
PREVALENCE OF HYPERTENSION IN THE PARAGUAY POPULATION

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ABSTRACT

Purpose of the study: Hypertension is noted as the leading risk factor for cardiovascular disease. The heart disease is among the leading causes of death in countries. Worldwide, the prevalence of hypertension varies between genders. Hence, the study examined the prevalence of hypertension in the Paraguay population.

Research Methodology: The study was literature based. The making of findings was based on findings from prior studies.

Findings: The study discovered that the prevalence of hypertension is rising globally owing to the aging of the population and increases in exposure to lifestyle risk factors. High blood pressure can damage the arteries by making them less elastic, thereby lowering the circulation of blood and oxygen to the heart, therefore, leading to heart disease. Untreated hypertension increases the damage to body organs and leads to organ failure and cardiovascular death and disability.

Conclusions: The study concluded that is sometimes, hypertension called the silent killer. The disease may show no symptoms and puts an individual at an increased risk for heart disease, heart failure and stroke, among other things. The cases of being obese and overweight are noted mostly to cause hypertension. Hypertension is noted as the leading risk factor for cardiovascular disease.

Recommendations: The study recommended that blood pressure becomes high as body weight increases, so people are encouraged to do exercise regularly, eat a healthy diet, lower intake of salt (sodium) in their diets and reduce alcohol consumption. It is also recommended that it is important to have enough night sleep, minimize stress and an individual to keep on monitoring blood pressure at home and have regular checkups. The health sectors in a country should develop strategies that will increase the screening of individuals to detect diseases early enough.

Keywords: *Prevalence hypertension, Paraguay*

INTRODUCTION

Hypertension is noted as the leading risk factor for cardiovascular disease (CVD) globally (Yuyun, Sliwa, Kengne, Mocumbi & Bukhman, 2020). At a very tender age, high blood pressure (BP) is more highly noted in males than females; however, this phenomenon changes significantly after attaining 50 years. High sympathetic nerve activity in the elderly might be the key contributor to the high prevalence of hypertension after menopause. Schott, Kluttig, Mikolajczyk, Greiser, Werdan, Sedding and Nuding (2022) noted that with hypertension experience more arterial stiffness, heart failure with preserved ejection fraction, atrial fibrillation and dementia in old age as contrasted to males with hypertension. Since they have a small diameter in their arteries and aortic aneurysms tend to rupture at a small size, it should be examined whether the requirement for normal BP ought to be lower than in males (Srivaratharajah & Abramson, 2019). About half of all people with hypertension nowadays get medication properly; these accounts even more for females than males.

Heart diseases are the leading cause of death in established nations and most developing countries (Vogel, Acevedo, Appelman, Merz, Chieffo, Figtree & Mehran, 2021). WHO mentioned that hypertension is among the most frequently current risk factor for non-communicable diseases globally. Despite this, it is also the most looked upon traditional risk factor, a crucial missed opportunity for prevention. There is a lot of misperceptions that high blood pressure does not show symptoms, although some signs and signals can lead the way to detect hypertensive people on time. Since specific stages in life can show a higher susceptibility to developing hypertension, the study primarily concentrates on female patients (Colafella & Denton, 2018).

Blood pressure is the force of blood pushing against the inside lining of the arteries. High blood pressure or hypertension happens whereby this force increases and remains higher than required for a particular time (SA & Otoikhila, 2022). These conditions can lead to the failure of other body organs like the blood vessels, heart, brain, and other organs. Hypertension is the leading risk factor for cardiovascular disease (CVD) and high attacks. Although significant advancement has been made in the awareness, treatment, and prevention of CVD in recent years, hypertension is underrated and undiagnosed. Worldwide, the prevalence of hypertension varies between genders (Chowdhury, Rahman, Akter, Akhter, Ahmed, Shovon & Turin, 2020). In middle and low-income nations, all age groups had a higher prevalence of hypertension compared to high-income nations. Awareness rates were discovered to be higher in males in both high-income nations.

Sarma, Sockalingam, and Dash (2021) reported that the cases of being obese and overweight are noted primarily in postmenopausal than in males and are associated with hypertension and higher death rate than in males of similar age. How obesity leads to the development of hypertension is not clear and needs to be made clear. Still, overactivity of the sympathetic nervous system, insulin resistance, leptin resistance, overactivity of the renin-angiotensin-aldosterone system and a blunted activity of the natriuretic peptides have been noted. High increases in physical exercise and avoiding excess body weight can have huge effects on one's health (Milne-Ives, Lam, De Cock, Van Velthoven & Meinert, 2020). Untreated hypertension increases the damage to these body organs and leads to organ failure and cardiovascular death and disability. There is no proper treatment for high blood pressure. But treatment might reduce the blood pressure that is too high. If it is mild, high blood pressure can sometimes be manageable by changing to a healthier lifestyle.

