Section: General Medicine

Original Research Article

A STUDY ON RISK FACTORS OF HYPERTENSION

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Abstract

Background: Hypertension is a major global health problem, affecting millions of people worldwide. According to the World Health Organization, it is estimated that over 1 billion people worldwide have hypertension, with a significant impact on morbidity, mortality, and healthcare costs. The aim of this study was to evaluate the risk factors of hypertension. **Materials and Methods:** The present prospective hospital based observational study included 100 patients diagnosed with de novo hypertension. Diagnosis of Hypertension was made based on the WHO criteria. All the patients underwent detailed history taking and thorough clinical examination. All the necessary details were recorded using a well-structured questionnaire. Data was collected in MS Excel and presented as numbers and percentages in the form of tables and figures. **Result:** In the present study, there was a female preponderance with 56% of subjects being female. Most of the subjects belonged to the age group of 40-60 years followed by the age group 20-40 years and then more than 60 years. The obtained risk factors in our study were elevated blood pressure, obesity, sedentary lifestyle, smoking, alcoholism, family history and diabetes. **Conclusion:** Regular screening for risk factors of hypertension should be carried out in high prevalence areas. Further studies considering demographic and socio-economic factors should be carried out to target high risk and low resource populations for screening.

INTRODUCTION

Hypertension is a global health problem, affecting millions of people worldwide. According to the World Health Organization, it is estimated that around 1.13 billion people worldwide have hypertension.[1]

Hypertension, commonly known as high blood pressure, is a condition where the force of blood against the walls of the arteries is consistently high. This can lead to serious health problems such as heart disease, stroke, and kidney failure. Hypertension is often called the "silent killer" because it can go unnoticed for years, but can cause significant damage to the body over time.[2] There are two types of hypertension: primary (essential) hypertension, which has no identifiable cause, and secondary hypertension, which is caused by an underlying medical condition. Some common risk factors for hypertension include age, genetics, diet, lack of exercise, stress, and certain medical conditions such as diabetes or kidney disease. Symptoms of hypertension may include headache, dizziness, blurred vision, and chest pain, but often there are no symptoms at all. Hypertension can be diagnosed through a simple blood pressure measurement, which is a routine part of most medical checkups. Treatment for hypertension may include lifestyle changes such as exercise and a healthy diet, medication, and management of any underlying medical conditions.[3] Left untreated, hypertension can lead to serious complications such as heart attack, stroke, and kidney failure. Prevention of hypertension includes maintaining a healthy weight, exercising regularly, reducing salt intake, and managing stress. It is important for individuals with hypertension to monitor their blood pressure regularly and follow their doctor's recommended treatment plan.[4] Certain populations, such as African Americans and individuals with a family history of hypertension, are at a higher risk for developing the condition.[5] Pregnant women can also develop hypertension, which is known as gestational hypertension. Children can also develop hypertension, especially those who are overweight or have a family history of the condition. Managing hypertension may require a team approach, including a primary care physician, cardiologist, and other healthcare professionals. In addition to medication and lifestyle changes, some complementary therapies such as acupuncture and meditation may help manage hypertension. Hypertension is a chronic condition that requires ongoing management and monitoring, but with proper treatment, many individuals can successfully

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control their blood pressure and reduce their risk of serious health complications.[7]

Research on risk factors of hypertension has identified various lifestyle and medical factors, such as diet, physical activity, obesity, smoking, genetics, and underlying medical conditions. Understanding these risk factors is important for developing effective prevention and treatment strategies for hypertension.[8]

MATERIALS AND METHODS

Study Setting: The present study was conducted at the Department of Medicine, Gandhi Medical College, Hyderabad, Telangana.

Study Design: The present study was a Prospective Hospital based Observational study.

Study Sample: 100 patients diagnosed with de novo Hypertension were included in the study.

Inclusion Criteria

Subjects above 18 years of age and who consented were included in the study.

Exclusion Criteria

Subjects below 18 years of age, who did not consent and those with chronic systemic illnesses were excluded from the study.

