

A SURVEY BASED ON PREVELANCE AND CHALLENGES TO HYPERTENSIVE PATIENTS IN URBAN AREA OF RAMPUR (U.P)

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Abstract: Hypertension is a condition in which blood pressure raises to such an extent that it causes detrimental effect on health. Majority of people suffering from hypertension are affected by other life threatening conditions like heart failure, stroke, kidney failure, paralysis, aneurysms. The aim of this survey study is to assess that which age group people are suffering mostly from this condition, the causes of it, which medications are mostly preferred by them and whether they know about the health risks and future complications of hypertension. The study will help to establish a relational research design to determine the plans and steps that can be taken to create more awareness among people so they can be prevented from facing the serious risks and threats of hypertension.

Keywords: Pulmonary hypertension, thiazides, systolic-diastolic, stroke

Introduction

Hypertension is defined as a sustained increase in blood pressure 140/90 mm Hg, a criterion that characterizes a group of patients whose risk of hypertension-related cardiovascular disease is high enough to merit medical attention. (Chobanian et al.,2003). In 2005, the global burden of hypertension risen up approximately 0.9 billion in the year 2000 which in 2010, was estimated at approximately 1.4 billion, and is likely to substantially exceed 1.6 billion by 2025 (Kearney et al.,2005). Hypertension is also considered as an important risk factor for cardiovascular mortality and morbidity. The JNC 7*(The seventh report of Joint National Committee (of USA) on prevention, detection, evaluation and treatment of high blood pressure) (2003) and WHO-ISH(World Health Organisation and International society of Hypertension) guidelines (2003) have defined it to be 140 mm Hg systolic and 90 mm Hg diastolic, though risk appears to increase even above 120/80 mm Hg. Epidemiological studies have confirmed that higher the pressure (systolic or diastolic or both) greater is the risk of various cardiovascular disease (KD Tripathi, 2013)

Table 1 : Classification of Hypertension in adults (Goodman Gillman , 2010)

| CLASSIFICTION | BLOOD PRESSURE(mmHg) | |
|----------------------|----------------------|-----------|
| | Systolic | Diastolic |
| Normal | <120 | <80 |
| Pre-hypertension | 120-129 | 80-89 |
| Hypertension stage 1 | 130-139 | 90-99 |
| Hypertension stage 2 | >160 | >100 |

Hypertension is mainly of three types:

1. Primary hypertension: Essential hypertension is high blood pressure that doesn't have a known cause and also referred to as primary hypertension. Blood pressure is the force of blood against our artery walls as our heart pumps blood through our body. Hypertension occurs when the force of blood is stronger than it should be normally. (healthline.com). Several environmental factors influence blood pressure. High salt intake raises the blood pressure in salt sensitive individuals; lack of exercise, obesity, and depression (Mesas AE et al. 2011).

2. Secondary hypertension : This results from an identifiable cause. Kidney disease is the most common cause of secondary hypertension. Other diseases may also be factor of cause of hypertension such as Cushing's hyperthyroidism, hypothyroidism, acromegaly, Conn's syndrome or renal artery stenosis (from atherosclerosis) or hyperparathyroidism (**Rodriguez et al.2010**) Other causes of secondary hypertension obesity, sleep, excessive drinking of alcohol, sleeping apnoea, use of illegal drugs like cocaine and amphetamines in excess. (**Jieying Jiang 2015**). Non-restorative sleep, snoring and daytime sleepiness are clinical clues to pursue this diagnosis. (**John M.Flack et al.2019**)

3. Pulmonary hypertension: Increased pulmonary pressures overwork the right heart and lead to progressive right heart dysfunction, the major cause of morbidity and mortality in population (**Darlene Kim et al. 2019**). Pulmonary hypertension can occur in association with many other diseases such as lung disease and heart disease. Some common underlying causes include pulmonary arterial hypertension from some types of congenital heart disease, connective tissue disease, coronary artery disease, high blood pressure, liver disease (cirrhosis), blood clots to the lungs, and chronic lung diseases like emphysema. Genetics may also be the reason sometimes for causing it. (**cdc fact sheets 2019**) It is more common in women and in elderly persons aged above 75 years. The initial symptoms are usually difficulty in breathing, fatigue leading to more severe conditions like dizziness, chest pain, ankle swelling, feeling your heart race or pound palpitations (**Brown LM et al. 2011**)

PREVENTION

The first line of treatment for hypertension is lifestyle changes, including dietary changes, physical exercise, and weight loss. Hypertension should be managed along with exercise and proper diet plan like reduced sodium intake, green and fresh vegetables low intake of junk and fried foods, green tea consumption. (**Liu G et al. 2014**).

