

Evaluation of Present Status of Hypertension at Port City Chattogram, Bangladesh: A Survey Study

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Abstract

Hypertension is one of the most common Non-Communicable Diseases, which is increasing day by day, and its complications account for 9.4 million annual deaths worldwide. The rate of hypertension in Chattogram is relatively higher and majority are undiagnosed hypertension. This study was conducted to investigate the risk factors of hypertension on the population of Chattogram and to determine the complication of Hypertension. This survey study was carried out from June 2019 to December 2019. From the survey, it was found that about 49% of people have hypertension in age between 20-49, 43% people have in age between 50-79, about 12% people have in age above 80, and majority of population have hypertension in age between 20-49. Among them, about 46% of male are suffered from hypertension whereas female are 57%. Hence, the risk of hypertension is higher in female rather than in male. About 50% of people have systolic blood pressure range above 130, 38% people have above 160, 10 people have above 180 & 6% people have above 100. About 44% of people have blood relative with hypertension, about 35% people do not have & about 24% people do not aware of the relative with hypertension. Among them about 21% people are given metformin for the treatment of diabetes mellitus in hypertension & about 10% people are given both metformin & glibenclamide. About 54% of people are given Enalapril, 33% people are given Amlodipine, 7% people are given both enalapril & Amlodipine and 5% people are given hydrochlorothiazide. Compliance with treatment was relatively high; however, accessability of drugs was mainly from private pharmacies. Hypertension was significantly associated with increasing age, being male, unemployment and obesity.

Keywords: Hypertension, Survey, Chattogram, Awareness

Introduction

Over the past decade the management of hypertension has changed with the recognition that there is no threshold below which elevated blood pressure causes no threat to health. Recent guidelines, including those of the British Hypertension Society, make it clear that treatment of isolated systolic hypertension is as important as that of systolic and diastolic hypertension [1]. The threshold above which hypertension should be treated to prevent long-term complications is now 140/90 mm Hg. Indeed, in Stage 1 hypertension, treatment of isolated systolic hypertension, reduces the prevalence of left ventricular hypertrophy, a predictor of future morbidity and mortality [2]. One of the most common medical disorders associated with an increased incidence of all-cause and cardiovascular disease mortality is Hypertension. Due to its high prevalence, Hypertension is a major public health issue in all around the globe.

High blood pressure causes around 7.5 million deaths or 12.8% of the total of all annual deaths worldwide. In 2025, it is predicted that cases will be increased to 1.56 billion adults with hypertension [3]. For chronic heart disease, stroke, and coronary heart disease, elevated blood pressure is a major risk factor. Elevated BP is positively correlated to the risk of stroke and coronary heart disease. Its complications include heart failure, peripheral vascular disease, renal impairment, retinal hemorrhage, and visual impairment other than coronary heart disease and stroke. Hypertension or high blood pressure is defined as abnormally high arterial blood pressure [4]. Normal blood pressure is a systolic BP < 120 mmHg and diastolic BP < 80 mmHg according to the Joint National Committee 7. Hypertension is defined as systolic BP level of ≥ 140 mmHg and/or diastolic BP level ≥ 90 mmHg. "prehypertension" is the grey area falling between 120–139 mmHg systolic BP and 80–89 mmHg di-

astolic BP. Prehypertensive subjects are at more risk of developing HTN although it is not a medical condition in itself [5]. Until a severe medical crisis takes place like heart attack, stroke, or chronic kidney disease, it is a silent killer as very rarely any symptom can be seen in its early stages. It is only through measurements that detection can be done since people are unaware of excessive blood pressure. Some people with HTN report headaches, light-headedness, vertigo, altered vision, or fainting episode, although majority of patients with hypertension remain asymptomatic [6]. Hypertension resulting increased morbidity and mortality is a chronic elevation of blood pressure that, in the long-term, causes end-organ damage. An increase in cardiac output, an increase in systemic vascular resistance, or both can be occur due to arterial hypertension & blood pressure is the product of cardiac output and systemic vascular resistance [7]. In older patient's, increased systemic vascular resistance and increased stiffness of the vasculature play a dominant role, while in the younger age group, the cardiac output is often elevated. Because of increased α -adrenoceptor stimulation or increased release of peptides such as angiotensin or endothelin's, vascular tone may be elevated. An increase in cytosolic calcium in vascular smooth muscle causing vasoconstriction is the final pathway [8].

Materials & Method

Study Design & Area:

This was a Survey based study. This study was carried out on the population of port city Chattogram, Bangladesh.

Study Duration:

Survey carried out from June 2019 to December 2019.

