

Level of Blood Pressure Control Among Hypertensive Patients at Cardiology OPD of PMCH Nawabshah

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ABSTRACT

Objectives: To analyze the percentage of hypertensive patients having their blood pressure (BP) controlled at Cardiac OPD of PMCH Nawabshah.

Study Design: Descriptive, cross sectional study.

Place & Duration: Cardiac OPD of PMCH, Nawabshah, from May 2014 to July 2014.

Material and Methods: 224 hypertensive cases having antihypertensive therapy were included for the study. The blood pressure of all the patients was measured according to AHA guidelines on blood pressure measurement. All the related data was collected on a predesigned proforma, and the results were statistically analyzed and tabulated.

Results: Out of 224 patients, 104 were male. BP was controlled in only 28 (12.5%) out of 224 patients. Blood pressure of female was better controlled than male counterparts (20% vs 5%). Patients with relatively younger age (between 25-45 years) were having better control (20% vs. 8.3%) as compared to those who were relatively elder (>45 years).

Conclusion: We conclude that situation is very worse regarding this major health problem. These are the patients who are already diagnosed to have hypertension and are concerned about their disease and despite coming in OPD and seek advice for their health problem, still these patients have their BP poorly controlled.

Key words. Hypertension, Controlled, Uncontrolled.

INTRODUCTION

About 60 million Americans are suffering from hypertension and 1 billion peoples are affected worldwide¹. Systemic hypertension remains the most common readily identifiable and reversible risk factor for myocardial infarction, stroke, heart failure, atrial fibrillation,

aortic dissection and peripheral arterial disease². It remains the leading cause of death worldwide and one of the world's great public health problem. Reduction in BP reduces risk of stroke, myocardial infarction and kidney disease³. All patients who benefit from antihypertensive therapy, the benefit is derived from the extent of BP reduction rather than how it is reduced⁴. BP is controlled to a value below 140/90 mmHg in less than one third (1/3) of affected individuals, even in countries with most advanced systems of health care⁵.

Even among those whose hypertension is well controlled fewer than one third (1/3) is protected from subsequent stroke, myocardial infarction or heart failure⁶. Better BP control reduces the CV mortality and morbidity. Overall data is alarming that BP is not controlled even in best health care systems. In the South Asian region, the scenario is more threatening as China reported

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only 8% control rate and India with 6% control rate⁷.

In National survey of Pakistan done in 1990-1994, the control rate was only 3%⁸. Since many years passed what is the real situation at present we don't know. We do not know what is the level of BP control in our population?

This study was designed to assess the level of BP control among patients in our setting who were known to have hypertension at least since one year.

MATERIAL & METHODS:

This descriptive cross sectional study was conducted on 224 patients in the cardiac OPD of PMCH, Nawabshah for 3 months from May 2014 to July 2014.

Inclusion criteria:

1. Adult patients of both sexes aged between 25 to 80 years.
2. Patients who were known to have hypertension since one year, having antihypertensive therapy.

Exclusion criteria:

1. Patients below 25 years and above 80 years of age.
2. Patients with known secondary cause of hypertension.
3. Patients diagnosed to have hypertension with duration of less than one year.
4. Patients with other co morbidities like DM, IHD, Renal failure.
5. Smokers were also excluded.

The blood pressure was measured according to AHA guidelines on blood pressure measurement. All the related data was collected on a predesigned proforma, and the results were statistically analyzed and tabulated.

Definitions:

Hypertensive:

Patient with BP 140/90 or above or on antihypertensive medications.

Controlled:

Patient who have BP <139/89 were labeled as having controlled BP.

Uncontrolled:

Patients having BP 140/90 or above were labeled as having uncontrolled BP.

Statistical analysis:

The data was analyzed on SPSS v 10, Chi square test and student t test were applied appropriately to the collected data.

RESULTS:

Total 224 patients were examined. Out of 224 patients, 104 were male and 120 were female (Fig1). BP was controlled in only 28 patients out of 224(12.5%) and 196(87.5%) patients remained uncontrolled (Fig.2). Blood pressure of female was better controlled than male counterparts (20% vs 5%). Patients with relatively younger age (between 25-45 years) were having better control (20% vs. 8.3%) as compared to those who were relatively elder (>45 years) Fig no.3.