In most cases, hypertension causes stroke regularly, and it is linked to the cause of chronic heart failure; it develops a higher case of diastolic dysfunction than in men (Gao, Chen, Sun & Deng, 2019). The presence of LVH is a decisive risk factor for cardiovascular events and can carry a higher risk than in men with the same levels of hypertrophy. Ladies are mainly likely to develop LVH than men, but they note lower hypertrophy regression in response to antihypertensive therapy (Yildiz, Oktay, Stewart, Milani, Ventura & Lavie, 2020). Even if gender differences exist, the rate of chronic kidney disease development to hypertension is unclear.

LITERATURE REVIEW

El Khoudary, Aggarwal, Beckie, Hodis, Johnson and Langer (2020) discovered that cardiovascular disease causes more deaths in females than any other disease. Hypertension is a crucial risk factor for cardiovascular disease in females. Still, it is often underrated and undiagnosed and there is a trending myth that it is at low risk of cardiovascular disease than males. Achieving clinical blood pressure goals may markedly lower cardiovascular morbidity and death rates, but about two-thirds of treated hypertensive patients have unregulated blood pressure. Moreover, particular risk factors are exclusive and require acknowledgment to prevent the high number of hypertension-associated cases in females. The treatment process of hypertension is the same for both males and females. More research on the relationship between gender and response to antihypertensive drugs can be conducted.

According to Soenarta, Buranakitjaroen, Chia, Chen, Naites, Hoshide and Kario (2020), hypertension is a key modifiable risk factor for cardiovascular (CV) morbidity and death rate and a highly prevalent condition in both males and females. Moreover, the prevalence of hypertension is projected to be high in females than in males. All oral contraceptives (COCs) may cause hypertension in a small group of females and enhance CV risk, particularly among those with hypertension. COC-associated increased CV risk and BP returns to pretreatment levels by four months of its discontinuation. The impacts of menopause and hormone replacement therapy (HRT) on BP are not precise. COCs and HRT having the new generation progestin drospirenone are preferred in females with established hypertension. Despite the high number of cancer cases in females, CV disease is still the leading cause of female deaths, and the comparative advantage of antihypertensive treatment has been noted in females and males.

Mazloumi, Poorolajal, Sarrafzadegan, Roohafza, Faradmal and Karami (2019) reported that cardiovascular disease is among the common causes of death in Pakistan, and hypertension is the main contributor to cardiovascular deaths. The cases of hypertension are rising at an alarming rate, together with the cases of obesity and diabetes. BP regulation rates are suboptimal, even where secondary causes are discovered and treated. There is little high-quality information showing particular hypertension-associated results. Some data comparing hypertensive females to age-matched males recommend advantages to sex-specific approaches, but more researchers must

examine the optimal regimens throughout their lives. Pregnancy and menopause indicate particular, complex problems in hypertension regulation.

Zhou, Perel, Mensah and Ezzati (2021) argued that systolic blood pressure is high in the Middle East and India at 65 years and in Africa at 73 years. Together with their long survival, old have higher hypertension prevalence rates, especially for isolated systolic hypertension. Hemodynamic features vary by sex for premenopausal and age-matched men, but these disparities reduce after menopause. This change can result from hormonal or metabolic changes, consisting of gaining weight and tissue adiposity that are regular after menopause. Clinical tests register huge numbers of females who support the benefits of treatment to lower cardiovascular cases and deaths. Enrolling subjects with multiple comorbidities and increased event rates can hinder the applicability of trial findings to a healthier female. They have a high probability of having side effects from antihypertensive drugs and can metabolize these conditions differently.

