

# Hypertension and Diabetes a Review at a Tertiary Care Setup

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## ABSTRACT

**Objective** To find the burden of hypertension and diabetes among patients admitted in medical wards over a period of three months.

**Method:** It was a cross sectional survey of adult patients admitted in medical wards both male and female and fourteen female patients with gestational amenorrhea being admitted in medical ward for blood pressure and blood sugar control.

**Type of study:** Cross sectional observational non interventional study.

**Results:** A total of hundred patients were included in this study who were admitted for their blood pressure and blood sugar control in medical wards of a tertiary care set up over a period of two months the age ranges were from 18 years to 93 years with a majority (95%) being non smoker and 41.2% were obese. The maximum duration of existing high blood pressure being 20 years, a total of 80 subjects had other comorbidities and 71.8% admitted to compliance with treatment. Fourteen pregnant female subjects who had hypertension or diabetes were also enrolled. Three patients in last trimester of pregnancy were hypertensive while the rest were admitted for their gestational diabetes control.

**Conclusion:** A total of 100 patients were included in this study. 85 patients (72 males, 13 females) were admitted in medical ward and there were 14 female patients who presented with gestational amenorrhea. There was female preponderance among 85 subjects however blood pressure control was equal among both genders. Majority patients belonged to middle class of socioeconomic status.

**Keywords:** Hypertension, diabetes, blood pressure, gestational diabetes.

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## INTRODUCTION

Hypertension and diabetes are the major health problems posing a risk for further complications and are also on the rise as well. According to the national health survey of Pakistan one in three individuals above the age of 45 years are hypertensives<sup>1</sup>. Therefore need arises to know the representation of diabetes and hypertension in outpatients and inpatients of private and general setup. A well kept record of such patients is needed as well as counselling sessions should be done to ensure the compliance towards therapy especially in pregnant patients. Currently diabetes affects 240 million people world wide and this number is projected to increase substantially to 380 million by 2025 with 80% of burden in low and middle income countries<sup>2</sup>. Pakistan belongs to high prevalence area currently having 6.9 million affected people with projected estimate of 11.5 million people by 2025<sup>3</sup>. Diabetes is the fourth leading cause of death in most developed countries with Pakistan currently ranking at 7<sup>th</sup> position in the list of countries and is expected to move to fourth position if present situation prevails.

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## MATERIALS AND METHODS

Data of diabetic and hypertensive patients was recorded and analysed. Apart from the demographics the main focus was on checking the compliance to medication and the existing blood pressure of the patients. The inclusion criteria included essential hypertensive patients above 18 years of age, and willing to be enrolled in the study. Exclusion criteria included hypertensive and diabetic patients requiring intensive care therapy patients not willing to provide their data. The blood pressure was recorded with the conventional mercury sphygmomanometer in the supine position with arm of the patient at the heart level.