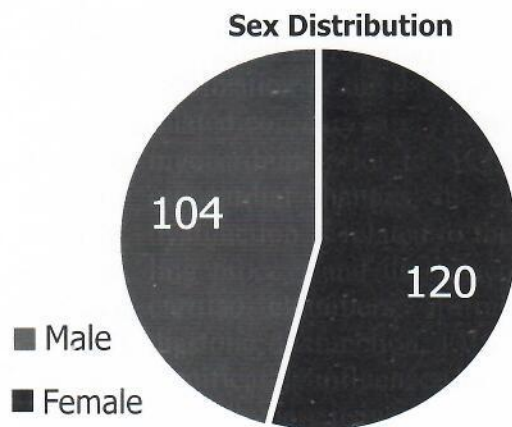


Fig-1. Sex Distribution of Hypertensive Patients

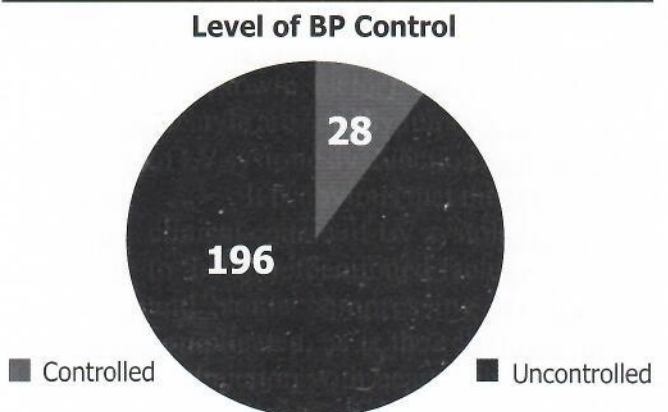
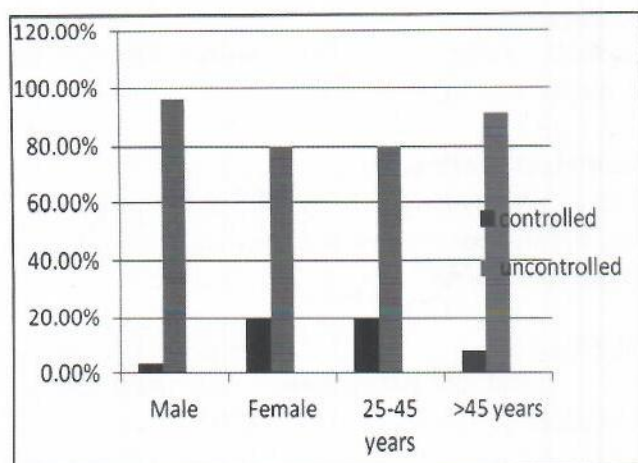


Fig-2. Number of Control of Hypertensive Patients



P=0.001, p=0.003, p=0.002

Fig.3. Age and Sex Distribution of Controlled & Uncontrolled Hypertensive Patients

DISCUSSION:

Hypertension is a major public health problem. Hypertension is a major risk factor for coronary artery disease, cerebrovascular disease which carry high rates of morbidity and mortality. Controlling hypertension reduces these morbidities & mortalities. Whether the BP of patients who are already diagnosed and are advised to take medicines is controlled or not is really of great concern. The world data is very alarming, as in most studies the hypertension is poorly controlled. Control rate is highly variable ranging from 20% to 80%⁹⁻¹¹. In our study we found that BP was controlled in only 28 patients out of 224 patients (12.5%), 196 out of 224 (87.5%) patient remained uncontrolled despite treatment. In study by Juliet Addo et al⁹ the control rate was 20%. Sharon B et al¹⁰ reported control rate 66.4% among treated patients. In study by K L Ong et al¹¹, the BP control rate was 31%.

Blood pressure was more commonly controlled in female than male patients 20 % (24/120) vs 3.8 % (4/104). This is also seen in study by K L Ong¹¹, but in their study female patients were also diabetic, but in our study diabetic patients were not included. Their study also noted that female were having good control of systolic BP as compared to diastolic BP, however our study we did not studied these variables separately. In our study patients

with relatively younger age i.e. 25 -45 years have good control as compared to those who were 45 years and above (16/80 & 12/144 (20% vs. 8.3%). This pattern was also seen in study by K R Bailey¹² which showed 80.8% BP control in patients who were having age between 15-39 years but patients who were older than 80 years of age had 42.1% control in their BP. However in our study patients having age more than 80 years were excluded and patients younger than 25 years were not included. But most of the studies conducted worldwide showed very poor blood pressure control¹³⁻¹⁹.

CONCLUSION:

Situation is very worse regarding this major health problem. These are the patients who are already diagnosed to have hypertension and they are concerned about their disease and despite coming in OPD and seek advice for their health problem. Still these patients have their BP poorly controlled. There are patients in population who are even not aware of their hypertension. We recommend further studies including factors responsible for poor BP control and to sort out the solution for the problem.

