension, is a condition where the blood pressure consistently exceeds the normal range. Hypertension is a significant risk factor for heart disease, stroke, and other cardiovascular problems. On the other hand, low blood pressure, also known as hypotension, can lead to symptoms like dizziness, fainting, and insufficient blood flow to vital organs. Normal blood pressure in the elderly is a critical aspect of maintaining overall health and preventing cardiovascular complications. Blood pressure is a measure of the force of blood against the walls of the arteries, and it can change with age. While there is some variability, a general

understanding of normal blood pressure levels in the elderly can be useful for healthcare professionals and individuals to monitor and manage their health effectively. The definition of normal blood pressure in the elderly can vary, but it is generally considered to be less than 120/80 mm Hg. The top number, systolic pressure, measures the pressure in the arteries when the heart beats, and the bottom number, diastolic pressure, measures the pressure when the heart is at rest between beats. It is essential to note that normal blood pressure levels may slightly increase with age due to changes in the arterial system and decreased elasticity of blood vessels. However, the increase should still be within a healthy range. It's important to remember that individual variations can occur, and what's considered normal may differ for each person. Blood pressure management should always be tailored to an individual's specific health conditions and risk factors. Regular monitoring and consultation with a healthcare provider are essential for maintaining optimal blood pressure levels and overall health in the elderly. Normal blood pressure in the elderly is a critical aspect of maintaining overall health and preventing cardiovascular complications. Blood pressure is a measure of the force of blood against the walls of the arteries, and it can change with age. While there is some variability, a general understanding of normal blood pressure levels in the elderly can be useful for healthcare professionals and individuals to monitor and manage their health effectively.

CASES OF HIGH BLOOD PRESSURE IN ADULT AND ELDERLY

High blood pressure, or hypertension, is a prevalent health concern among adults, and it has garnered significant attention in medical research and public health efforts over the past decade. This condition is characterized by elevated blood pressure levels, specifically when the systolic pressure exceeds 140 mm Hg and the diastolic pressure exceeds 90 mm Hg. Hypertension is a major risk factor for cardiovascular diseases, stroke, and other health complications. It is estimated that more than one billion individuals worldwide suffer from high blood pressure, making it a global health issue (Lim et al., 2012). Recent studies spanning from 2013 to 2023 have provided critical insights into the causes, risk factors, and management of high blood pressure in adults. Lifestyle factors such as diet, physical inactivity, excessive alcohol consumption, and tobacco use continue to play a significant role in the development and exacerbation of hypertension (Whelton et al., 2018). Genetics also play a part, as family history can increase an individual's susceptibility to high blood pressure. Furthermore, the aging population and increasing rates of obesity contribute to the rising prevalence of hypertension (Mills et al., 2020). Research has emphasized the importance of early detection and effective management of high blood pressure to mitigate the risk of associated health problems. Lifestyle modifications, including dietary changes and increased physical activity, remain essential in blood pressure control (Appel et al., 2014). Medications, such as antihypertensive drugs, are often prescribed to manage hypertension when lifestyle interventions alone prove insufficient. Blood pressure monitoring, both at home and in clinical settings, has become increasingly accessible and is a crucial tool in the ongoing efforts to combat high blood pressure and its associated health risks. High blood pressure, or hypertension, is a common medical condition that affects people of all age groups, including the elderly. Hypertension becomes more prevalent as people age. Approximately two-thirds of adults over the age of 60 have high blood

pressure. The prevalence increases with age due to the natural aging process, lifestyle factors, and genetics (Whelton, et al 2017).

- **Aging:** Arteries naturally stiffen with age, which can lead to increased blood pressure.
- **Lifestyle:** Unhealthy habits such as poor diet, lack of physical activity, smoking, and excessive alcohol consumption can exacerbate hypertension.
- **Genetics:** A family history of high blood pressure can increase the risk.
- **Chronic Medical Conditions:** Conditions like diabetes, kidney disease, and sleep apnea can contribute to hypertension (Franklin, et al 2017).

REMEDIES OF HIGH BLOOD PRESSURE IN ADULT AND ELDERLY

Preventive measures can be taken to stop high blood pressure from building into a larger health issue. Below are just a few simple, NIH-approved, proactive steps that can be taken by individuals who are concerned that they are at risk for high blood pressure.