A study by Malta, Petersen, Johnson, Trieu, Rae, Jefferson and Arcand (2018) noted that high salt consumption is another leading risk factor associated with most cardiovascular and renal diseases. Global Action on Salt and Health is a designed group of health specialists whose mission is to execute changes in salt usage in their nations to lower blood pressure. They decided to research the required amount of salt consumption in India to examine if an association exists between salt consumption and blood pressure. To bring in a national strategy to regulate hypertension, research was conducted to examine salt consumption in India and its association with blood pressure. Cross-sectional, observational research of 80 learners from different colleges in Delhi between 20-28 years. Sodium excretion in 24-hour urine samples and blood pressure was conducted. Assuming a smooth flow, urinary sodium excretion was changed into grams of salt ingested daily. About 8% of the 80 respondents had a salt consumption lower than the suggested maximum of 6 g/daily. 58% had blood pressure between 110-140 mmHg and 4% had phase one hypertension. There was no significant association between sodium excretion and blood pressure. Salt consumption and blood pressure were discovered to be increasing in youth in India, indicating a need for conducting a national awareness to lower salt consumption in the country.

Sharman, O'Brien, Alpert, Schutte, Delles, Olsen and Stergiou (2020) discovered that stroke and cardiovascular disease are the leading causes of death in Paraguay, but no information is there to show the distribution of blood pressure (BP) and the level of hypertension in the overall population.

The objective of the research, which was the initial comprehensive national survey in South America, was to examine the prevalence of hypertension to determine the demand for a national programme regulating high BP. The research method was a cross-sectional survey. A multi-stage sampling procedure was utilized to identify places within regions covering the five major areas of the nation. Ten survey groups visited alternate houses within these regions; 524 adults aged 20-75 years filled out a questionnaire and had measurements of height, weight and BP (twice) as per a normal protocol. Utilizing an improved WHO definition of hypertension, 40.1% of females and 30.2% of males had increased BP (mild, medium, or high hypertension). More females than males had wider line hypertension (20.4% vs. 9.5%) and mild hypertension (40.2% vs. 19.5%), whereby around 8% of both genders had medium or high hypertension. Prevalence enhanced with age, such that more than one-quarter of the sample > 60 years of age had medium or high hypertension. Both systolic and diastolic pressure indicated a constant increase in body mass index ($P < \text{or} = 0.002$). About half the subjects with measured medium or high hypertension were unaware they had increased BP. Hypertension is the leading health issue in Paraguay, such that a national programme of detection and treatment can be warranted.

Kokubo, Padmanabhan, Iwashima, Yamagishi and Goto (2019) argued that emerging data suggest that lifestyle behaviors affect blood pressure levels. In this study, the researcher determines the most important clinical and epidemiological research concerning the influence that different lifestyle elements play on the development of hypertension. It was concluded that there is clear proof that lifestyle changes might positively impact the prevention and treatment of hypertension, focusing on alcohol and sodium consumption, smoking cessation, the degree of physical activity and dietary patterns. Physicians and Public Health Agencies ought to encourage positive lifestyle changes.

Schott, Kluttig, Mikolajczyk, Greiser, Werdan, Sedding and Nuding (2022) revealed that hypertension is a silent killer. The disease may show no symptoms and puts an individual at an increased risk for heart disease, heart failure and stroke, among other things. The cases of being obese and overweight are noted mostly to cause hypertension. Hypertension is noted as the leading risk factor for cardiovascular disease. The cases of hypertension are rising at an alarming rate, together with the cases of obesity and diabetes. The cases of being obese and overweight are noted primarily in females than males and are associated with hypertension and a higher death rate than

in males of similar age. There is clear proof that lifestyle changes might positively impact the prevention and treatment of hypertension, focusing on alcohol and sodium consumption, smoking cessation, the degree of physical activity and dietary patterns. The study recommended that blood pressure becomes high as body weight increases, so people are encouraged to do exercise regularly, eat a healthy diet, lower intake of salt (sodium) in their diets and reduce alcohol consumption. The health sectors in a country should develop strategies that will increase the screening of individuals to detect diseases early enough. Physicians and public health agencies ought to encourage positive lifestyle changes. It is also recommended that it is important to have enough night sleep, minimize stress and an individual to keep on monitoring blood pressure at home and have regular checkups.