REFERENCES:

1. William F, Graettinger. Systemic Hypertension. In: Michael HC, editor. Current diagnosis and treatment. 3rd Edition. New York: Mc Grawhill;2009.153.
2. Ronald GV. Systemic Hypertension. In: Libby P, Bonow R, Mann D, Zippes D, editors. Braunwald's Heart Diseases, a text book of Cardiovascular diseases. 9th Edition. Philadelphia: Saunders;2012.935-54.
3. Campanini B. The world Health report: Reducing risks, promoting health life, Geneva, World Health Organization, 2002. Available from; www.who.int/whr/2002/en/whr02_en.pdf
4. Staessen JA, Wang JG, Thijs L. Cardiovascular prevention and BP reduction; a quantitative overview updated until March 2003. *J Hypertens.* 2003;21(6):1055-76.

5. Wolf Maier K, Cooper RS, Krammer H, Banegas JR, Giampaoli S, Joffres MR, et al. Hypertension treatment and control in five European countries, Canada and United States. *Hypertension*. 2004;43(1):10-7.
6. Kaplan NM, Opie LH. Controversies in Hypertension. *Lancet*. 2006 367(9505):168-76.
7. Mohan S, Campbell NR. Hypertension management: time to shift gears and scale up National efforts. *Hypertension*. 2009; 53(3):450-1.
8. Pakistan Medical Research Council. National Health Survey of Pakistan In Health profile of the people of Pakistan 1990-94. Islamabad: Network publication service; 1998.
9. Addo J, Smeeth L, Leon DA. Hypertension In Sub-Saharan Africa:A Systemic Review. *Hypertension*. 2007;50(6):1012-8.
10. Wyatt SB, Akylbekova EL, Wofford MR, Coady SA, Walker ER, Andrew ME, et al. Prevalence Awareness, Treatment, and Control of Hypertension in the Jackson Heart Study. *Hypertension*. 2008;51(3):650-6.
11. Kwok LO, Bernard MYC, Yu BM, Chu PL, Karen SLL. Prevalence, Awareness, Treatment, and Control of Hypertension Among United States Adults 1999-2004. *Hypertension*. 2007;49:69-75.
12. Kent RB, Brandon RG, Jhon WG. Novel use of Kaplan Meir Methods to Explain Age and Gender Differences in Hypertension Control Rates. *Hypertension*. 2008;51:841-7.
13. Ko SH, Kwon HS, Kim DJ, Kim JH, Kim NH, Kim CS, et al. Higher prevalence and awareness, but lower control rate of hypertension in patients with diabetes than general population: the fifth korean national health and nutrition examination survey in 2011. *Diabetes Metab J*. 2014;38(1):51-7.
14. De Socio GV, Ricci E, Maggi P, Parruti G, Pucci G, Di Biagio A, et al. Prevalence, awareness, treatment, and control rate of hypertension in HIV-infected patients: the HIV-HY study. *Am J Hypertens*. 2014.27(2):222-8.
15. Unni S, White K, Goodman M, Ye X, Mavros P, Bash LD, et al. Hypertension Control and Antihypertensive Therapy in Patients With Chronic Kidney Disease. *Am J Hypertens*. 2014 Nov 24. Available from; <http://ajh.oxfordjournals.org/content/early/2014/11/19/ajh.hpu215.long>.
16. Filippi A, Degli Esposti L, Buda S, Diguardo A, Paolini I, Nati G. Why is My Hypertensive Patient Still Not Controlled? *High Blood Press Cardiovasc Prev*. 2014 Nov 25. Available from; <http://link.springer.com/article/10.1007%2Fs40292-014-0075-y>
17. Adeloye D, Basquill C, Aderemi AV, Thompson JY, Obi FA. An estimate of the prevalence of hypertension in Nigeria: a systematic review and meta-analysis. *J Hypertens*. 2014 Nov 6. Available from; <http://www.ncbi.nlm.nih.gov/pubmed/25380154>
18. Khanam MA, Lindeboom W, Koehlmoos TL, Alam DS, Niessen L, Milton AH. Hypertension: adherence to treatment in rural Bangladesh--findings from a population-based study. *Glob Health Action*. 2014;7:25028. Available from; <http://dx.Doi.org/10.3402/gha.7.25028>
19. Yue Z, Bin W, Weilin Q, Aifang Y. Effect of medication adherence on blood pressure control and risk factors for antihypertensive medication adherence. *J Eval Clin Pract*. 2014 Oct 16. Available from; www.ncbi.nlm.nih.gov/pubmed/25318567