## RESULTS

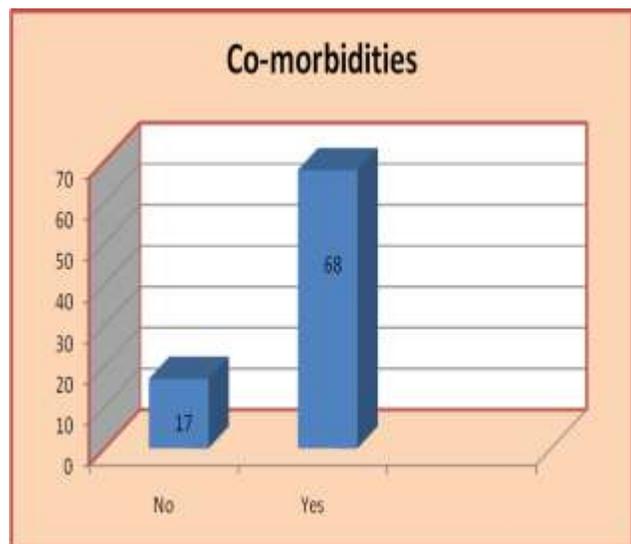
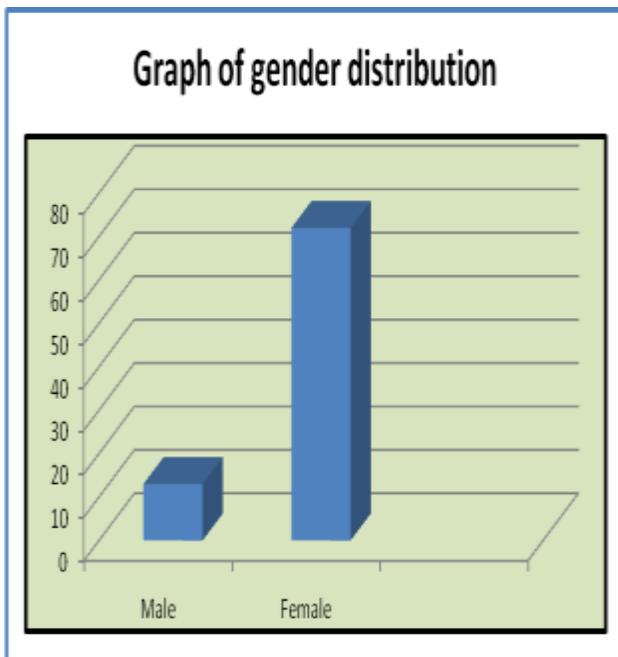
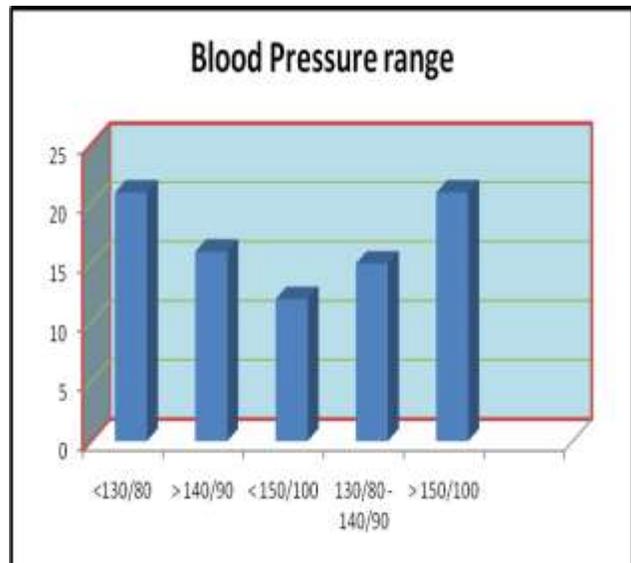
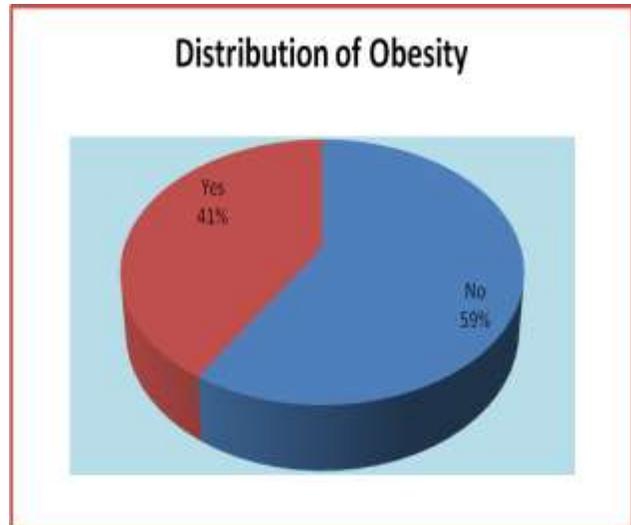
A total of 100 subjects were included in the study. Both male and female patients were included who were admitted in the medical ward for the control of their blood pressure and blood sugar levels. As it was a pilot study and also an observational one following characteristics were observed. Among the 85 subjects there were 13 males and 72 female patients. Apart from this there were 14 female patients who presented at different times of their gestational period. Among the 85 subjects the average age was 51.89±4.31 years with a minimum age of patient was

