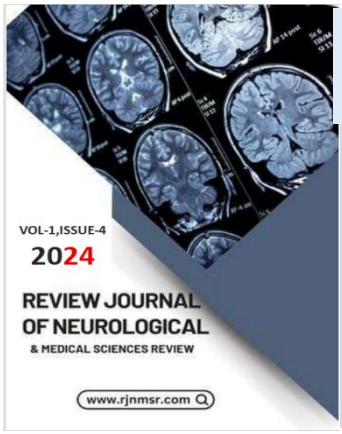

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Primary Risk Factors of Hypertension in General Population of Dera Ismail Khan

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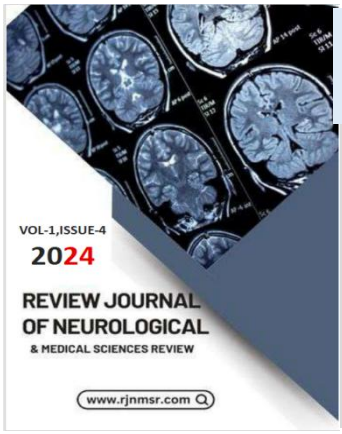
Abstract

One major issue is hypertension, which is sometimes referred to as the silent killer. The number of people with hypertension is growing daily. The goal of this study is to evaluate Khyber Pakhtunkhwa's main causes of hypertension. 310 hypertension patients who were hospitalized or visited Mufti Mahmood Memorial Teaching Hospital Dera Ismail Khan provided data for the research. The selected respondents were chosen using a straightforward random sampling technique. The findings demonstrate a notable correlation between hypertension and educational attainment. Individuals with higher education levels demonstrated greater awareness and knowledge regarding hypertension. In contrast, patients with little to no education exhibited a lack of concern for the condition and were less likely to seek medical consultation. Participants with hypertension concurred that consistent use of antihypertensive medications, accessible medication supply, regular physical activity, and routine blood pressure monitoring are effective in maintaining blood pressure within the normal range, whereas irregular medication adherence and a sedentary lifestyle exacerbate hypertension. Dietary habits, including the consumption of junk food and spicy foods, have been reported to affect blood pressure. Significant associations were identified with lifestyle modifications, including regular blood pressure check-ups, consistent exercise, weight reduction, abstaining from alcohol, cessation of smoking, stress avoidance, and increased consumption of fruits and vegetables. Conversely, hypertension exhibited a robust correlation with individuals characterized by obesity, sedentary lifestyles, advanced age, lower socio-economic status, renal disorders, endocrine diseases, high salt intake, insufficient potassium



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consumption, and familial predisposition. Alcohol use, tobacco use, a sedentary lifestyle, insufficient physical activity, and ignorance of the warning signs, symptoms, causes, and preventive strategies of hypertension can all contribute to the illness on both individual and psychological levels. Conversely, hypertension was substantially related with those who are obese, sedentary, elderly, of poor socio-economic level, suffering from renal illnesses, endocrine disorders, excessive salt consumption, inadequate potassium intake, and those with a familial predisposition. A study suggests that controlling hypertension requires focusing on precautions, nutrition, frequent blood pressure checks, illness knowledge, and stress reduction.

Introduction

Blood Pressure

The term "arterial blood pressure" refers to the pressure that is placed on the wall of arteries by the column of blood that flows through them. It is because of the circulation of the blood through the arteries that there is a force. The phrase "blood pressure" (BP) is most commonly used to describe the pressure within the arteries (Nichols et al., 2022).

The Systolic Blood Pressure

Systolic blood pressure (SBP) is defined as the peak pressure exerted in the arteries during the heart's systole. Systolic pressure typically ranges from 110 mmHg to 140 mmHg.

Pressure During Diastole

The pulse pressure is the difference between the systolic and diastolic pressures. The typical pulse pressure is 40mmHg.

The Average Arterial Blood Pressure

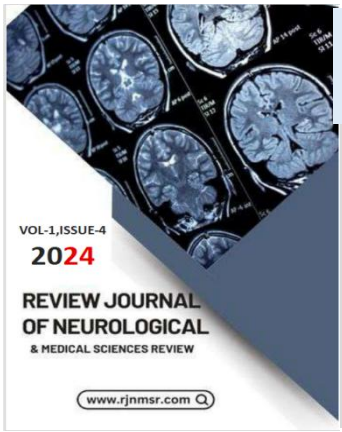
It is the average pressure that is present in the arteries that is referred to as the mean arterial blood pressure (MABP). The arithmetic mean of the systolic and diastolic pressures is not what this value represents. It is the diastolic pressure augmented by one third of the pulse pressure. To ascertain the mean pressure, diastolic pressure is prioritised above systolic pressure.