Mamani-Ortiz, San Sebastián, Armaza, Luizaga, Illanes, Ferrel and Mosquera (2019) noted that lowering the prevalence of hypertension is the main target of WHO. Its high prevalence and related dangers develop high economic and social costs. Physical activity (PA) is related to lowering hypertension and using antihypertensive medications. To investigate the relationship between PA levels (PAL), the prevalence of hypertension and the usage of antihypertensive medications in Argentina residents. To evaluate the dangers of hypertension and the usage of antihypertensive in the inactive versus physically active population, cross-sectional research utilized data from 200 people gathered in the 2018 Survey. Interaction by gender, age groups, body mass index (BMI), hypertension prevalence, antihypertensive medications usage and PAL, employing a pairwise z-test and dependence associations between variables, were examined by the use of a chi-square test. Odds ratios of hypertension and antihypertensive medications usage was done between the inactive and the physically active people. The results indicated a substantial inverse relation between the prevalence of hypertension, antihypertensive usage, and PAL in both genders and various age and BMI teams, with a reduced prevalence of hypertension and antihypertensive usage when PAL was high. The dangers of hypertension and antihypertensive usage appear to be low when associated with a high PAL contrasted to inactive individuals. High PAL is related to decreased prevalence of hypertension and reduced antihypertensive usage. Therefore, being physically active or very active can decrease the dangers of hypertension and the importance of using antihypertensives compared to inactive individuals.

A study by Hall, do Carmo, da Silva, Wang and Hall (2019) evaluated sexual dysfunction in hypertensive and compared them to normotensive. A cross-sectional study was used. Samples

included 45 hypertensive and 45 normotensives. Female sexual dysfunction was examined by the Female Sexual Function Index (FSFI). The average FSFI score varied largely between hypertensive and normotensive (19.5 ± 8.8 versus 30.7 ± 5.5 , $p < 0.002$). Among hypertensive, 59% revealed sexual dysfunction, contrary to 40% of normotensive ($p = 0.03$). Hypertensive had 2.71 more chances of indicating dysfunction than with normal blood pressure. It was concluded that the sexual dysfunction prevalence is higher in hypertensive than in normotensive; therefore, hypertension is a potentiator factor for female sexual dysfunction.

FINDINGS

The study discovered that the prevalence of hypertension is rising globally owing to the aging of the population and increases in exposure to lifestyle risk factors. High blood pressure can damage the arteries by making them less elastic, thereby lowering the circulation of blood and oxygen to the heart, therefore, leading to heart disease. Untreated hypertension increases the damage to body organs and leads to organ failure and cardiovascular death and disability. Additionally, low blood circulation to the heart might lead to Pain in the chest, a condition known as angina. In many adults, there is no notable cause of high blood pressure. This type of high blood pressure is regarded as primary hypertension. It develops slowly over many years. Plaque develops in the arteries, known as atherosclerosis, which increases the risk of high blood pressure.

When an individual has particular signs, like fatigue, nausea, shortness of breath, lightheadedness, headache, excess sweating, palpitations or inconsistent heartbeats, challenges with vision, or confusion, these can be serious and should require quick medical attention. When left undetected or unregulated, high blood pressure may lead to Heart attack, and high blood pressure damages arteries, which might become blocked and hinder blood circulation to the heart muscles. Stroke and high blood pressure might cause blood vessels that supply blood and oxygen to the brain to be blocked or burst. Stroke and cardiovascular disease are the leading causes of death in Paraguay. The heart, kidney, brain, and arterial blood vessels are the main organs damaged by hypertension. Untreated hypertension increases the damage to these body organs and leads to organ failure and cardiovascular death and disability. There is no proper treatment for high blood pressure. But treatment might reduce the blood pressure that is too high. If it is mild, high blood pressure can sometimes be manageable by changing to a healthier lifestyle.

CONCLUSION

The study concluded that it is sometimes; hypertension called the silent killer. The disease may show no symptoms and puts an individual at an increased risk for heart disease, heart failure and stroke, among other things. The cases of being obese and overweight are noted mostly to cause hypertension. Hypertension is noted as the leading risk factor for cardiovascular disease. The cases of hypertension are rising at an alarming rate, together with the cases of obesity and diabetes. The cases of being obese and overweight are noted primarily in females than males and are associated with hypertension and a higher death rate than in males of similar age. There is clear proof that lifestyle changes might positively impact the prevention and treatment of hypertension, focusing on alcohol and sodium consumption, smoking cessation, the degree of physical activity and dietary patterns. The treatment process of hypertension is the same for both males and females.

RECOMMENDATIONS

The study recommended that blood pressure becomes high as body weight increases, so people are encouraged to do exercise regularly, eat a healthy diet, lower intake of salt (sodium) in their diets and reduce alcohol consumption. It is also recommended that it is important to have enough night sleep, minimize stress and an individual to keep on monitoring blood pressure at home and have regular checkups. The health sectors in a country should develop strategies that will increase the screening of individuals to detect diseases early enough. Physicians and public health agencies ought to encourage positive lifestyle changes.

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