



Prevalence of Arterial Hypertension and Lifestyles in the Alhajuela Community - Ecuador

Ashley Valeska Palma Cisneros^{1*}, Kamily Zallet Jurado García², Heskainer Yoneiker Holguín Mantuano³, Jostin Gabriel Delgado Castro⁴, Fernanda Irene Gómez García⁵

Universidad Particular San Gregorio de Portoviejo

Corresponding Author: Fernanda Irene Gómez García

figomez@sangregorio.edu.ec

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ABSTRACT

The objective of this study was to determine the relationship between the prevalence of arterial hypertension and lifestyle factors among the residents of the Alhajuela community during 2025. A quantitative, descriptive, and cross-sectional study was conducted at the community's Type A Health Center, evaluating a non-probabilistic sample of 66 adult residents using a ten-question closed survey. An institutional prevalence of hypertension of 13.1% was recorded among the center's beneficiary population, and more than half of the respondents reported a prior diagnosis. Although favorable habits predominated, such as low consumption of alcohol, tobacco, and salt, critical risk factors were identified, including physical inactivity in 69.69% of the participants, a low daily intake of fruits and vegetables, and poor preventive monitoring, as 59.09% never check their blood pressure or do so only when feeling unwell. It was concluded that arterial hypertension represents a significant epidemiological challenge in Alhajuela, influenced by modifiable lifestyle factors, which highlights the urgent need to strengthen health education and self-care promotion strategies at the primary health care level

INTRODUCTION

Hypertension (HTN) is one of the major public health problems worldwide and represents a significant risk factor for cardiovascular, cerebrovascular, and renal diseases. It is characterized by a persistent elevation of blood pressure and can progress for years without presenting obvious symptoms, increasing the risk of complications and mortality (Jones et al., 2025). This health problem has garnered particular attention due to its growing impact on both adults and young people and adolescents globally (Criollo-Espinoza et al., 2024).

Globally, hypertension affects a significant proportion of the adult population and is a major risk factor for cardiovascular disease. An estimated 1.28 billion people aged 30 to 79 live with this condition, and nearly two-thirds of them reside in low- and middle-income countries.

In the Americas, hypertension affects between 20% and 40% of the adult population, representing a significant burden on healthcare systems (Pico-Pico et al., 2023). In Ecuador, hypertension is a high-priority public health problem. National prevalence studies, such as the one conducted by Franco-Rivera et al. (2025), demonstrate that specific modifiable factors such as sedentary lifestyle (54.1%) and obesity (53.6%) remain dominant determinants in the country's hypertensive population. A population-based study conducted in Quito found a hypertension prevalence of 17.6% and significant gaps in patient follow-up and management, especially in certain population groups (Ortiz et al., 2022). According to consolidated data in the national literature, at least 19.8% of the general population has this condition, and a significant proportion of those affected do not achieve adequate disease control. Among the main associated factors are age, family history, obesity, high calorie intake, and sedentary lifestyle (Pico-Pico et al., 2023). These factors highlight the critical need to consider lifestyle factors in hypertension prevention and control strategies.

In the province of Manabí, hypertension (HTN) is also a significant health problem. Ponce-Soledispa and Lois-Mendoza (2020) indicate that this disease is among the leading causes of morbidity and mortality in older adults in the province. In the Luis Bustamante neighborhood of the Jipijapa canton, the presence of HTN of varying degrees was identified, and lifestyle factors related to nutrition, exercise, health responsibility, stress management, and self-control were evaluated. Similarly, Escudero et al. (2024) identified an association between hypertension and lifestyle in the Sucre canton, highlighting the importance of healthy eating and physical activity. This line of research has recently been validated by Pesantes-Pincay et al. (2025) in the province of Manabí, confirming the importance of community-based educational interventions focused on healthy habits.

In the community of Alhajuela, identifying the prevalence of hypertension and the lifestyles of its inhabitants allows for a closer understanding of the local reality of this health problem. The information obtained can contribute to recognizing the main habits related to cardiovascular risk and generate useful evidence to strengthen health education, prevention, and promotion efforts at the community level. In this way, the study provides specific information about a population that requires strategies tailored to its local characteristics and needs.