Study Procedure:

A population-based survey on risk factors & control of Hypertension was conducted on 500 adult population aged 30 years and older those who were already on treatment for hypertension were included as well. A questionnaire on hypertension was adapted and used for the data collection. The patients were asked the question by researcher herself which she filled in the questionnaire form. The questionnaire includes information such as name, age, weight, level of education, blood pressure range, and history of relatives with hypertension, complications of hypertension, medications used for the treatment of hypertension, patient's compliance with medication. The questionnaire was prepared based on references and resources by the researcher.

Results & Discussion

The total number of study population involved in this study was 500 in order to investigate the risk factors & control of hypertension on the population of Chattogram.

From the survey, we found that about 48% of people have hypertension in age between 20-49, 42% people have in age between

50-79 and about 11% people have in age above 80 and maximum people have hypertension in age between 20-49.

Table 1: Age Distribution of Hypertension Patients

Age	Percentage
20-49	49%
50-79	43%
Above 80	12%

From the survey we found that about 46% of male are suffered by hypertension where the amount of female are 57%. So, the risk of hypertension is higher in female rather than male.

Table 2: Risk of Hypertension in Male & Female

Gender	Percentage
Male	46%
Female	57%

From the survey we found that about 50% of people have systolic blood pressure range above 130, 38% people have above 160, 10 people have above 180 & 6% people have above 100.

Table 3: Blood Pressure Range

Blood pressure range (Systolic) mmHg	Percentage
Above 100	6%
Above 130	50%
Above 160	38%
Above 180	10%

From the survey we found that about 44% of people have blood relative with hypertension, about 35% people do not have & about 24% people do not aware of the relativity with hypertension.

Table 4: Relative with Hypertension

Relative with Hypertension	Percentage
Have	35%
Do not have	44%
Do not know	24%

From the survey we found that about 70% of people have no complications with hypertension and about 30% of people suffered from Diabetes mellitus.

Table 5: Complications of Hypertension

Complications	Percentage
No complication	70%
Diabetes mellitus	30%

From the survey we found that about 21% people are given metformin for the treatment of diabetes mellitus in hypertension & about 10% people are given both metformin & glibenclamide.

Table 6: Medications for Complications of Hypertension

Medications	Percentage
Metformin	21%
Metformin & Glibenclamide	10%

From the survey we found that about 54% of people are given Enalapril, 33% people are given Amlodipine, 7% people are given both enalapril & Amlodipine and 5% people are given hydrochlorothiazide.

Table 7: Antihypertensive Drugs

Antihypertensive Drug	Percentage
Amlodipine 5mg	33%
Enalapril 5mg	53%
Bisoprolol 2.5mg	5%
Hydrochlorothiazide 5mg	5%
Enalapril 5mg & Amlodipine 5mg	7%

Conclusions

From the survey, we found that about 49% of people have hypertension in age between 20-49, 43% people have in age between 50-79 and about 12% people have in age above 80 and maximum people have hypertension in age between 20-49. Among them, about 46% of male are suffered by hypertension where the amounts of female are 57%. Therefore, the risk of hypertension is higher in female compared to male. About 50% of people have systolic blood pressure range above 130, 38% people have above 160, 10 people have above 180 & 6% people had above 100. About 44% of people have blood relative with hypertension, about 35% people do not have & about 24% people are not aware of the relativity with hypertension. Among them, about 21% people are given metformin for the treatment of diabetes mellitus in hypertension & about 10% people are given both metformin & glibenclamide. About 54% of people are given Enalapril, 33% people are given Amlodipine, 7% people are given both enalapril & Amlodipine and 5% people are given hydrochlorothiazide. Among the adult population hyperten-

sion is increasing, and its complications account for 9.4 million annual deaths worldwide. The rate of hypertension in Chattogram is relatively high and with a high rate of undiagnosed hypertension. Compliance with treatment was relatively high, but access to drugs is mainly from private pharmacies. Hypertension was significantly associated with increasing age, being male, unemployment and obesity. This high rate of hypertension should be strictly controlled by taking effective steps such as comprehensive health education activities, screening program, encouraging optimal and healthy lifestyles and facilitating the access to free or subsidized antihypertensive treatment.

Recommendations

This study shows poor association of hypertension with healthcare availability. Non-communicable disease healthcare quality is adequate in states with greater hypertension prevalence although status of hypertension control is low. It is recommended that a follow-up study should be conducted to investigate the risk factors associated with high blood pressure in the Population. Whether better healthcare availability and uniform access and quality translate into reduction in prevalence of hypertension and decrease hypertension related disease burden awaits future studies.

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