Several classes of medications, collectively referred as antihypertensive, are available for treating hypertension. First-line medications for hypertension include thiazide-diuretics calcium channel blockers, angiotensin converting enzyme inhibitors (ACEinhibitors) and angiotensin receptor blockers (ARBs).(**Musini VM et al. 2009**). These medications may be used alone or in combination as suggested by the physician may serve to minimize counter-regulatory mechanisms or synergise the effect of medications which restores blood pressure values to normal levels. (**Bradley HA et al. 2017**)

MATERIAL AND METHOD

The present study was done in posh urban area of Rampur like Shastri nagar, kalghar near bapu stadium and Ghair Bakshi. This was prospective randomized study conducted during the period of March to April 2019 including the people aged from 26 to above 45 years. First of all questionnaire was prepared about the factors associated to the cause of provoking hypertension in urban area people and distributed to them.

Questions were analyzed on the basis of percentage of people and disorders in different people.

Hypertension questions

Name of Patient:

Address:

Sex:

Weight:

| | |
|--------|--|
| 26-35 | |
| 36-45 | |
| >45 yr | |

Q.1 When were you diagnosed to have hypertension?

Q.2 Do you know the normal blood pressure a person should have?

Q.3 Do you smoke or suffer from any stress?

Q.4 Do you know about the health risk of hypertension?

Q.5 Does your dietary plan include high salt intake?

Q.6 Do you have any close relative who is/was suffering from hypertension? If yes, then who is this person?

Q.7 Do you faced any heart stroke or any other severe attack due to hypertension.

Q.8 What prescription of medications you are currently following?

Q.9 How often you feel your blood pressure rises and why?

Q.10 How often you consume salty, fried meat or junk food?

Q.11 Do you want to share any other relevant detail regarding your health issue?

Questionnaire tables were separately evaluated for each age group and the answers were evaluated on the basis of information gathered. There were no ethical problems in this study. Individual verbal consent was taken prior to study from each patient. No interventions were planned as part of the study. Those who were detected to have hypertension were given appropriate knowledge and management of hypertension.

RESULTS

Table no.1 (For age 26-35)

| | | | | | |
|---|------------------------------------|---------------------|----------------------------|--------------------|-------------|
| Age 26-35 | YES 8% | NO 92% | | | |
| When diagnosed with hypertension? | 0-1 year | 1-5 years | 6-10 years | 11-15 years | 16-20 years |
| | 50% | 50% | NIL | NIL | NIL |
| Do you know a normal B.P person should have? | YES | NO | | | |
| | 50% | 50% | | | |
| Do you smoke or suffering from stress? | Smoke | Stress | | | |
| | 20% | 80% | | | |
| Do you know about the health risks of hypertension? | YES | NO | | | |
| | 70% (Heart stroke) | 30 | | | |
| Does your dietary plan include high salt intake? | MEDIUM | LOW | | | |
| | 50% | 50% | | | |
| Close relative suffering from hypertension | YES | NO | | | |
| | 50% | 50% | | | |
| Any other severe attack or heart stroke due to hypertension? | Heart stroke | Any other attack | No problem | | |
| | 32.2 | 14.8 Palpitation | 53.0 | | |
| Medications | CCB | ACE inhibitors | AT ₁ antagonist | β blockers | Others |
| | 100% (Amlovas5) | NIL | NIL | NIL | NIL |
| How often your B.P rises? | Once a week | Once in 15 days | Once a month | Once in two months | |
| | 100% (due to stress and work load) | NIL | NIL | NIL | NIL |
| How often you consume salty, fried & junk food | Daily | Weekly | Monthly | Half a year | Never |
| | 10% | 60% | 30% | NIL | NIL |
| Any other detail regarding health issue | YES | NO | | | |
| | NIL | 100% | | | |

