

# Analysis of Hypertension Prevalence, Awareness, Treatment and Control in Health

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## ABSTRACT

**Introduction:** Hypertension is a global public health issue and it contributes significantly to cardiovascular disease, kidney failure, premature deaths and disabilities. Recent evidence shows that between 1990 and 2015, there has been an increase in hypertension incidence, prevalence and deaths globally.

**Objectives of the study:** The basic objective of the study is to analyze the hypertension prevalence, awareness, treatment and control in health through a survey analysis. Methodology of the study: This survey based study was conducted in Allama Iqbal medical college, Lahore during October 2018 to March 2019. This study was conducted with the permission of ethical committee of hospital. The data was collected through different medical campuses which were held in these hospitals during different times. The data was collected through a questionnaire which was based on all the demographic data and history of patients. Age, sex, marital status, education, work history, smoking, alcohol intake, and physical activity level were recorded.

**Results:** The data were collected from 500 patients of both genders. Among patients with hypertension, 62.3% were aware of having high blood pressure; among these patients, 75.3% were already on treatment for hypertension. Blood pressure was controlled in 22.3% of all patients with hypertension. Among those on treatment for hypertension, blood pressure was controlled in 32.3%. Among all patients, 9934 patients had no comorbid conditions like diabetes mellitus, cardiovascular disease, or chronic kidney disease.

**Conclusion:** It is concluded that hypertension is a rising problem in Pakistan, knowledge of the prevalence, awareness, treatment and control at the national level is limited. Although awareness and treatment rates have improved, control of hypertension among these patients was still poor at 22.1%.

**Keywords:** Hypertension, Cardiac, Patients, Level

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## INTRODUCTION

Hypertension is a global public health issue and it contributes significantly to cardiovascular disease, kidney failure, premature deaths and disabilities. Ongoing evidence demonstrates that somewhere in the range of 1990 and 2015, there has been an expansion in hypertension rate, prevalence and passing's internationally (Liu LS *et al.*, 2005). In Pakistan, population-based examinations have appeared in hypertension prevalence and its huge effect on stroke dismalness and mortality, in the course of the most recent four decades. In spite of this, hypertension mindfulness, treatment and control are poor in the nation (Whitworth JA *et al.*, 2003).

Hypertension is increasingly regular in low-pay nations, where almost 80% of passings because of cardiovascular sickness happen (D'Agostino RB Sr *et al.*, 2008). In Pakistan, two expansive epidemiological investigation, the principal based on the 1990–1994 National Health Survey and the second based on rustic northern regions of the nation revealed hypertension prevalence rates of 19.1% and 14%, individually (Kearney PM *et al.*, 2004). Notwithstanding, given that the information gathering happened 15–20 years back, these examinations are not delegate of the flow weight of illness (Liu LS *et al.*, 2009). Concentrates from different nations have exhibited worldwide increments in the prevalence of hypertension after some time because of population growth, maturing, and changes in social dangers (Wu Y *et al.*, 2008). In this manner, there is a need to give refreshed information on the prevalence, mindfulness, treatment, and control of hypertension in Pakistan (Sit WH *et al.*, 2010).

### Objectives of the study

The basic objective of the study is to analyze the hypertension prevalence, awareness, treatment and control in health through a survey analysis.

### Methodology of the study

This survey based study was conducted in Allama Iqbal medical college, Lahore during October 2018 to March 2019. This study was conducted with the permission of ethical committee of hospital.

### DATA COLLECTION

The data was collected through different medical campus which were held in these hospitals during different times. The data was collected through a questionnaire which was based on all the demographic data and history of patients. Age, sex, marital status, education, work history, smoking, alcohol intake, and physical activity level were recorded. Patients were also asked about personal and family history of hypertension, diabetes mellitus, cardiovascular disease, and chronic kidney disease.

### Statistical analysis

All the data were analyzed using SPSS (version 16.0). All the data were expressed through mean and standard deviation.

### RESULTS

The data were collected from 500 patients of both genders. Among patients with hypertension, 62.3% were aware of having high blood pressure; among these patients, 75.3% were already on treatment for hypertension. Blood pressure was controlled in 22.3% of all patients with hypertension. Among those on treatment for hypertension, blood pressure was controlled in 32.3%. Among all patients, 9934 patients had no comorbid conditions like diabetes mellitus, cardiovascular disease, or chronic kidney disease (Table 1).

Age, BMI, family history of hypertension, and individual history of chronic kidney disease, diabetes mellitus, and cardiovascular disease were associated with a diagnosis of hypertension. Male sex and being a worker were inversely associated with a diagnosis of hypertension (Table 2).