Blood pressure is the force at which blood pumps from the heart into the arteries. A normal blood pressure reading is less than 120/80 millimeters of mercury (mm Hg). Hypertension is the most common cardiovascular disease (CVD) in Nigeria, found in 86.4% of CVD patients, and is prevalent in an estimated 29–38% of adult Nigerians (Adeloye et al., 2021; Nelson, 2021). High blood pressure, or hypertension, is known as a “silent killer.” It usually doesn’t cause symptoms until there’s significant damage done to the heart. Without visible symptoms, most people are unaware that they have high blood pressure. Abdulrafiu (2019) mentioned that when it comes to treating high blood pressure, there are several factors that need to be considered. Some of these factors include the severity of the condition and any risks that could be linked to developing a stroke or other cardiovascular diseases. Normally, doctors will recommend various treatments depending on the blood pressure. For example, your doctor could recommend lifestyle changes if your blood pressure is just slightly elevated and you have a lower risk of developing any cardiovascular disease. Conversely, if your blood pressure is moderately high, your doctor will probably recommend medication and certain lifestyle changes. A moderately high blood pressure means your chances of developing a cardiovascular disease will be above 20% within the next 10 years. On the other hand, if your blood pressure levels have reached 180/120 mm Hg or above, then the situation is more critical. This is referred to as a hypertensive crisis. When this is the case, your doctor will most likely ensure that there is an immediate change to the type or dosage of medication that you are currently using. Described below is an overview of treatment options available for high blood pressure: self-care, physical exercise, stress management, quitting smoking, home blood pressure monitors, a low-sodium diet, medications, ACE inhibitors, diuretics, beta-blockers, antihypertensive drugs, calcium channel blockers, and vasodilators. Jennings (2023) added that high blood pressure can damage the heart over time. She recommended the following as remedies for lowering blood pressure: regular exercise, weight management, and dietary changes. (Magnifico, 2022) mentioned that there are several home remedies that can be used to help manage high blood pressure levels and improve heart health, including making changes to diet intake and lifestyle, these home remedies include:

- **Limit salt intake:** Reducing your sodium intake can be vital for lowering blood pressure. In some people, when you eat too much sodium, your body starts to retain fluid. This results in a sharp rise in blood pressure. The AHA recommends limiting your sodium intake to between 1,500 milligrams (mg) and 2,300 mg per day, which is a little over half a teaspoon of table salt. To decrease sodium in your diet, try using herbs and spices to add flavor to foods in place of salt. Processed foods also tend to be loaded with sodium. Be sure to always read food labels and choose low sodium alternatives when possible.
- **Maintain a moderate weight:** Weight and blood pressure go hand in hand. For people with overweight or obesity, losing even just 5 to 10 pounds can help lower blood pressure levels. In addition to reaching and maintaining a moderate weight, keeping tabs on your waistline is also critical for managing blood pressure. The extra fat around your waist, called visceral fat, may negatively affect heart health and could lead to serious health problems in the long run, including high blood pressure. In general, men should keep their waist measurement to less than 40 inches while women should aim for less than 35 inches. Monitor your weight is an enormous factor in whether you'll have high blood pressure, between an increased risk of diabetes and tendency for high cholesterol. Even a few pounds make a difference. Exercise even a 30-minute, moderate-level routine makes a difference – bicycling, walking, etc.
- **If you smoke, consider quitting:** Each cigarette you smoke temporarily raises blood pressure for several minutes after you finish. If you smoke regularly, your blood pressure can stay elevated for extended periods of time. People with high blood pressure who smoke are at greater risk for developing dangerously high blood pressure, heart attack, and stroke. Even secondhand smoke can put you at increased risk for high blood pressure and heart disease. Aside from providing numerous other health benefits, quitting smoking can help your blood pressure return to normal. Stop smoking this is a no-brainer: Smoking damages blood vessels and hardens arteries.
- **Limit Alcohol:** red wine is beneficial for heart health when consumed in moderation. However, drinking excessive amounts of alcohol can lead to lots of health issues, including high blood pressure. Excessive drinking can also reduce the effectiveness of certain blood pressure medications. According to AHA, men should limit their alcohol consumption to two alcoholic drinks per day. Women should limit their intake to one alcoholic drink per day. Drink less alcohol, that is, Alcohol is loaded with calories, which, of course, impacts body weight. Men should only have two drinks per day; women should only have one.
- **Reduce Stress:** In today's fast-paced world that is filled with increasing demands, it can be hard to slow down and relax. However, it is important to step away from daily responsibilities from time to time to help manage stress levels. Stress can temporarily raise your blood pressure. Too much of it can keep your pressure up for extended periods of time. It helps to identify the trigger for your stress. It may be your job, relationship, or finances. Once you know the source of your stress, you can try to find ways to fix the problem.

You can also take steps to relieve your stress in a healthy way. Try taking a few deep breaths, meditating, or practicing yoga. Healthcare providers should work with elderly patients to simplify medication regimens and provide education on the importance of consistent drug intake (Chan, et al 2012). Although older adults should be mindful, it's not all doom and gloom in the world of high blood pressure in seniors.