In this context, the present study aimed to determine the relationship between the prevalence of hypertension and lifestyles in the inhabitants of the Alhajuela community during the year 2025, considering factors related to eating habits, physical activity, alcohol and tobacco consumption, and blood pressure control

LITERATURE REVIEW

Lifestyle plays a fundamental role in the prevention and control of hypertension. A balanced diet, regular physical activity, controlled salt intake, and reduced alcohol and tobacco consumption all contribute to lowering the risk factors associated with this disease. In this regard, Carbo-Coronel and Berrones-Vivar (2022) concluded that the predominant modifiable risk factors are inadequate fat intake, poor control of body mass index (BMI) and blood pressure, excessive salt consumption, and chronic stress. Furthermore, a study conducted in older adults found significant associations between physical activity, fruit and vegetable consumption, and sodium intake, and the presence of hypertension (Satira et al., 2024). Similarly, Guerrero Pachacama et al. (2025) identified habits related to poor hypertension control in older adults in Manabí.

METHODOLOGY

A quantitative, descriptive, cross-sectional study was conducted at the Type A Health Center in the community of Alhajuela, Portoviejo canton, Manabí province, between October 2025 and March 2026. The study population consisted of adult residents of the community. The sample comprised 66 individuals, selected using non-probability convenience sampling based on participant availability.

Data collection was carried out using a structured survey of 10 closed-ended questions. The instrument gathered information on the diagnosis of hypertension, dietary habits, salt intake, fruit and vegetable consumption, physical activity, stress, alcohol and tobacco use, regular blood pressure monitoring, and perceived influence of lifestyle on this disease.

The inclusion criteria were individuals over 18 years of age, permanent residents of the Alhajuela community, who voluntarily agreed to participate in the study and completed the data collection instrument. The exclusion criteria included individuals with cognitive impairments or communication difficulties that prevented them from adequately responding to the survey. Questionnaires with incomplete information or inconsistent responses were excluded.

Descriptive statistics were used to process the data, expressing the results as percentages for each of the variables studied. The study was conducted in accordance with the principles established in the Declaration of Helsinki. Before data collection, participants were informed about the objectives, methodology, and scope of the study. Participation was voluntary, and each person provided informed consent. The identity of the participants was protected through the confidential handling of information and the presentation of the results in a consolidated and anonymous format.

RESULTS AND DISCUSSION

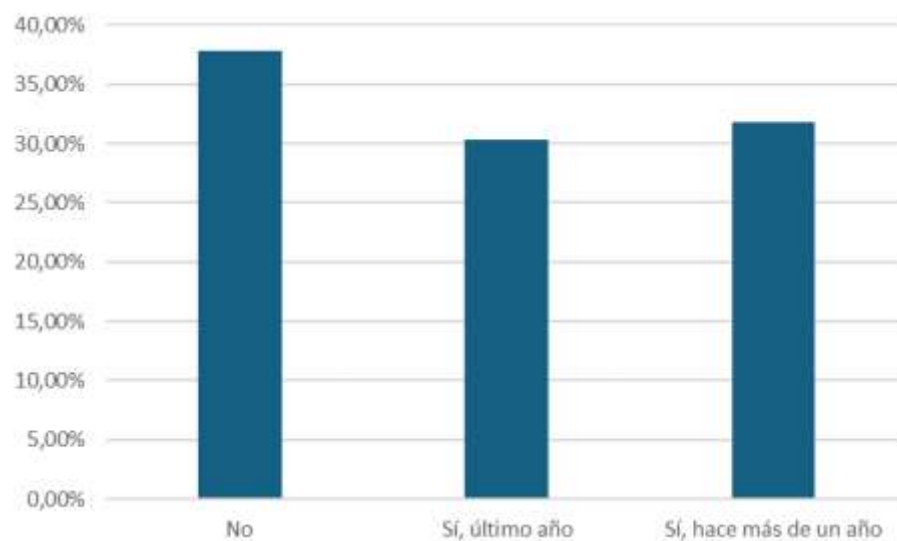


Figure 1. Diagnosis of High Blood Pressure in Users of the Alhajuela Health Center, 2025

Figure 1 presents the distribution of hypertension (HTN) diagnoses in the study population. Of the 66 participants, 37.88% reported no HTN diagnosis, while 30.30% indicated having been diagnosed within the past year, and 31.82% reported having a diagnosis for more than one year. In total, 62.12% of the participants reported a prior diagnosis of hypertension.

