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A Clinical Study on Prevalence and Management of Hypertension in Adults

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Abstract

Background: Hypertension is a major public health problem world-wide and in India. According to one survey the prevalence is 18%-22% in all the states of India Previously hypertension was common in urban areas and executives, but now it is increasing in rural population which may be due to sedentary life style increasing in obesity, changing food habits, stress and alcoholism. The prevalence in males is 22.95% and in females is 22.25%. Hypertension is defined as persistently elevated blood pressure exceeding 140/90 mm of Hg. Aim of the study: To assess the prevalence and management of hypertension. **Subjects and Methods:** We have conducted this study on 1900 adults. 290 were diagnosed as hypertensive. **Results:** We have examined 1900 adults out of these 1900 males were 1100 females were 800. Blood pressure was recorded in 2 different occasions. All the guide lines by world health organization were followed out of these 290 males 195, females were 85. **Conclusion:** Hypertension is gradually increasing in adult population and it is more prone to cause stroke and coronary artery disease. So screening programs are necessary in urban and rural areas of India.

Keywords: Hypertension, pre-hypertension, coronary artery disease, complications mortality, morbidity and strokes.

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Introduction

Hypertension is major public health problem in India and world-wide. HTN is defined as persistently elevated Systolic blood pressure more than 140mm of Hg and Diastolic Blood pressure more than 90mm of Hg. It is one of the major risk factors for cardiovascular mortality which accounts for 25% to 50% of all deaths.[1] There is also a direct relation between cardiovascular risk and blood pressure. The higher the blood pressure the higher the risk of stroke and coronary artery.[2] But in individuals over age 50years the systolic pressure and pulse pressure are better predicators of complications than diastolic blood pressure.[3] Adequate blood pressure control reduces the risk of acute coronary syndrome by 20% -25%, stroke by 30-35%; and heart failure by 50%.

Stage I HTN is called when systolic blood pressure is between 140-150mm of Hg and Diastolic BP is between 90-99mm of Hg; and Stage II HTN is called when systolic BP is greater than 160mm of Hg and Diastolic BP is greater than 100mm of Hg.[4] The uncontrolled HTN in public is increased between 1980 and 2008. High blood pressure is causing above 7.5 million deaths per year world-wide.[5]

Masked hypertension is where blood pressure is normal in the clinic but elevated at home. Guide lines from united kingdom suggests that ambulatory or home BP measurements should be used in preference to office based measurements in the diagnosis of hypertension.[6]

Data from Framingham cohost indicates that blood pressure bears a linear relationship with cardiovascular risk down to a systolic blood pressure of 115mm of Hg based on these data, it has been suggested that individuals with blood pressure in the gray area of 120-139/80-89mm of Hg be categorized as having prehypertension. Because pre HTN often develop into HTN (50% of affected individuals do so within 4 years) Pre hypertension patients should be monitored annually adults.[7,8]

Essential HTN is the term applied to the 95% of hypertensive patients in which elevated blood pressure results from complex interactions between multiple genetic and environmental factors. Essential hypertension occurs in 10-15% white adults and 20-30% of black adults in the United-States. The onset is usually between 25years to 50 years; it is un common before age 20years.[9]

Subjects and Methods

We have examined 1900 total no. of adults. Out of these 1900 males were 1100 and females were 800. Total no. of hypertensives are 290 and males were 195; females were 85. The maximum no. of hypertensives are in 30 of 40 years. We have recorded the blood pressure on the two separate occasions, by trained paramedical team. Those who are known hypertensives and chronic smokers and chronic alcoholics were excluded from this study. Blood pressure was recorded by sphygnomanometer by manually, in sitting

position after giving sufficient time for relaxation subject with systolic blood pressure more than 140mm of Hg and diastolic BP more than 90mm of Hg were considered as hypertension.

