

## Evaluation of epidemiology and risk factors of blood pressure in Asalouye city in 2024

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### abstract

**Introduction:** Hypertension is the leading cause of cardiovascular disease and premature death worldwide. Owing to the widespread use of antihypertensive medications, global mean blood pressure (BP) has remained constant or has decreased slightly over the past four decades. By contrast, the prevalence of hypertension has increased, especially in low- and middle-income countries (LMICs).

**Methods:** This cross-sectional study was conducted on 750 people from Asalouye city using a two-stage random sampling method. An individual questionnaire was completed for each person and blood pressure was measured. We divided the people into 7 groups, and to determine hypertension, the tables provided on diagnosis and risk factors related to blood pressure were used.

**Findings:** The odds ratio was 1.28 in women and 1.27 in men, so women are more prone to hypertension than men. The regression coefficient was 0.51 for obese people, 0.59 for people with diabetes, 0.55 for people with abdominal obesity, 0.25 for people with abnormal cholesterol, and 0.20 for people with abnormal triglycerides. The odds ratio of abdominal obesity was 1.78, which shows that people with abdominal obesity are more prone to hypertension.

**Conclusion:** Considering that the prevalence of high blood pressure increases with age and people's health is under threat, people's awareness should increase to prevent high blood pressure and also change their lifestyle. People who are obese should control their food weight and use less sodium. People who have cholesterol should change their food pattern and control their blood pressure and diabetes by referring to the health system. People can also use blood pressure medications. control blood pressure.

**Keywords:** Prevalence of blood pressure, Hypertension, risk factor,



## Introduction

Hypertension is the leading cause of cardiovascular disease and premature death worldwide. Owing to the widespread use of antihypertensive medications, global mean blood pressure (BP) has remained constant or has decreased slightly over the past four decades. By contrast, the prevalence of hypertension has increased, especially in low- and middle-income countries (LMICs). (Mills KT et al, 2016)

Hypertension is the leading preventable risk factor for cardiovascular disease (CVD) and all-cause mortality worldwide. Hypertension (high blood pressure) is when the pressure in your blood vessels is too high (140/90 mmHg or higher). It is common but can be serious if not treated. People with high blood pressure may not feel symptoms. The only way to know is to get your blood pressure checked. (S. MacMahon et al, 1990)

Things that increase the risk of having high blood pressure include:

older age, genetics, being overweight or obese, not being physically active, high-salt diet, drinking too much alcohol, Lifestyle changes like eating a healthier diet, quitting tobacco and being more active can help. lower blood pressure. Some people may still need to take medicines.

Blood pressure is written as two numbers. The first (systolic) number represents the pressure in blood vessels when the heart contracts or beats. The second (diastolic) number represents the pressure in the vessels when the heart rests between beats.

Hypertension is diagnosed if, when it is measured on two different days, the systolic blood pressure readings on both days is  $\geq 140$  mmHg and/or the diastolic blood pressure readings on both days is  $\geq 90$  mmHg.

Modifiable risk factors include unhealthy diets (excessive salt consumption, a diet high in saturated fat and trans fats, low intake of fruits and vegetables), physical inactivity, consumption of tobacco and alcohol, and being overweight or obese. In addition, there are environmental risk factors for hypertension and associated diseases, where air pollution is the most significant. Non-modifiable risk factors include a family history of hypertension, age over 65 years and co-existing diseases such as diabetes or kidney disease. (R. Jackson 1994)

Most people with hypertension don't feel any symptoms. Very high blood pressures can cause headaches, blurred vision, chest pain and other symptoms. Checking your blood pressure is the best way to know if you have high blood pressure. If hypertension isn't treated, it can cause other health conditions like kidney disease, heart disease and stroke.

People with very high blood pressure (usually 180/120 or higher) can experience symptoms including:

severe headaches, chest pain, dizziness, difficulty breathing, nausea, vomiting, blurred vision or other vision changes, anxiety confusion, buzzing in the ears, nosebleeds, abnormal heart

rhythm. The only way to detect hypertension is to have a health professional measure blood pressure (Djp Barker et al, 1990).

Having blood pressure measured is quick and painless. Although individuals can measure their own blood pressure using automated devices, an evaluation by a health professional is important for assessment of risk and associated conditions. Hypertension can also burst or block arteries that supply blood and oxygen to the brain, causing a stroke. In addition, hypertension can cause kidney damage, leading to kidney failure. The prevalence of hypertension varies across regions and country income groups. The WHO African Region has the highest prevalence of hypertension (27%) while the WHO Region of the Americas has the lowest prevalence of hypertension (18%). The number of adults with hypertension increased from 594 million in 1975 to 1.13 billion in 2015, with the increase seen largely in low- and middle-income countries. This increase is due mainly to a rise in hypertension risk factors in those populations.