In the analyzed sample, a predominance of participants with a history of hypertension was observed, highlighting the presence of this disease as a significant problem within the studied population. Scientific evidence has indicated that hypertension is one of the main modifiable risk factors for cardiovascular diseases and that its timely detection and control are fundamental to reducing complications (Soto, 2018). In this regard, the results obtained demonstrate the importance of maintaining strategies for identifying and monitoring individuals with hypertension at the primary care level.

Table 1 shows the frequency of consumption of high-salt foods in the study population. 56.06% of participants reported never or almost never consuming these types of foods, while 30.30% indicated doing so once or twice a week. A smaller proportion, 7.58%, reported consuming them three to four times a week, and 6.06% indicated consuming them almost every day.

Table 1. Consumption of Foods With High Salt Content in Users of the Alhajuela Health Center, 2025

Consumption of foods with high salt content	Frequency (n)	Percentage (%)
Never or almost never	37	56.06
1 to 2 times per week	20	30.30
3 to 4 times per week	5	7.58
Almost every day	4	6.06
Total	66	100.00

Although a low frequency of consumption of high-salt foods predominated, a significant proportion of participants reported consuming them weekly. This finding is relevant because excess sodium is one of the dietary factors associated with increased blood pressure. Recent literature has indicated that high sodium intake promotes intravascular volume expansion, activation of the renin- angiotensin-aldosterone system, and vascular alterations that can contribute to the development of hypertension (Ojangba et al., 2023). In this regard, the results obtained show that, although more than half of the population exhibits favorable behavior, a group remains that could benefit from educational interventions aimed at reducing salt consumption.

Table 2 presents the weekly frequency of fruit and vegetable consumption. 45.45% of participants reported consuming them three to four days per week, followed by 33.33% who reported consuming them one to two days. Only 21.21% indicated consuming fruits and vegetables five to seven days per week, while no participant reported not consuming them during the week.

Table 2. Frequency of fruit and vegetable consumption among users of the Alhajuela Health Center, 2025

Consumption of fruits and vegetables	Frequency (n)	Percentage (%)
5 to 7 days per week	14	21,21
3 to 4 days per week	30	45.45
1 to 2 days per week	22	33.33
Never	0	0.00
Total	66	100.00

In the analyzed sample, it was observed that most participants did not consume fruits and vegetables daily, as only one-fifth reported a frequency of five to seven days per week. Scientific evidence has indicated that dietary patterns characterized by low fruit and vegetable consumption are associated with a higher risk of hypertension and cardiovascular disease (Álvarez-Ochoa et al., 2022). In this sense, the results obtained are consistent with the need to strengthen dietary habits that protect against high blood pressure.

Table 3 shows the frequency with which participants monitor their blood pressure. 33.33% reported monitoring their blood pressure two or more times a year, while 30.30% indicated they only do so when they feel unwell. Additionally, 28.79% stated they never monitor their blood pressure, and only 7.58% reported doing so once a year.

Table 3 . Frequency of Blood Pressure Monitoring in Users of the Alhajuela Health Center, 2025

Taking Blood Pressure	Frequency (n)	Percentage (%)
Two either more times to the year	22	33.33
Only when HE feels evil	20	30.30
Never	19	28.79
Once to the year	5	7.58
Total	66	100.00

These results demonstrate a low frequency of regular blood pressure monitoring, considering that 59.09% of participants reported not monitoring their blood pressure or only doing so when they felt unwell. Recent literature has indicated that hypertension can remain asymptomatic and that regular blood pressure measurement is a fundamental tool for facilitating its timely detection and monitoring (Soto, 2018). The results obtained show a lack of self-care practices that requires strengthening, particularly among those who do not monitor their blood pressure regularly.

Figure 5 presents the consumption of substances such as alcohol and tobacco. The majority of participants, 69.70%, reported not consuming these substances. On the other hand, 16.67% indicated alcohol consumption and 13.64% reported tobacco use. No participants reported consuming both substances simultaneously.