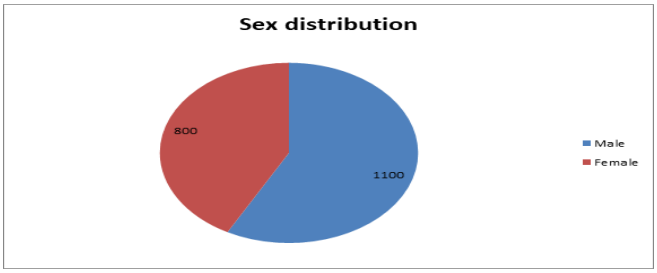

Figure 1: Sex distribution Total 1900

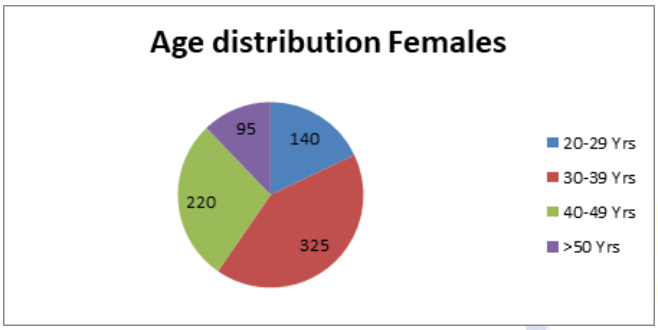

Figure 2: Age distribution Females

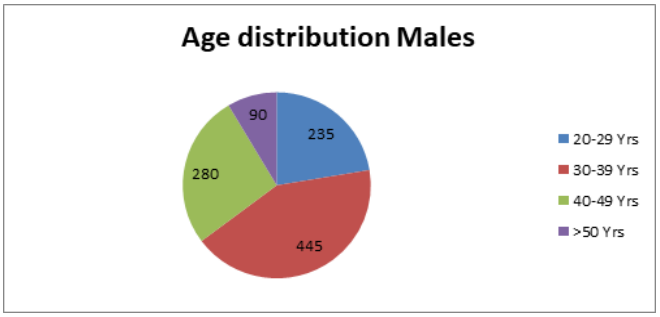

Figure 3: Age distribution Males

Results

We have examined the total no. of 1800 adults. Out of 1800 adults; 1100 are males and 700 are females. The total no. of hypertension are 290. Out of 290; males are 195 and females are 85. The maximum age group is 30-39 years.

Tables 1: Total No. of Subjects

Males	Females	Total
1100	800	1900

Tables 2: Total No. of Subjects with Hypertension

Males	%Percentage	Females	%percentage	Total
195	15.26%	85	12.97%	290

Tables 3: Total No. of Subjects Age Distribution

S. no	Age	Males	%Percentage	Females	%Percentage	Total
1	20-29 Yrs	235	12.3%	140	7.37%	375
2	30-39 Yrs	445	23.42%	325	17.10%	770
3	40-49 Yrs	280	14.73%	220	11.58%	500
4	>50 Yrs	90	7.01%	95	7.12%	185

Discussion

Hypertension is major public health problem in India and world-wide. Studies shows that 50% of hypertensive patients were not diagnosed. Hypertension is asymptomatic in most of the patients.

The pathophysiology of hypertension includes over activation of sympathetic nervous system and renin. Angiotensin Aldosterone system, blunting of pressure nariuresis relationship, variation in cardiovascular and renal development and elevated intracellular sodium and calcium levels.[10]

Predisposing factors include obesity, sleep apnea, increased salt intake, excessive alcohol use smoking, Drugs like NASIDS and low potassium intake. Other causes of hypertension include chronic kidney disease, thyroid disease and coarctation of aorta.[11]

Alcohol can increase blood pressure probably by increasing plasma catecholamine's. NSAIDS produces increasing in blood pressure averaging 5mm of Hg.

Secondary hypertension should be suspected in patients in whom hypertension develops at an early age or after the age of 50 years and in those previously well controlled who become refrectory to treatment. Hypertension can be caused by mutation in single genes, inherited on d mendelian basis glucocorticoid remediable aldosteroneism is an autosomal dominant cause of early HTN with normal or high alchosternome and low renin levels.

The complications of hypertension include coronary artery disease, stroke, heart failure, kidney failure, and retinal damage. The awareness of hypertension in United States is 74% and in Australia is 64.5% where as in south east Asian countries it is very low because of low socio-economic and low literacy levels.[12]

In India more than 70% of all hypertensive patients are un aware according to national survey.[13]

In our study the prevalence of hypertension is 17.6% with slight predominance of male which is nears to other international and national studies. More than 1 Billion population is having blood pressure more than 140/90mm of Hg world-wide and by 2025 it is going to increase up to 1.56 billion.[14]

In our study the common age group is 30yrs to 39yrs the management includes, regular exercise, avoidence of smoking, alcohol, low salt intake and regular blood pressure checkups. According to survey conducted by Govt. of India, hypertension is present in 33% of adults who are more than 40years of age. Several studies shows that only 50% of

people with hypertension were diagnosed and half of those treated.

Conclusion

Hypertension is more prone to cause stroke including cerebral hemorrhage and infarction and coronary artery disease even though prevalence in high, still major built is still undiagnosed. So regular screening camps and health awareness programs are need by Govt. agencies and NGO's to reduce the mortality and morbidity.

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