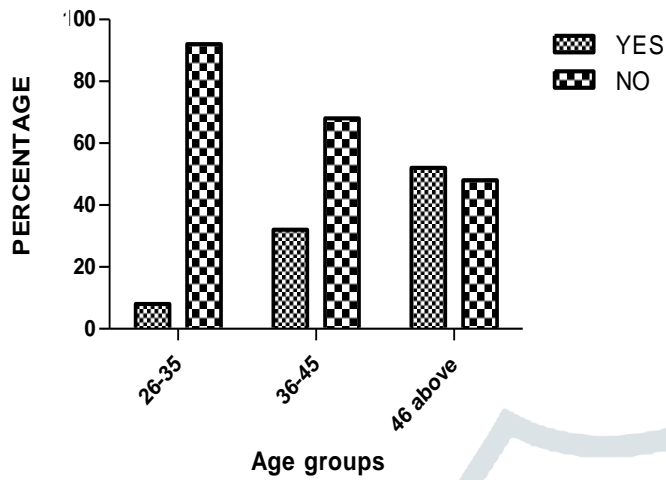
Table no.2 (For age 36-45)

| | | | | | |
|---|---------------------------------------|----------------------------|----------------------------|--------------------|-------------|
| Age 36-45 | YES 32% | NO 68% | | | |
| When diagnosed with hypertension? | 0-1 year | 1-5 years | 6-10 years | 11-15 years | 16-20 years |
| | 20% | 50% | 20% | 10% | NIL |
| Do you know a normal B.P person should have? | YES | NO | | | |
| | 40% | 60% | | | |
| Do you smoke or suffering from stress? | Smoke | Stress | No cause | | |
| | 10% | 80% | 10% | | |
| Do you know about the health risks of hypertension? | YES | NO | | | |
| | 50% (Heart stroke, kidney failure) | 50% | | | |
| Does your dietary plan include high salt intake? | MEDIUM | LOW | | | |
| | 20% | 80% | | | |
| Close relative suffering from hypertension | YES | NO | | | |
| | 20% (Father, mother) | 80% | | | |
| Any other severe attack or heart stroke due to hypertension? | Heart stroke | Any other attack | No problem | | |
| | 10.0% | 40% (Paralysis, Angina) | 50% | | |
| Medications | CCB | ACE inhibitors | AT ₁ antagonist | β blockers | Others |
| | 100% (Amlovas5) | NIL | NIL | NIL | NIL |
| How often your B.P rises? | Once a week | Once in 15 days | Once a month | Once in two months | |
| How often you consume salty, fried & junk food | 100% (due to stress and work load) | NIL | NIL | NIL | NIL |
| | Daily | Weekly | Monthly | Half a year | Never |
| Any other detail regarding health issue | NIL | 25% | 15% | 10% | 50% |
| | YES 10% (diabetes) | No 90% | | | |