The diastolic phase of the heart cycle is longer (0.53 seconds) than the systolic phase (0.27 seconds). The standard mean arterial pressure is 93 mm Hg (80 + 13 = 93).

The equation for determining mean arterial blood pressure is shown below. Mean arterial blood pressure equals diastolic pressure plus one-third of pulse pressure(Glasser et al., 2011).

Hypertension and Related Disorders

Blood pressure is the force applied to the walls of blood vessels by the flowing blood. In addition to body temperature, respiration rate, and pulse rate, blood pressure is one of the four primary vital signs assessed by healthcare experts (Elliott and Coventry, 2012). Blood pressure is regulated by the nervous and endocrine systems and exhibits fluctuations throughout the day. These variations are influenced by factors including activity level, circadian rhythm, stress and emotional responses, sleep, and digestion (Folkman, 2020).The body has several processes for controlling blood pressure, including adjusting the amount of blood the heart pumps, the diameter of the arteries, and the volume of blood in the circulation. Difficulties might



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develop when a disease state causes the blood pressure to remain consistently high, low, or unpredictable. (Booth et al., 2017)

The predominant blood pressure abnormalities are hypertension and hypotension. Both possess several reasons and can vary in intensity from moderate to perilous. Over one-third of adults globally have hypertension, with the prevalence increasing to one-half among individuals aged 50 and older. From 600 million in 1980 to 1 billion in 2008, the number of persons with high BP climbed dramatically. An estimated 7.5 million people die each year as a result of elevated blood pressure, accounting for 12.8% of all fatalities globally. This represents 3.7% of the total DALYs. The studies indicated that the overall prevalence of hypertension and prehypertension in the Southeast Asia Region was 27% and 29.6%, respectively (Kar et al., 2020). Hypertension has a greater frequency in urban regions of India compared to rural ones, with estimates ranging from 20% to 40%. The World Health Organisation recognised the significance of this and designated reducing high blood pressure as the subject for World Health Day. Hypertension is both preventable and manageable. Enhancing public awareness and ensuring access to early detection are essential (Tambare and Parande, 2019).

Materials and Methods

Scope of the Research

This study was conducted in Mufti Mahmood Memorial & Teaching Hospital of Dera Ismail Khan, Pakistan.

Sampling Procedure and Sample Size

The study included all patients at MMMTH with hypertension aged 20 to 50 years as respondents. Both admitted and outpatient individuals were included. In the study, 310 patients were recruited.

Methods of Data Collection

The data collection utilized an interview schedule method comprising 94 questions. The questions were designed based on research objectives and finalized after including necessary adjustments identified in the pilot survey.

Data Analysis

The program known as statistical package for social sciences (SPSS) was utilized in order to do the analysis on the data that was acquired. A classification system was used to the data, and it was presented in the form of percentages and frequencies. For the purpose of determining the validity of the relationship between the various variables, the Fisher exact test and the Chi square test were also utilized.

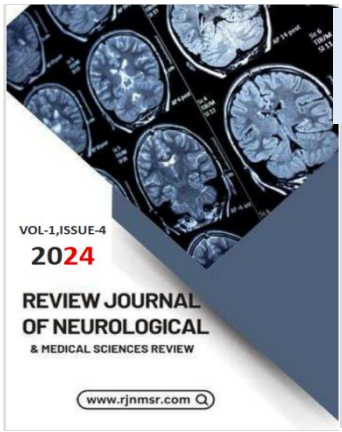
Results

Respondents' Ages in the Sample

Table 1 provides a summary of the age distribution among study participants.

Table 1. Age of the Selected Respondents

Age Group	Numbers	Percentage(%)
20-30 years	60	19.3
31-40 years	77	24.8
41-50 years	173	55.8



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Total	310	100

Gender of the Sampled Respondents

The sample respondents' gender distribution is illustrated in Table 2.

Table 2. Gender of the sample respondents

Gender of respondents	Numbers	Percentage (%)
Male	180	58.1
Female	130	41.9
Total	310	100

Academic Background of the Sampled Participants

The educational background of the participants in the sample is detailed in Table 3.

Table 3. Educational attainment of surveyed participants

Educational status	Numbers	Percentage (%)
Uneducated	143	47
Primary to middle	50	16.1
SSC	46	14.8
FSc. & above	71	22.9
Total	310	100

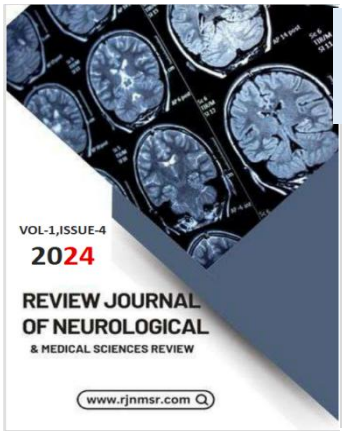
Table 4 presents the systolic and diastolic blood pressures of the chosen respondents.

