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Research Article

**A STUDY ON RELATIONSHIP OF HIGH BLOOD PRESSURE  
AND HEART STROKE AMONG LOCAL POPULATION OF  
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**Abstract:**

**Introduction:** Stroke also known as cerebrovascular accident, is the rapid loss of brain function due to a disturbance in the blood supply to the brain. This can be due to ischemia caused by thrombosis, arterial embolism, or a hemorrhage. **Objectives of the study:** The main objective of the study is to find the relationship of high blood pressure and heart stroke in Pakistani population.

**Methodology of the study:** This study was conducted at Holy family hospital, Rawalpindi during October 2018 to December 2018. The data was collected from 100 patients which was suffering from high blood pressure and any kind of heart issue. We collect the data in two sections, as first of all we collect some demographic information regarding age, sex, socio-economic status and history of blood pressure. Then in second part we collect data regarding high blood pressure and heart issues. For this purpose we prepare a questionnaire and fill that from patients.

**Results:** The data shows that there is a significant relationship between high blood pressure and CVD. There is also some positive relationship between socio-economic status and high blood pressure with respect to CVD.

**Conclusion:** It is concluded that increase in number of deaths due to cardiovascular diseases in recent years diverted researchers' attention to prevention and controlling of HBP which is a leading cause of cardiovascular diseases

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**INTRODUCTION:**

Stroke also known as cerebrovascular accident, is the rapid loss of brain function due to a disturbance in the blood supply to the brain. This can be due to ischemia caused by thrombosis, arterial embolism, or a hemorrhage. High blood pressure (HBP) is a leading major risk factor for chronic diseases and deaths. Hypertension (HTN) is an important public health problem in both economically developed and developing nations. The prevalence of patients with high blood pressure (HT) had reached from 600 million in 1980 to one billion in 2008. [1] The prevalence of HBP was approximately 40% among adults of 25 years and above in 2008. Approximately 7.5 million people (12.8% of all-cause deaths) die every year due to HBP. It is estimated that HT is responsible for 45% of deaths due to heart diseases and 51% of deaths due to stroke. HBP consists of 3.7% of Disability Adjusted Life Years [2]. Even prehigh blood pressure (PreHT) increases mortality risk due to cardiovascular and stroke-related diseases.

High blood pressure is a significant public health problem, with a worldwide prevalence of 40.8% and a control rate of 32.3. High blood pressure is a noteworthy hazard factor for various genuine health conditions, including cardiovascular ailment, cerebrovascular malady, and constant kidney illness<sup>3</sup>. Worldwide, 9.4 million passing are credited to difficulties from high blood pressure, including 45% of all passing because of coronary vein illness and 51% of all passing because of stroke [2]. These relations are steady in the two people, in youthful, moderately aged, and more seasoned subjects, among different racial and ethnic gatherings, and inside and between nations. In spite of the fact that there is a continuum of cardiovascular hazard crosswise over levels of circulatory strain, the characterization of grown-ups as indicated by pulse gives a system to differentiating levels of hazard related with different circulatory strain classes and for characterizing treatment edges and helpful objectives [4].

Elevated blood pressure (BP) is a causal risk factor for cardiovascular disease (CVD). In addition, randomized clinical trials among people with high blood pressure have illustrated, in total, a decrease in CVD occasions by 20%, coronary illness (CHD) by 17%, stroke by 27%, and heart disappointment by 28% for each 10 mm Hg systolic BP (SBP) bringing down with medicinal treatment [5]. In this manner, counteractive action, location, treatment, and control of lifted BP, and its clinical connect high blood pressure, is a critical general health need and an essential focus for CVD aversion [6].

**Objectives of the study**

The main objective of the study is to find the relationship of high blood pressure and heart stroke in Pakistani population.

**Methodology of the study**

This study was conducted at Holy family hospital, Rawalpindi during October 2018 to December 2018. The data was collected from 100 patients which was suffering from high blood pressure and any kind of heart issue. We collect the data in two sections, as first of all we collect some demographic information regarding age, sex, socio-economic status and history of blood pressure. Then in second part we collect data regarding high blood pressure and heart issues. For this purpose we prepare a questionnaire and fill that from patients.