Table no. 3 (For age above 46 years)

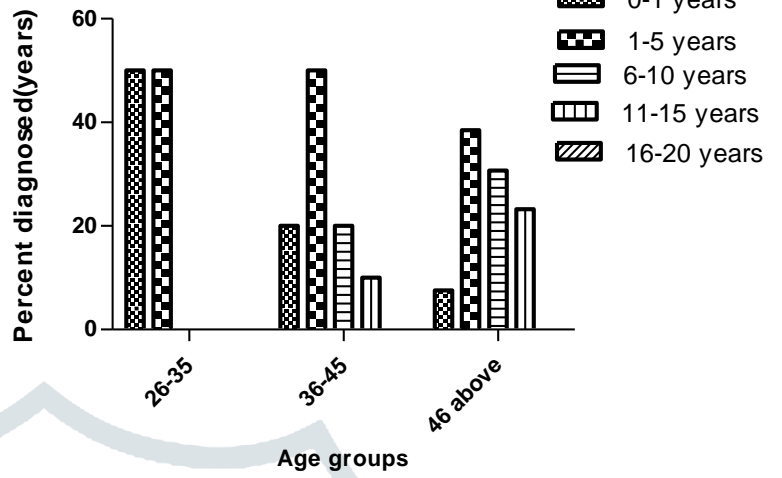
| | | | | | |
|---|--|----------------------|----------------------------|--------------------|-------------|
| Age > 46 | YES 52% | NO 48% | | | |
| When diagnosed with hypertension? | 0-1 year | 1-5 years | 6-10 years | 11-15 years | 16-20 years |
| | 7.6% | 38.5% | 30.7% | 23.2% | NIL |
| Do you know a normal B.P person should have? | YES | NO | | | |
| | 38.4% | 61.6% | | | |
| Do you smoke or suffering from stress? | Smoke | Stress | No cause | | |
| | 38.4% | 46.4% | 15.3% | | |
| Do you know about the health risks of hypertension? | YES | NO | | | |
| | 46.1% | 53.9% | | | |
| Does your dietary plan include high salt intake? | MEDIUM | LOW | | | |
| | 69.2% | 30.8% | | | |
| Close relative suffering from hypertension | YES | NO | | | |
| | 23.07% | 76.93% | | | |
| Any other severe attack or heart stroke due to hypertension? | Heart stroke | Any other attack | No problem | | |
| | 65.2% | 18.6% (paralysis) | 16% | | |
| Medications | CCB | ACE inhibitors | AT ₁ antagonist | β blockers | Others |
| | 46.2% | NIL | 30.7% | 23.07% | NIL |
| Any adverse effects of medicine | YES Nil | NO 100% | | | |
| How often your B.P rises? | Once a week | Once in 15 days | Once a month | Once in two months | |
| | 23.07% | 76.93% | NIL | NIL | |
| How often you consume salty, fried & junk food | Daily | Weekly | Monthly | Half a year | Never |
| | Nil | 46.3% | 7.6% | 15.4% | 30.7% |
| Any other detail regarding health issue | YES 38.46% (Kidney problems, diabetes) | Artery block 42% | NO 19.54% | | |