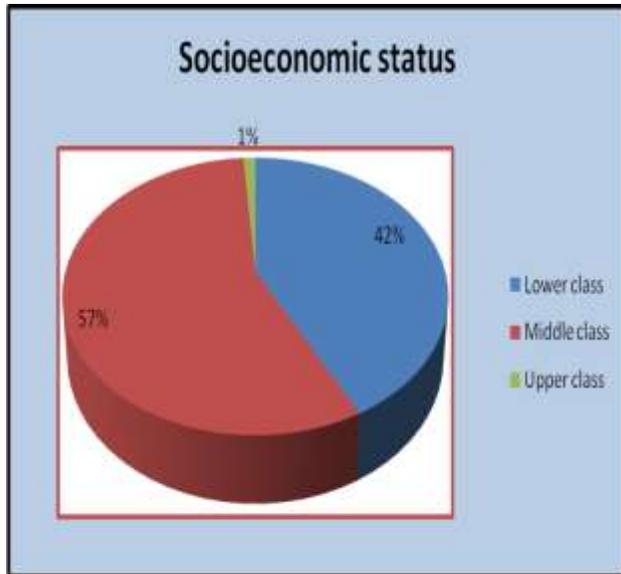
18 years. The maximum age limit was 93 years. 41.2% of the subjects were obese and 95% were non smokers as this group was predominated by female patients. The mean duration of illness was  $5.36 \pm 5.12$  years and maximum duration was 20 years. The mean systolic blood pressure recorded was  $139.9 \pm 20$  mmHg with range of 110 to 210 mmHg. The diastolic blood pressure was  $89.75 \pm 15.93$  mmHg with range of 60-90 mmHg. Eighty of the patients had comorbidities and 71.8% had compliance with the treatment.

The fourteen pregnant patients who were admitted in female medical ward for their blood pressure and blood sugar controls and among them five patients presented in their last trimester of pregnancy. One patient belonged to second trimester of gestation and six patients presented in their first trimester, while two patients were in the post partal period.

Three out of the five patients in their last trimester of pregnancy were hypertensive and on oral therapy one was a known hypertensive and one had pre eclampsia. One patient had gestational diabetes mellitus. The single patient belonging to second trimester also had gestational diabetes mellitus and was not hypertensive.

Six patients of first trimester of pregnancy had diabetes mellitus and did not have hypertension. Half of them were known diabetic. The two post delivery patients had diabetes mellitus. This study depicts a brief representation of the load of diabetes and hypertension in our inpatients in a small tertiary care hospital in medical wards only.





## DISCUSSION

Hypertension and diabetes are common health issues either occurring as a primary disease in any individual or as a comorbidity both are parameters of atherosclerosis and hence cerebrovascular events. The prevalence of hypertension and diabetes in our country ranges from 18-33%. However the world wide prevalence of both these conditions is one billion with an expectant increase to 1.56 billion by the year 2025<sup>4</sup>.

With these alarming figures it is also noted that only 24% of the hypertensive patients in United States have their blood pressure controlled at a target of <140/90mmHg<sup>5</sup>. The national health survey report NHSP report >70% of hypertensive subjects in Pakistan are unaware of their disease and visits to health care providers was 5.8 for women and 4.9 for men.

A study had been done in our country regarding awareness of hypertension among patients attending primary health care center and comparing it with a tertiary care hospital in Karachi<sup>6</sup>. A study was also done to evaluate the approach of general practitioners in Pakistan<sup>7</sup>.

One thousand randomly selected general practitioners from urban areas were found to under diagnose and under treat high blood pressure, with 45 % using sedatives to treat the high blood pressure.

The DECODA study was done to screen diabetes, hypertension hypercholesteremia as

predictors of cardiovascular disease and mortality. It was done on five populations of Asian origin. It was a meta analysis of five cohort studies<sup>8</sup>.

The national health examination survey done at Thailand in 2004 reported the prevalence of 68% and 21% for diabetes and hypertension in Thai population >15 years. The studies revealed more than half of the patient population was unaware of their condition. This also emphasizes on screening for diabetes and hypertension.

## CONCLUSION

Hypertension and diabetes are the two major predictors for atherosclerosis apart from a large number of contributable factors. Both these underlying factors are of prime importance as these are on the rise and as well as need awareness among our population so that they should be well controlled and followed up. The patients should be well educated about their medications and target blood pressure ranges. Meticulous attention should be paid to gestational diabetes and hypertension.

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