Methodology: Diagnosis of Hypertension was made based on the WHO criteria. All the patients underwent detailed history taking and thorough clinical examination. All the necessary details were recorded using a well-structured questionnaire.

Statistical Analysis: Data was collected in MS Excel and presented as numbers and percentages in the form of tables and figures.

RESULTS

Table 1: Gender Distribution

Gender	No. Of Patients (%)
Male	44(44%)
Female	56(56%)

As depicted in the above table, there was a female predominance in ours study.

Table 2: Age Distribution

Age	No. Of Patients (%)
20-40 Years	38(38%)
40-60 Years	51(51%)
> 60 Years	11(11%)

Most of the subjects belonged to the age group of 40-60 years followed by the age group 20-40 years and then more than 60 years.

Table 3: Risk Factors

Risk Factors	No. Of Patients (%)
Elevated Blood Pressure	58(58%)
Central Obesity	21(21%)
Sedentary Lifestyle	45(45%)
Smoking	42(42%)
Alcoholism	28(28%)
Family History	21(21%)
Diabetes	19(19%)

The various associated risk factors in our population have been depicted in the above table.

DISCUSSION

The present study aimed at studying the risk factors of hypertension. Hypertension is a significant global health problem that affects millions of people worldwide and is a major risk factor for heart disease, stroke, and other health complications. Prevention, early detection, and effective management of hypertension are crucial for reducing the burden of cardiovascular disease worldwide. In the present study, there was a female preponderance with 56% of subjects being female. Most of the subjects belonged to the age group of 40-60 years followed by the age group 20-40 years and then more than 60 years. The obtained risk factors in our study were elevated blood pressure, obesity, sedentary lifestyle, smoking, alcoholism, family history and diabetes. Obesity can cause hypertension by increasing the workload on the heart and blood vessels and by causing structural changes in the blood vessels that impair blood flow. It is also associated with inflammation and other cardiovascular risk factors that further increase the risk of hypertension. A sedentary lifestyle can cause hypertension by contributing to obesity, increasing inflammation and oxidative stress, and decreasing the flexibility and function of blood vessels, which can impair blood flow and increase blood pressure. Regular physical activity can help prevent and manage hypertension by reducing these risk factors.[9] A sedentary lifestyle can cause

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hypertension by contributing to obesity, increasing inflammation and oxidative stress, and decreasing the flexibility and function of blood vessels, which can impair blood flow and increase blood pressure. Regular physical activity can help prevent and manage hypertension by reducing these risk factors. Smoking causes hypertension by damaging the lining of blood vessels, increasing inflammation and oxidative stress, and raising levels of adrenaline and other stress hormones, all of which can lead to an increase in blood pressure. Quitting smoking is an important strategy for reducing the risk of hypertension and other cardiovascular diseases. Alcoholism can cause hypertension by several mechanisms, including increasing sympathetic nervous system activity, leading to an increase in heart rate and blood pressure. Alcohol also causes dehydration, which can result in a decrease in blood volume and an increase in blood pressure. Chronic alcohol abuse can also lead to damage to the blood vessels and kidneys, resulting in an increase in blood pressure. Reducing alcohol consumption or quitting altogether is an important strategy for preventing and managing hypertension. Having a family history of hypertension is a well-established risk factor for developing hypertension. Genetic factors can contribute to an individual's susceptibility to hypertension, including the regulation of salt and fluid balance, the renin-angiotensin-aldosterone system, and blood vessel function. Diabetes is a well-established risk factor for hypertension The mechanisms underlying this relationship are complex, but diabetes can lead to changes in the structure and function of blood vessels and kidneys, which can result in an increase in blood pressure. Effective management of diabetes, including tight control of blood glucose levels and regular monitoring of blood pressure, is important for preventing and managing hypertension.[10]

CONCLUSION

Regular screening for risk factors of hypertension should be carried out in high prevalence areas. Further studies considering demographic and socio-economic factors should be carried out to target high risk and low resource populations for screening.

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