People suffering(Yes) or not suffering(No) in different age groups



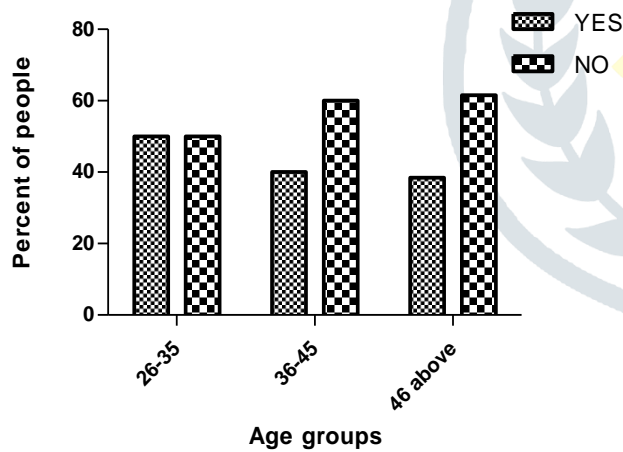
Graph 1

Hypertension diagnosed in different age groups according to years



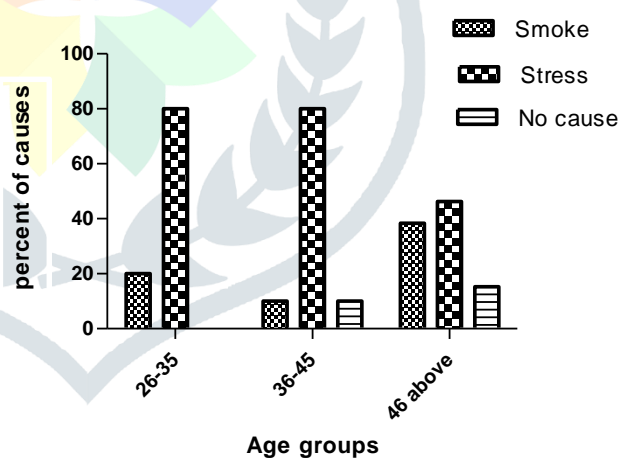
Graph 2

Percentage of people who knows(Yes) and don't know (No) the normal B.P of person



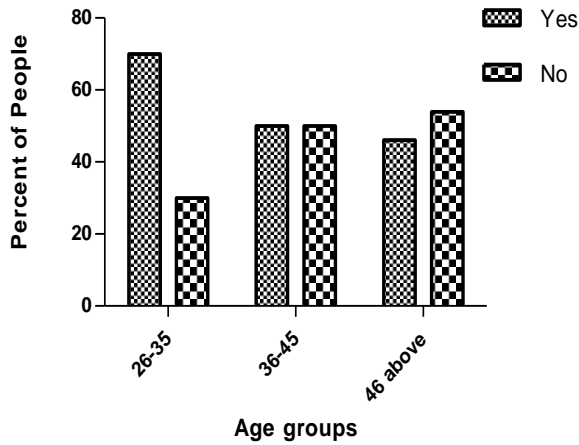
Graph 3

Causes of hypertension in different age groups



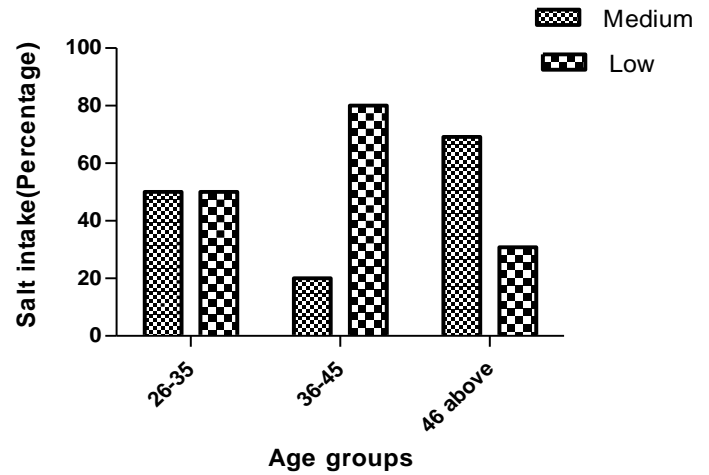
Graph 4

Percent of people knows(Yes) and don't know(No) about the health risk of hypertension in different age groups



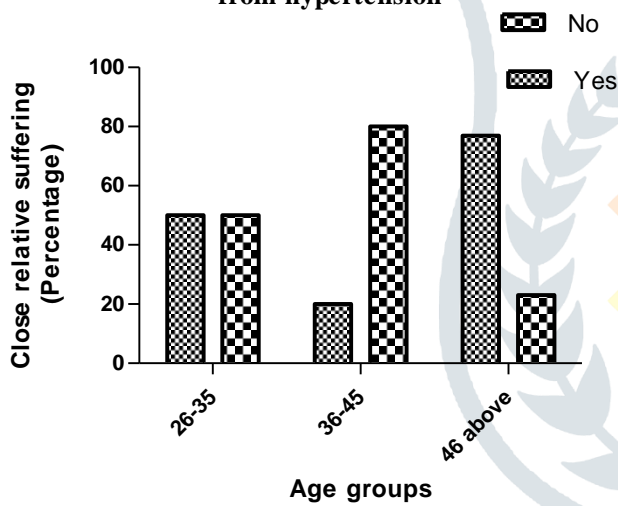
Graph 5

Percentage of people consuming medium to low salt intake in different age groups



Graph 6

Percent of people whose close relatives suffers(Yes) and does not suffer(No) from hypertension



