



# Hypertension Related Knowledge and Its Relationship with Control of High Blood Pressure in Pakistan

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

**Introduction:** High blood pressure (HBP) is a leading major risk factor for chronic diseases such as CKD, CADx, and deaths. The prevalence of patients with hypertension (HT) has risen from 600 million in 1980 to one billion in 2008.

**Aims and Objectives:** The basic aim of the study is to find the relationship of knowledge about hypertension with the control of blood pressure.

**Methodology of the Study:** This cross sectional study was conducted in Mayo hospital Lahore from January 2021 to July 2021. The data was collected from 100 patients with high blood pressure who visited the OPD of our hospital. A questionnaire was prepared by the researchers in accordance with the literature to measure the level of knowledge about HT.

**Results:** The data was collected from 100 patients of both genders. On comparison of questions related to knowledge, there was a statistically significant difference in; meaning of hypertension (p <0.001), target SBP (p0.001), target DBP (p 0.001), importance of SBP versus DBP, improvement of health with lowering of blood pressure (p 0.002), high blood pressure being asymptomatic (p <0.001), changing lifestyle improves blood pressure (p 0.003), hypertension being a lifelong disease (<0.001), lifelong treatment with anti-hypertensives (<0.001) and high blood pressure being part of aging (<0.001).

**Conclusion:** It is concluded that patients who were aware that elevated BP levels lead to reductions in life expectancy had a higher compliance level with medication use and follow-up visits than patients without this awareness.

*Keywords:* Hypertension; cardiovascular diseases; BP levels.

## 1. INTRODUCTION

Hypertension is a leading major risk factor for chronic diseases and deaths. The prevalence of patients with hypertension (HT) has risen 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 and its complications. 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 (DALY) [1]. Even prehypertension (PreHT) increases mortality risk due to cardiovascular and stroke-related diseases. Hypertension (HTN) is one of the most common medical disorders, associated with an increased incidence of all-cause and cardiovascular disease (CVD) mortality. Fifty-four per cent of strokes and 47% of cardiac deaths are attributed to suboptimal blood pressure control. Despite presence of a variety of antihypertensive medications, hypertension remains largely uncontrolled [2]. Data on 22,282 patients, from national and regional blood pressure control and antihypertensive pharmacotherapy prescribed in cardiology practice gave an overall estimate of 21.2%, of controlled hypertension. The control rates of hypertension in patients presenting to primary care range from 37% in Italy to 65% in South Africa and Canada. According to a survey in 2010, rates of controlled hypertension are barely 6% in primary health care settings in Pakistan [3].

Hypertension is a major risk factor for chronic diseases and deaths [4]. 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 [5]. HBP consists of 3.7% of Disability Adjusted Life Years (DALY). Even prehypertension (PreHT) increases mortality risk

due to cardiovascular and stroke-related diseases [6].

The basic aim of the study is to find the relationship of knowledge about hypertension with the control of blood pressure.

## 2. METHODOLOGY

This cross sectional study was conducted in Mayo hospital Lahore from January 2021 to July 2021. The data was collected from 100 patients with high blood pressure who visited the OPD of our hospital. A questionnaire was prepared by the researchers in accordance with the literature to measure the level of knowledge about HT. The questionnaire had 15 items as follows: three questions about BP classification; four questions about HT complications, four questions about treatment and BP control; and four questions about signs and follow-up of HT.

### 2.1 Statistical Analysis

The data were analyzed with SPSS version 19. Statistical analyses were carried out using simple correlation tests and backward LR model of multiple variables binary logistic regression.

## 3. RESULTS

The data was collected from 100 patients of both genders. On comparison of questions related to knowledge, there was a statistically significant difference in; meaning of hypertension ( $p < 0.001$ ), target SBP ( $p < 0.001$ ), target DBP ( $p < 0.001$ ), importance of SBP versus DBP, improvement of health with lowering of blood pressure ( $p < 0.002$ ), high blood pressure being asymptomatic ( $p < 0.001$ ), changing lifestyle improves blood pressure ( $p < 0.003$ ), hypertension being a lifelong disease ( $< 0.001$ ), lifelong treatment with antihypertensives ( $< 0.001$ ) and high blood pressure being part of aging ( $< 0.001$ ).

**Table 1. Comparison of knowledge score in patients with controlled and uncontrolled hypertension**

Characteristic	Overall%(n)	Controlled Hypertension%(n)	Uncontrolled Hypertension%(n)	P value**
<b>Hypertension means</b>				
Elevated blood pressure	46.1(206)	38.7 (171)	7.9 (35)	<0.001
<b>Hypertension is dangerous</b>				
Agree*	62.6 (280)	49 (214)	15.1 (66)	
Strongly agree*	28.6 (128)	20.6 (90)	8.7 (38)	-
<b>Systolic BP should be</b>				
<140 mm hg*	69.8 (312)	54.3 (242)	15.7 (70)	0.001
<b>Diastolic BP should be</b>				
<90*	68.5 (306)	53.2 (238)	15.2 (68)	0.001
<b>Which BP is more important</b>				
Both*	18.8 (84)	16 (70)	3.2 (14)	0.003
<b>Lowering BP improves health</b>				
Agree*	67.8 (303)	53.2 (230)	16.9 (73)	
Strongly agree*	19.4 (87)	13.4 (58)	6.5 (28)	0.02
<b>High BP is asymptomatic</b>				
Agree*	31.3 (140)	27.6 (119)	4.9 (21)	
Strongly agree*	6.7 (30)	4.4 (19)	2.6 (11)	<0.001
<b>HTN is a lifelong disease</b>				
Agree*	51.9 (232)	43.1 (189)	9.8 (43)	
Strongly agree*	21.5 (96)	16.4 (72)	5.5 (24)	<0.001
<b>Antihypertensives for life</b>				
Agree*	51.9 (232)	42.7 (190)	9.4 (42)	
Strongly agree*	23.0 (103)	17.1 (76)	6.1 (27)	<0.001
<b>High BP part of aging</b>				
Agree*	44.3 (198)	38.7 (171)	6.1 (27)	
Strongly agree*	8.9 (40)	6.1 (27)	2.9 (13)	<0.001

#### 4. DISCUSSION

Our study suggest that patients had a good knowledge about HTN in general, but were less knowledgeable about specific factors related to their condition, and specifically their own level of BP control [7]. The median duration of HTN was 14 years, suggesting that even though these patients have had this condition for a long duration, their knowledge was inadequate [8]. Patients were unaware that SBP is important in BP control and reported that their physicians did not emphasize the significance of elevated SBP. Furthermore, many patients (41%) did not know their BP value nor could they accurately report whether it was elevated [9].

Participants were knowledgeable about the meaning of HTN, and the consequences of the condition to their health. Ninety-six percent knew that lowering BP would improve their health and 96% knew that there were measures that could lower their BP [9]. Nearly 70% of the participants knew that high BP could lead to congestive heart

failure. Almost all patients were aware of their blood pressure status with 91% reporting that a doctor or health care provider had told them that they had HTN [10]. These findings are consistent with NHANES III data suggesting that there has been an increase in BP awareness [11].

#### 5. CONCLUSION

We found that participants who were aware that hypertension leads to reduction in life expectancy had a higher compliance rate with medication use and follow-up visits than participants without awareness. More emphasis needs to be placed by health care giver and patients on meeting blood pressure targets, in addition to the regular use of blood pressure lowering drugs.

#### CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

## ETHICAL APPROVAL

As per international standard or university standard ethical approval has been collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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