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ANALYSIS OF HYPERTENSIVE CRISIS, MANAGEMENT, AND OUTCOME AMONG LOCAL POPULATION OF PAKISTAN

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Abstract:

Introduction: *Hypertension is a common chronic medical condition affecting people in Pakistan and the rest of the world.*

Aims and objectives: *The basic aim of the study is to analyse the hypertensive crisis, burden, management, and outcome among local population of Pakistan.*

Material and methods: *This cross-sectional study was conducted in THQ hospital Taunsa Sharif during March 2019 to July 2019. The data was collected from 100 hypertensive patients who visited the OPD of the hospital regularly. Adult inpatients (>18 yrs) presenting to the ER who were known hypertensive and had uncontrolled hypertension were included. Controlled blood pressure was defined as systolic blood pressure (SBP) <140 mm Hg or diastolic blood pressure (DBP) <90 mm Hg.*

Results: *The data was collected from 100 hypertension patients. Mean age of patients presenting was 56.7±4.57 years. Overall, dyslipidemia was the most common comorbidity in patients presenting with uncontrolled hypertension to the ER with the prevalence of 43.2% (167) followed by diabetes mellitus, 36.9% (143), and ischemic heart disease, 21.4% (83), and 13.9% (54) of them were smokers.*

Conclusion: *It is concluded that strategies should be taken to improve hypertension prevention in the whole population, to increase hypertension detection, management, and control.*

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INTRODUCTION:

Hypertension is a common chronic medical condition affecting people in Pakistan and the rest of the world. It is an important modifiable risk factor for cardiovascular morbidity and mortality, particularly for stroke (accounting for 51% of all stroke deaths worldwide), ischemic heart disease (45% of all deaths), chronic kidney disease, congestive heart failure, aortic aneurysm, and peripheral arterial disease [1]. Prevalence of hypertension (systolic blood pressure >140 mm Hg or diastolic blood pressure >90 mm Hg, or on antihypertensive medications) in Pakistan has increased from 17% in 1980 to 35% in 2008 in adults aged 18 years and older [2]. The increasing prevalence of hypertension together with a deficient control makes this one of the frequent conditions that require urgent medical attention.

However, differences in BP measurement techniques made it impossible to precisely quantify trends in BP and hypertension prevalence in early NHANES cycle. The continuous NHANES (from 1999 to 2010) standardized procedures for BP measurement, providing an opportunity for precise quantification of trends in the distribution of BP and prevalence of hypertension [3,4]. Hypertensive crises (76% urgencies, 24% emergencies) represented more than one-fourth of all medical urgencies/emergencies. Hypertensive urgencies frequently present with headache (22%), epistaxis (17%), and psychomotor agitation (10%) and hypertensive emergencies frequently present with chest pain (27%), dyspnea (22%), and neurological deficit (21%) [5]. The reason for uncontrolled hypertension in Pakistan is high due to lack of awareness, knowledge, adherence, and attitudes of Pakistani patients with hypertension.

AIMS AND OBJECTIVES:

The basic aim of the study is to analyse the hypertensive crisis, burden, management, and outcome among local population of Pakistan.

MATERIAL AND METHODS:

This cross-sectional study was conducted in THQ hospital Taensa Sharif during March 2019 to July 2019. The data was collected from 100 hypertensive patients who visited the OPD of the hospital regularly.

Data collection: Adult inpatients (>18 yrs) presenting to the ER who were known hypertensive and had uncontrolled hypertension were included. Controlled blood pressure was defined as systolic blood pressure (SBP) <140 mm Hg or diastolic blood pressure (DBP) <90 mm Hg. Patients whose medical records did not contain minimal clinical information to allow case classification (hypertensive urgency or emergency) were excluded from the study. Data on demographics, comorbid conditions, clinical symptoms, blood pressure readings at subsequent time intervals, length of stay, and antihypertensive drug therapy was recorded by trained data collectors. Management of patient was assessed by recording the list of medication from the computer-generated pharmacy sheet attached inside the medical record file.

Statistical analysis: Data was analysed using Statistical Package of Social Sciences (SPSS) version 19.1. Mean and standard deviation were used for qualitative variables and frequency and percentage for qualitative variables.

RESULTS:

The data was collected from 100 hypertension patients. Mean age of patients presenting was 56.7±4.57 years. Overall, dyslipidemia was the most common comorbidity in patients presenting with uncontrolled hypertension to the ER with the prevalence of 43.2% (167) followed by diabetes mellitus, 36.9% (143), and ischemic heart disease, 21.4% (83), and 13.9% (54) of them were smokers. The mean (SD) systolic blood pressure (SBP) recorded in patients with hypertensive crisis versus no hypertensive crisis in ER was 202 (17.971) and 158 (13.387) (P value ≤ 0.001).

Table 01: Comparison of blood pressure in patients with and without hypertensive crisis

	Hypertensive crisis			**No hypertensive crisis**		
	PO	**IV**		**PO**	**IV**	
	Mean (SD)	**Mean (SD)**	***P* value**	**Mean (SD)**	**Mean (SD)**	***P* value**
	***N* = 86**	***N* = 130**		***N* = 118**	***N* = 51**	
SBP	195 (17)	207 (17)	<0.001	156 (14)	162 (10)	0.01
SBP discharge	151 (27)	154 (23)	0.56	141 (19)	144 (19)	0.31
Drop in SBP	43 (27)	53.1 (29)	0.01	15 (21)	17.6 (21)	0.49
DBP	103 (15)	111 (17)	0.001	87 (15)	88 (14)	0.62
DBP discharge	85 (19)	85 (16)	0.93	77 (11)	79 (14)	0.46
Drop in DBP	17.8 (22)	25.8 (19)	0.006	9.6 (a6)	9.3 (15)	0.90

DISCUSSION:

Hypertension (HPT) is defined as persistent elevation of systolic blood pressure (SBP) of ≥140 mmHg and/or diastolic blood pressure (DBP) of ≥90 mmHg. In 2006, prevalence of HPT in Malaysia was 42.6% among those aged ≥30 years. The classification of high blood pressure (BP), although arbitrary, is useful as clinicians must make treatment decisions based on the measured BP and the patients' associated cardiovascular/cerebrovascular risks and co-morbidities [6].

All patients should be managed with non-pharmacologic interventions/therapeutic lifestyle modifications to lower BP. Patients with pre-hypertension should be followed up yearly to detect and treat HPT as early as possible [7]. Decisions regarding pharmacological treatment should be based on the individual patient's global cardiovascular risk. In subjects with **medium risk or higher**, the threshold for commencing HPT treatment should be lower. Therapeutic lifestyle changes should be recommended for all individuals with HPT and pre-HPT. It may be the only treatment necessary in Stage 1 HPT [8]. A high degree of motivation is also needed to sustain the benefits of non-pharmacological treatment. It is also important to remember that lifestyle modification requires a concerted effort and reinforcement on behalf of the practitioner [9]. Lifestyle modification works better with concurrent behavioural intervention than just passive advice. This non-pharmacological management includes weight reduction, sodium restriction, avoidance of alcohol intake, regular physical exercise, healthy eating and cessation of smoking [10].

CONCLUSION:

It is concluded that strategies should be taken to improve hypertension prevention in the whole population, to increase hypertension detection, management, and control. Acute renal failure is the most common complication developed in hypertensive crisis.

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