- habits such as eating more, using tobacco or drinking alcohol can lead to further increases in blood pressure.
- Certain chronic conditions. Kidney disease, diabetes and sleep apnea are some of the conditions that can lead to high blood pressure.
- Pregnancy. Sometimes pregnancy causes high blood pressure.

High blood pressure is most common in adults. But kids can have high blood pressure too. High blood pressure in children may be caused by problems with the kidneys or heart. But for a growing number of kids, high blood pressure is due to lifestyle habits such as an unhealthy diet and lack of exercise. In this article, we examine the prevalence, control and risk factors of high blood pressure. In this article, we examine the results of high blood pressure prevalence in Asalouye health center in 2024.

## Methods

This cross-sectional study was conducted on ۷۵۰ people from Asalouye city using a two-stage random sampling method. An individual questionnaire was completed for each person and blood pressure was measured. We divided the people into 7 groups, and to determine hypertension, the tables provided diagnosis, and risk factors related to blood pressure were used. Data were analyzed using appropriate non-parametric and parametric tests. Logistic regression coefficient was used for blood pressure risk factors. After collecting the data and taking the blood pressure of the people with a sphygmomanometer, all the data were entered into the SPSS software. (National Heart, 1994)

## Findings

Table 1 shows the prevalence of high blood pressure at different ages, according to which women's blood pressure is higher than men's and both sexes' blood pressure increases with age.

age group	Women	men	high blood pressure	Prevalence
18-24	۴	۳	۱	۱۴,۲
25-35	۱۴	۱۲	۵	۱۹,۲۳
36-45	۲۶	۲۴	۱۴	۲۸
46-55	۱۲۱	۸۰	۳۱	۱۵,۴۲
56-65	۹۰	۶۵	۲۸	۱۸,۰۶
66-75	۷۴	۱۰۴	۸۹	۵۰
+76	۷۱	۶۲	۵۹	۴۴,۳۶

Variable	Regression coefficient	Standard error	The value of p	odds ratio
Sex				
man	۰,۲۳	۰,۰۶	۰,۰۰۲	۱,۲۷
woman	0.2۴	۰,۰۷	۰,۰۰۳	۱,۲۸
Cholesterol				
natural				
abnormal	0.25	۰,۰۷	۰,۰۰۱	۱,۲۹
Obesity				
-				
+	0.51	۰,۰۹	۰,۰۰۱	۱,۶
Diabetes				
-				
+	۰,۵۹	۰,۱۱	۰,۰۰۱	۱,۷
Abdominal				
obesity				
-				
+	۰,۵۵	۰,۰۸	۰,۰۰۱	۱,۷۸
triglycerides				
-				
+	۰,۲۰	۰,۰۷	۰,۰۰۲	۱,۲۹

Table 2 shows the logistic regression findings of various variables related to blood pressure in Asalouye population. High cholesterol equal to or more than 200 mg, obesity with body mass index equal to or more than 30 kg, and abdominal obesity including the ratio of waist circumference to The pelvis was greater than or equal to 0.9 in men and 0.8 in women.

The odds ratio was 1.28 in women and 1.27 in men, so women are more prone to hypertension than men. The regression coefficient was 0.51 for obese people, 0.59 for people with diabetes, 0.55 for people with abdominal obesity, 0.25 for people with abnormal cholesterol, and 0.20 for

people with abnormal triglycerides. The odds ratio of abdominal obesity was 1.78, which shows that people with abdominal obesity are more prone to hypertension.

## conclusion

The prevalence of high blood pressure in the adult population of Asalouye city is somewhat different from the reports of some studies in Iran. This difference is probably due to geographical, cultural, economic and other age differences. For example, in the study of sugar and lipids in Tehran, the prevalence of high blood pressure in men and women was 22% and 30%, respectively, which is less than our study. In our study, it was seen that the prevalence of high blood pressure increased significantly with increasing age in both sexes. (Ghanbarian A et al, 2004)

In the studies of Fakhrzadeh et al., it was shown that body mass index was directly related to blood pressure. ( $P < 0.0001$ ) Our study had a significant relationship with the study of Fakhrzadeh et al. because in our study abdominal obesity had the highest odds ratio. The study of Mojahedi et al. in 2018 was on the blood pressure of young people in Mashhad, which showed that blood pressure is related to obesity, alcohol consumption, and smoking, and this study has a significant relationship with our study. (mojahedi et al .2018)

In the study of Sharifi et al. in 2009 in the nursing home of Kehrizak, blood pressure had a direct relationship with diabetes and cholesterol, and this study had a significant relationship with our study. The more people have diabetes and uncontrolled cholesterol, the more they develop blood pressure. (Sharifi and al, 2009)

Considering that the prevalence of high blood pressure increases with age and people's health is under threat, people's awareness should increase to prevent high blood pressure and also change their lifestyle. People who are obese should control their food weight and use less sodium. People who have cholesterol should change their food pattern and control their blood pressure and diabetes by referring to the health system. People can also use blood pressure medications. control blood pressure.

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