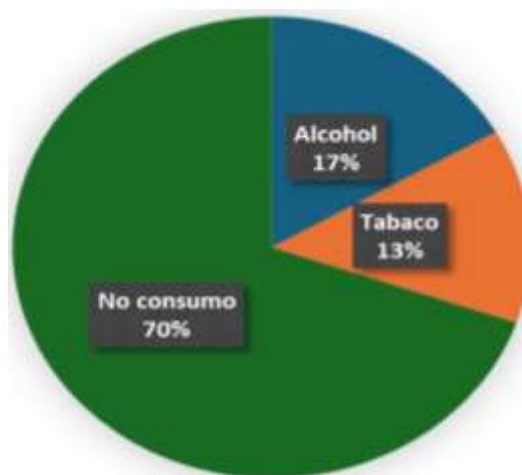


Figure 2. Alcohol and Tobacco Consumption Among Users of the Alhajuela Health Center, 2025

The predominance of participants who do not consume alcohol or tobacco is a positive finding; however, the presence of alcohol and tobacco use in approximately three out of ten participants demonstrates that these habits persist in the population. The literature indicates that harmful alcohol consumption and smoking are behavioral factors associated with increased cardiovascular risk and hypertension. Furthermore, hypertension prevention strategies recommend limiting alcohol consumption and eliminating smoking as part of lifestyle modifications (Jones et al., 2025).

Figure 6 shows the weekly frequency of physical activity. 36.36% of participants reported not engaging in physical activity on any day of the week, while 33.33% indicated engaging in it between one and two days. Furthermore, 13.64% reported engaging in physical activity between three and four days, and 16.67% reported engaging in it five or more days per week.

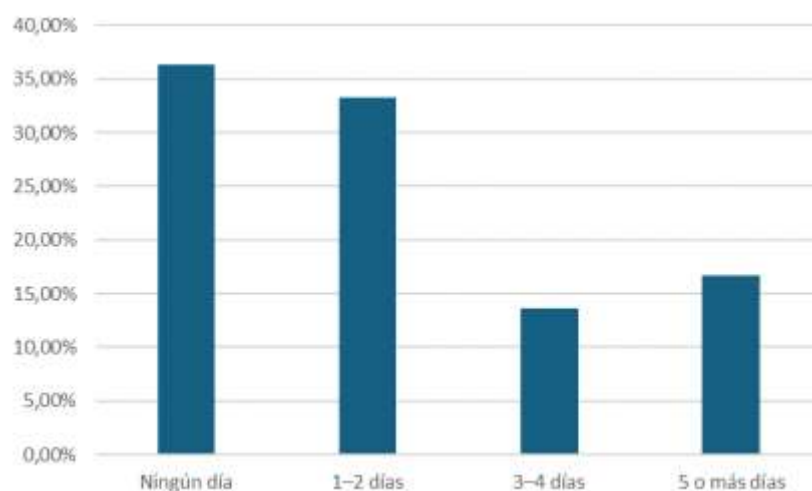


Figure 3. Weekly Frequency of Physical Activity in Users of the Health Center

In the analyzed sample, a low frequency of physical activity predominated, as 69.69% of participants reported engaging in it a maximum of two days per week. Scientific evidence has indicated that regular physical activity is one of the main non-pharmacological measures for preventing and controlling hypertension, while physical inactivity is associated with factors such as increased adiposity and metabolic alterations that can contribute to elevated blood pressure (Soto, 2018).

The SWOT analysis identified the main factors influencing the prevention and control of hypertension in the Alhajuela community. Strengths included positive behaviors and the availability of educational materials, while opportunities related to strengthening health promotion, prevention, and follow-up actions at the primary care level. In contrast, weaknesses included the low frequency of blood pressure monitoring, limited physical activity, and low consumption of fruits and vegetables. Threats included the persistence of unhealthy habits, the risk of underdiagnosis, and the possibility of cardiovascular complications. Taken together, these factors allowed for the

identification of the main areas requiring attention in the studied population and will guide subsequent intervention strategies.