**Statistical analysis**

Student's t-test was performed to evaluate the differences in roughness between group P and S. Two-way ANOVA was performed to study the contributions. A chi-square test was used to examine the difference in the distribution of the fracture modes (SPSS 19.0 for Windows, SPSS Inc., USA).

**RESULTS**

The data shows that there is a significant relationship between high blood pressure and CVD. There is also some positive relationship between socio-economic status and high blood pressure with respect to CVD. Table 01 shows the values of use of drug and other factors.

**Table 01:** Statistical analysis values of Control group and diseased group.

Variable	Subgroups	Odds ratio (95% confidence interval)	value
Age	Less than 35 years	Reference	0.01
	More than 35 years	3.60 (2.11–6.15)	
Religion	Hindu	Reference	
	Others	0.89 (0.17–2.73)	0.60
Education level	Illiterate	Reference	
	Primary	0.14 (0.01–1.12)	0.06
	Middle	0.43 (0.25–0.75)	0.01
	High school	0.35 (0.19–0.63)	0.01
	Junior college	0.23 (0.11–0.47)	0.01
	Graduate	0.25 (0.10–0.63)	0.01
	Postgraduate	0.07 (0.01–0.40)	0.01
Occupation	Unemployed	Reference	
	Retired	4.00 (1.21–13.15)	0.02
	Housewife	0.72 (0.36–1.43)	0.35
	Unskilled worker	1.37 (0.63–2.97)	0.41
	Semiskilled worker	0.53 (0.17–1.68)	0.28
	Skilled worker	0.52 (0.13–2.07)	0.35
	Clerical, shop-owners, farm owners	0.29 (0.03–2.74)	0.28
	Semiprofessional	1.35 (0.35–0.24)	0.65
	Professional	2.54 (0.88–7.34)	0.08
Alcohol use in the past one year	Yes	Reference	
	No	0.81 (0.34–1.54)	0.34
Total cholesterol	Normal	Reference	
	Raised	1.64 (1.12–2.45)	0.03
Triglycerides	Normal	Reference	
	Raised	0.91 (0.57–1.48)	0.68
Body mass index	Underweight	Reference	
	Normal	1.31 (0.62–3.12)	0.48
	Overweight	1.98 (0.89–4.12)	0.18
	Obese	1.61 (0.78–3.71)	0.26
Diabetes mellitus	No	Reference	
	Yes	2.01 (0.96–4.16)	0.06

**DISCUSSION:**

The present study showed that the prevalence of hypertension was significantly higher in individuals more than 35 years as compared to those less than 35 years. Hypertension increase with the increase of age is a well-known fact now [7]. Vasani et al. in their study conducted among 1298 subjects found significant association of hypertension with age. There are some limitations to our study. Firstly, the study population consisted of residents in Pakistan. Secondly, the study enrolled only subjects from primary health centers, thus the data in hand can't reflect hypertensive subjects applied to secondary or tertiary health centers. Thirdly, this is a cross-sectional study based on claims of subjects, thus the answers of subjects may be biased [8].

High blood pressure was the leading risk factor for the overall global burden of disease in 2010. The recent decrease in cardiovascular mortality in high-income countries has been associated with a rise in the numbers of patients living with cardiovascular disease, and the wider use of preventive drugs. Thus, an up-to-date understanding of the associations of blood pressure with different non-fatal and fatal cardiovascular disease outcomes would help to refine strategies for primary prevention and inform the design of future clinical trials [9].

The National Health Survey of Pakistan estimated that high blood pressure affects 18% of adults and 33% of adults above 45 years old. In another report, it was shown that 18% of people in Pakistan suffer from high

blood pressure with every third person over the age of 40 becoming increasingly vulnerable to a wide range of diseases<sup>7</sup>. It was also mentioned that only 50% of the people with high blood pressure were diagnosed and that only half of those diagnosed were ever treated. Thus, only 12.5% of high blood pressure cases were adequately controlled. Some remote areas like Balochistan, there is a paucity of data but the control rate is likely to get even worse [10].

### CONCLUSION:

It is concluded that increase in number of deaths due to cardiovascular diseases in recent years diverted researchers' attention to prevention and controlling of HBP which is a leading cause of cardiovascular diseases

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