Blood Pressure Types	No.	Percentage(%)
Systolic Blood Pressure (in mmHg millimeter of mercury)		
140-150	177	57.1
151-160	95	30.6
161-170	33	10.6
171-180	5	1.6
Total	310	100
Diastolic Blood Pressure (in mmHg millimeter of mercury)		
90-95	153	49.3
96-100	125	40.3
101-105	26	8.3
106-110	6	1.9
Total	310	100

The Length of the Illness Experienced by the Sampled Participants The duration of the disease among the sampled respondents is presented in Table 5.

Table 5. Length of illness among the surveyed participants

Duration of disease in year	No. %	Percentage (%)
1Year	51	16.4
2 Years	65	20.96
3Years	48	15.4
4 Years	24	7.7
5 Years	40	12.9



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6 Years	11	3.5
7 Years	13	4.1
8 Years	10	3.2
9 Years	5	1.6
10 Years	43	13.8
Total	310	100

The consistent observation of blood pressure levels among the surveyed participants is detailed in the table.

Table 6. Participants in the survey regularly monitor their blood pressure.

Examination by a medical professional	No	%
Yes	154	49.7
No	156	50.3
If No, Reasons		
Lack of a medical Centre	59	19
Constantly on the go	40	12.9
Frequent checkups are not being remembered	26	8.4
Lack of funds/financial difficulties	37	11.9
Total	310	100

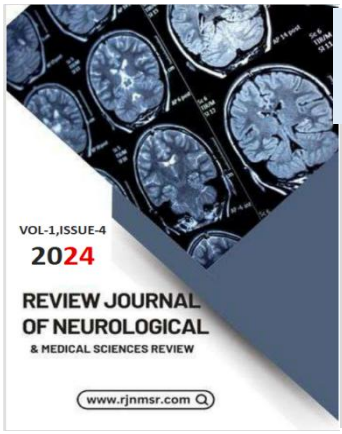
Discussion

Findings indicate that 90 percent of participants recognise hypertension as a significant concern currently, whereas 38, 43, 66, 38, 49, and 82 percent assert that hypertension is a silent killer.

Individuals recognize hypertension, which is now prevalent, as a significant cause of mortality and a formidable challenge to contemporary society; nonetheless, there is a lack of adequate concern over its management. On the other hand, 25% of those who took the survey firmly believe that hypertension is not a silent killer, 23% disagree; 19% say that people are unaware of the disease; and 13% say that people do care about hypertension. A significant portion of individuals recognizes hypertension; however, 8% of respondents remain unaware of its status as a major contemporary issue. Additionally, 37%, 34%, 29%, 43%, and 13% of respondents do not acknowledge it as a silent killer. Hypertension is a leading cause of death in modern nations, a big problem that people just do not seem to care about, and its incidence is at an all-time high. This study demonstrated that a significantly higher proportion of prehypertensive individuals accessed health services, yet they were largely unaware of their prehypertensive status. This presented an opportunity for health services to identify such cases and recommend lifestyle modifications.

Conclusion

Hypertension represents a significant health challenge globally, impacting individuals of all genders. The prevalence of hypertension is notably high and continues to increase globally on a daily basis. A variety of factors contribute to this



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phenomenon. Education is paramount, as individuals with higher levels of education possess greater knowledge about diseases and are more aware of the necessary precautions to take. The significance of antihypertensive medications and physical activity cannot be overstated. The consistent use of anti-hypertensive medications, along with the accessible supply of these medicines and regular exercise, has been shown to effectively maintain blood pressure within a normal range. The impact of dietary habits on hypertension is significant. A diet plan for managing hypertension should focus on maintaining blood pressure within a normal range. Modifying one's lifestyle, getting one's blood pressure checked regularly, exercising regularly, changing one's diet, losing weight, not drinking, not smoking, not stressing out, eating more vegetables and fruits, and limiting salt intake are all important hypertension precautions. Factors such as obesity, inactivity, age, socioeconomic status, kidney disease, endocrine disease, non-steroidal anti-inflammatory drugs, oral contraceptive drugs, potassium deficiency, excessive salt consumption, and family history have all been associated with hypertension. There are a lot of personal characteristics that have been identified as contributing to hypertension. These include things like smoking cigarettes, drinking excessively, leading a sedentary lifestyle, not getting enough exercise, and not knowing the symptoms, causes, and precautions of the condition.

Recommendations

1. Use public awareness campaigns and partnerships with neighborhoods food sellers to inform communities about cutting back on salt in their diets.
2. Conduct regular blood pressure screenings in both rural and urban clinics to facilitate early detection and management.
3. Promote physical exercise through school-based fitness programs, subsidized gym membership, and community walking clubs.
4. To guarantee that antihypertensive medications are consistently available in public institutions, strengthen the healthcare infrastructure.

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