Table 4 . SWOT

SWOT	Aspects
Strengths	<ul style="list-style-type: none"> • Prevalence of HTA identified in he Center of Health from Alhajuela (13.1%). • 69.70% of participants not consume alcohol nor tobacco. • 56.06% reports low consumption of food high in salt. • HE development material educational about styles of healthy lifestyles .
Opportunities	<ul style="list-style-type: none"> • Strengthen he control newspaper of the pressure arterial. • Implement programs community of activity physics and healthy eating. • Strengthen the education about reduction of salt, alcohol and tobacco. • Promote he consumption frequent of fruits and vegetables.
Weaknesses	<ul style="list-style-type: none"> • 28.79% of the participants never controls his blood pressure . • 30.30% only HE controls when presents discomfort. • 36.36% No performs activity physics during the week. • Only 21.21% consume fruit and vegetables between 5 and 7 days per week.
Threats	<ul style="list-style-type: none"> • Persistence of the sedentary lifestyle and habits inadequate food . • Risk of underdiagnosis by lack of controls newspapers. • Consumption of alcohol and tobacco in part of the population. • Risk of complications cardiovascular associates to Hypertension .

The CAME analysis is based on the SWOT analysis conducted on the situation of hypertension (HTN) at the Alhajuela Health Center. A prevalence of HTN of 13.1% was identified in the studied population. Key findings include positive behaviors, such as low alcohol and tobacco consumption and low consumption of high-salt foods, along with weaknesses related to inconsistent blood pressure control, sedentary lifestyle, and insufficient fruit and vegetable intake. The SWOT analysis also identifies opportunities for prevention and health promotion, as well as threats associated with underdiagnosis and cardiovascular complications.

Table 5. CAME Analysis Matrix

Component	Identified situation	Intervention strategy
CORRECT Weaknesses	28.79% of participants never check their blood pressure, and 30.30% only do so when they feel unwell. 36.36% do not engage in any physical activity during the week, and only 21.21% consume fruits and vegetables between 5 and 7 days per week.	Implement regular blood pressure checks and follow-up for individuals with risk factors. Promote regular physical activity and develop nutritional education focused on increasing fruit and vegetable consumption.
CONFRONT Threats	Persistence of sedentary lifestyle and inadequate eating habits; risk of underdiagnosis due to lack of regular check-ups; alcohol and tobacco consumption in part of the population and risk of cardiovascular complications associated with hypertension.	Strengthen cardiovascular prevention efforts through early detection, regular checkups, and follow-up of at-risk individuals. Reinforce education on modifiable risk factors and healthy lifestyles.
MAINTAIN Strengths	A prevalence of hypertension of 13.1% was identified. 69.70% of participants do not consume alcohol or tobacco, 56.06% report low consumption of high-salt foods, and educational materials on healthy lifestyles have already been developed.	To preserve and reinforce existing healthy behaviors within the population. To maintain the use of educational materials and consolidate promotional activities related to low salt consumption and the absence of alcohol and tobacco.
EXPLOIT Opportunities	Strengthen regular blood pressure monitoring, implement community programs for physical activity and healthy eating, reinforce education on reducing salt, alcohol and tobacco, and promote frequent consumption of fruits and vegetables.	Take advantage of these opportunities to develop a comprehensive community program for the prevention and control of hypertension, including periodic screening, nutritional education, community physical activity, and follow-up of people with risk factors.

It is proposed to establish a community-based program for the prevention and control of hypertension, focusing on early detection, regular blood pressure monitoring, promotion of physical activity, healthy eating, and education on risk factors. This strategy would allow for integrated intervention to address the main weaknesses and threats identified, while also leveraging existing strengths and opportunities for health promotion.

CONCLUSIONS AND RECOMMENDATIONS

The study identified a significant prevalence of hypertension among residents of the Alhajuela community, along with modifiable factors related to its prevention and control, primarily low daily consumption of fruits and vegetables, limited physical activity, and infrequent blood pressure checks. These findings highlight the need to strengthen health promotion and prevention efforts at the primary care level, although the cross-sectional design and convenience sampling do not allow for establishing causal relationships.

FURTHER STUDY

This study still has limitations, so further research on the topic of Prevalence of Arterial Hypertension and Lifestyles in the Alhajuela Community – Ecuador is needed to improve this study and add insights for both the author and the readers.

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Conflicts of Interest

The authors declare that there are no financial, personal, professional, or institutional conflicts of interest that may have influenced the development, analysis, or presentation of the results of this study. They also declare that the research did not receive external funding that could compromise its objectivity.

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