**Table 1: Social, personal, and family history of medical diseases of participants of health screening camps**

|   | All Patients (%) | Patients with hypertension | Hypertensive patients with awareness of hypertension | Hypertensive patients with control of hypertension |
|---|------------------|----------------------------|--|--|
| <b>Physical activity (min/d)</b>                |                  |                            |  |  |
| None  | 1.5              | 98 (47.5)                  | 72 (73.4)  | 26 (26.5)  |
| <30   | 6.5              | 440 (49.5)                 | 300 (68.2)   | 106 (24.1)   |
| 30-60   | 15.9             | 916 (41.9)                 | 584 (26.7)   | 160 (17.5)   |
| >60   | 76               | 3350 (32.2)                | 2040 (19.5)  | 768 (22.9)   |
| <b>Smoking</b>                                  |                  |                            |  |  |
| Yes   | 20.7             | 834 (29.2)                 | 470 (56.3)   | 170 (20.3)   |
| No  | 79.2             | 3972 (36.5)                | 2524 (63.5)  | 890 (22.4)   |
| <b>Body mass index (kg/m<sup>2</sup>)</b>       |                  |                            |  |  |
| <18.5   | 6                | 192 (23.5)                 | 110 (57.2)   | 78 (40.6)  |
| 18.5-24.9                                       | 37.1             | 1288 (25.2)                | 788 (61.1)   | 324 (25.1)   |
| 25-29.9   | 34.1             | 1700 (37.9)                | 1022 (60.1)  | 352 (20.7)   |
| 30  | 20.3             | 1426 (51)                  | 928 (65)   | 248 (17.3)   |
| <b>Diabetes mellitus</b>                        |                  |                            |  |  |
| Yes   | 15.5             | 1282 (60)                  | 986 (76.9)   | 308 (24)   |
| No  | 84.4             | 3530 (30.4)                | 2014 (57.1)  | 754 (21.3)   |
| <b>Cardiovascular disease</b>                   |                  |                            |  |  |
| Yes   | 4                | 394 (72.4)                 | 370 (94)   | 134 (34)   |
| No  | 96               | 4418 (34)                  | 2700 (61.1)  | 928 (21)   |
| <b>Chronic kidney disease</b>                   |                  |                            |  |  |
| Yes   | 13.2             | 898 (49.4)                 | 680 (75.7)   | 240 (27)   |
| No  | 86.7             | 3914 (33)                  | 2320 (59.3)  | 822 (21)   |
| <b>Family history of hypertension</b>           |                  |                            |  |  |
| Yes   | 46.1             | 2668 (42.1)                | 1858 (73.4)  | 772 (25.2)   |
| No  | 53.9             | 2140 (28.9)                | 1038 (48.2)  | 388 (18.1)   |
| <b>Family history of cardiovascular disease</b> |                  |                            |  |  |
| Yes   | 3.1              | 1258 (40)                  | 894 (71)   | 328 (26)   |
| No  | 76.9             | 3550 (33.8)                | 2102 (59.2)  | 732 (21)   |

**Table 2: Multiple regression analysis showing 95 % confidence intervals (CIs) of statistically significant variables associated with hypertension**

|                                   | Unadjusted OR (95 % CI) | P      | Adjusted OR (95 % CI) | P      |
|-----------------------------------|-------------------------|--------|-----------------------|--------|
| Age                               | 1.045 (1.041–1.049)     | <0.001 | 1.048 (1.043–1.053)   | <0.001 |
| Male sex                          | 0.62 (0.56–0.68)        | <0.001 | 0.71 (0.59–0.84)      | <0.001 |
| Working                           | 0.58 (0.52–0.64)        | <0.001 | 0.83 (0.71–0.98)      | 0.03   |
| Family history of HTN             | 1.79 (1.62–1.97)        | <0.001 | 2.04 (1.80–2.30)      | <0.001 |
| History of chronic kidney disease | 1.99 (1.73–2.29)        | <0.001 | 1.85 (1.57–2.17)      | <0.001 |
| History of diabetes mellitus      | 3.41 (2.98–3.90)        | <0.001 | 1.95 (1.68–2.27)      | <0.001 |
| History of cardiovascular disease | 5.2 (3.97–6.82)         | <0.001 | 2.98 (2.20–4.0)       | <0.001 |
| Body mass index                   | 1.08 (1.07–1.09)        | <0.001 | 1.06 (1.05–1.07)      | <0.001 |

## DISCUSSION

Hypertension prevalence was higher among those who were formerly married and this is similar to what other studies have shown. Studies have demonstrated that individuals who are separated, bereft or isolated have more unfortunate cardiovascular health results contrasted with wedded people (Polit DF *et al.*, 2008). Especially, marriage has been believed to be defensive against cardiovascular results (Borg G 1998). Clarifications for high rate of hypertension prevalence among the individuals who were in the past hitched might be that they likely had low access to salary and health care offices (WHO 2011). Research has demonstrated that individuals in marriage have better nature of health because of better access to salary and health protection, and larger amount of social help which keeps them from taking part in unsafe practices (Chobanian AV *et al.*, 2003).

Hypertension was likewise observed to be progressively common among those with higher riches status and those living in urban territories (Gu D *et al.*, 2002). Research has appeared financial status may shape the ways of life of people and which may incline them to hypertension (PRC National Blood Pressure Survey Cooperative Group 1995). This is in opposition to a meta-examination, which demonstrated that low financial status is related with higher hypertension (Coresh J *et al.*, 2001).

## CONCLUSION

It is concluded that hypertension is a rising problem in Pakistan, knowledge of the prevalence, awareness, treatment and control at the national level is limited. Although awareness and treatment rates have improved, control of hypertension among these patients was still poor at 22.1%. Fur-

ther study is needed to determine hypertension prevalence, treatment, and control rates in well-designed population based studies.

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