CONCLUSION

The study concludes that the prevalence of high blood pressure in adults and the elderly is a pressing global health issue with far-reaching implications for individuals and healthcare systems. The increasing prevalence of hypertension, particularly with advancing age, underscores the urgency of addressing this condition to improve overall health outcomes. The implications of high blood pressure are not confined to cardiovascular risks alone; they extend to various organs and functions within the body, affecting overall well-being. Moving forward, collaboration between healthcare providers, researchers, and public health organizations will be key to implementing effective strategies that empower individuals to take control of their cardiovascular health and, ultimately, reduce the prevalence and impact of high blood pressure in both adults and the elderly.

RECOMMENDATIONS

- Blood pressure screening test should be encouraged among adults and the elderly during regular health check-ups. Early detection and monitoring are crucial in managing hypertension effectively.
- Support and participate in public health campaigns aimed at raising awareness about the risks of high blood pressure, emphasizing lifestyle modifications, and promoting regular screenings. Education can empower individuals to take proactive steps towards better cardiovascular health.
- Work towards improving access to healthcare, especially for elderly populations. Ensure that medical services, including blood pressure monitoring and consultations, are readily available and affordable.

REFERENCES

- Abdulrafii Aiyeye (2019). High Blood Pressure in Nigeria: Causes, Symptoms & Treatment. Available at: <https://healthconnect247.com/2019/03/27/high-blood-pressure/>
- Adeloye, D., Owolabi, E.O., Ojji, D.B., Auta, A., Dewan, M.T., Olanrewaju, T.O. (2021) Prevalence, awareness, treatment, and control of hypertension in Nigeria in 1995 and 2020: a systematic analysis of current evidence. *J Clin Hypertens* 23(5):963–977. doi: 10.1111/jch.14220.
- American Heart Association. (2017). Understanding Blood Pressure Readings. <https://www.heart.org/en/health-topics/high-blood-pressure/understanding-blood-pressure-readings>
- Appel, L. J., Wright, J. T., Greene, T., Agodoa, L. Y., Astor, B. C., Bakris, G. L., ... & Townsend, R. R. (2014). Intensive blood-pressure control in hypertensive chronic kidney disease. *New England Journal of Medicine*, 363(10), 918-929.
- Arnett, J. J. (2016). "On emerging adulthood." *Emerging Adulthood*, 4(6), 366-371.
- Chobanian, A. V., et al. (2017). The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure.
- Debra Sullivan (2023) How to Read a Blood Pressure Chart to Determine Your Risk of
- From Wikipedia, the free Sencyclopedia (2017) Blood pressure Available at: https://en.wikipedia.org/wiki/Blood_pressure
- Jennings Kerri-Ann (2023). 15 natural ways to lower your blood pressure. Available at: <https://www.medicalnewstoday.com/articles/318716>
- Kara Rogers (2023) blood pressure Available at: <https://www.britannica.com/science/blood-pressure>
- Lerner, R. M. (2015). "Promoting Positive Youth Development: Theoretical and Empirical Bases." *Advances in Child Development and Behavior*, 49, 7-30.
- Livingstone, S., & Sefton-Green, J. (2016). "The SAGE Handbook of Media and Communication Research." SAGE Publications.
- Magnito Laura (2022). 7 Home Remedies for Managing High Blood Pressure. Available at: <https://www.healthline.com/health/high-blood-pressure-home-remedies#exercise>.
- Matthew R Alexander (2022) Hypertension Available at: <https://emedicine.medscape.com/article/241381-overview?form=fpf>
- Mills, K. T., Bundy, J. D., Kelly, T. N., Reed, J. E., Kearney, P. M., Reynolds, K., ... & Whelton, P. K. (2020). Global disparities of hypertension prevalence and control: A systematic analysis of population-based studies from 90 countries. *Circulation*, 134(6), 441-450.

Nelson, I.O. (2021). Management of Hypertension in Nigeria: The Barriers and Challenges. *J Cardiol Cardiovasc Med.* 6(1):023–025. doi: 10.29328/journal.jccm.1001112.

Shahoud JS, Aeddula NR. Physiology, Arterial Pressure Regulation. (2020) *Blood Pressure* Available at: https://www.physio-pedia.com/Blood_Pressure#cite_note-:0-1

United Nations. (2019). World Population Ageing 2019. <https://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2019-Highlights.pdf>

Walter A. Brzezinski. (2023) *Blood Pressure* Available at: <https://www.ncbi.nlm.nih.gov/books/NBK268/>

Whelton, P. K., Carey, R. M., Aronow, W. S., Casey, D. E., Collins, K. J., Dennison Himmelfarb, C., ... & Wright, J. T. (2018). 2017 Guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Hypertension*, 71(6), 1269-1324.

William L (2023). hypertension pathology Available at: <https://www.britannica.com/science/hypertension>