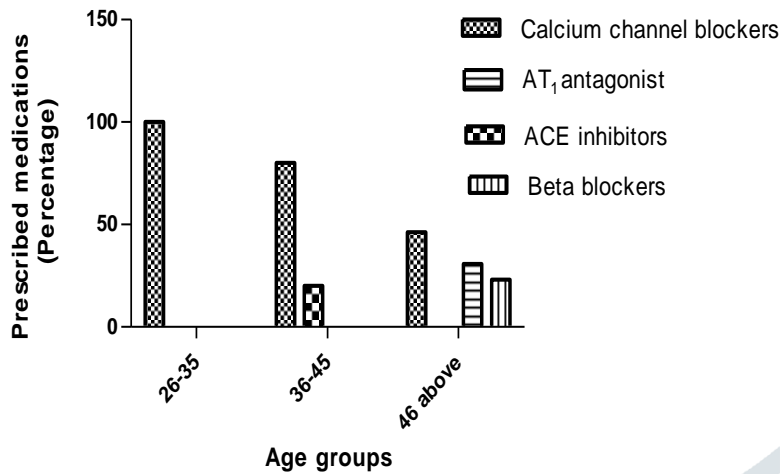
Graph 7

Different severe attacks due to hypertension in different age groups

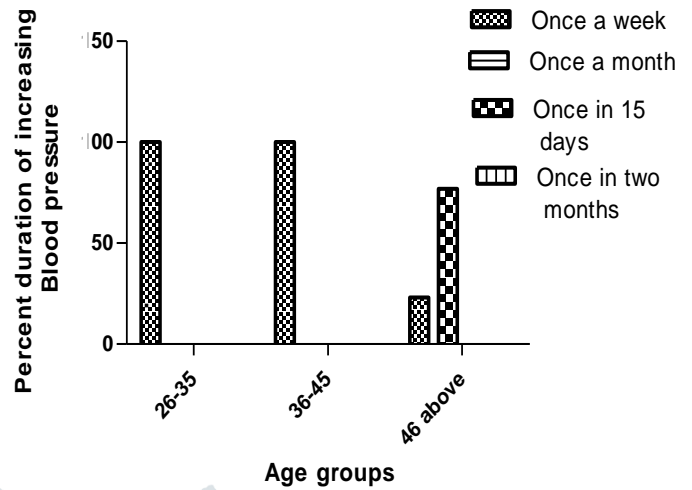


Graph 8

Percentage of different prescribed medications in different age groups



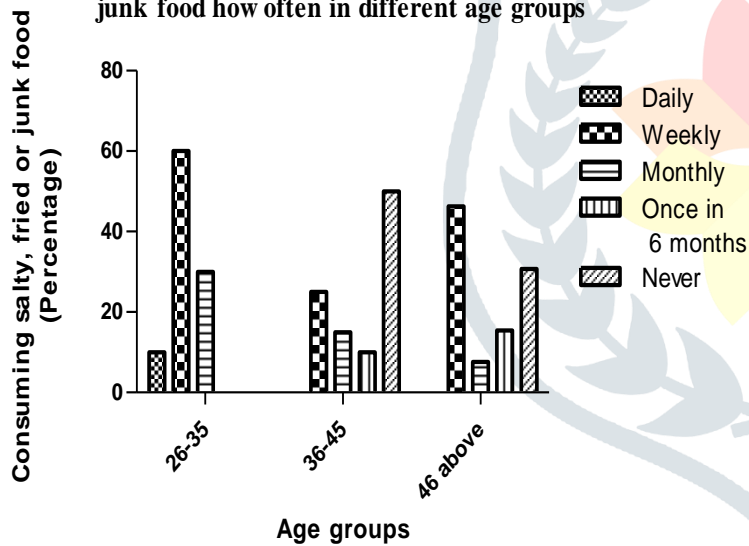
Duration of increasing B.P in different age groups



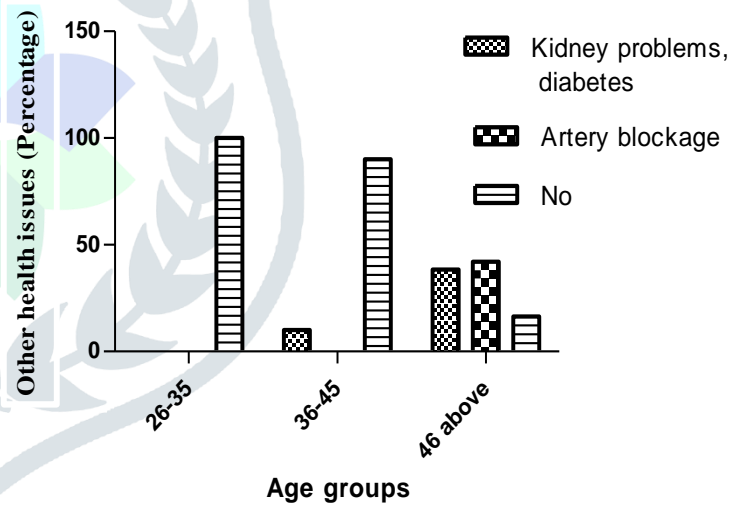
Graph 9

Graph 10

Percent of people consuming salty, fried and junk food how often in different age groups



Percentage of different health problems faced by different age groups



Graph 11

Graph 12

DISCUSSION:

From table no.1 after analysing the questionnaire which was found that 8% of people having age 25-35 were diagnosed with in 0-1 year. 50% of people know about normal blood pressure a person should have while 50% does not know. The cause of hypertension in this age group was 80% stress and 20% smoking. Half of the people consume medium to low salt intake apart from this 70% of people also suffers from other attacks like heart stroke and angina. Majority of peoples takes Calcium channel blockers which even ease their problems. Their blood pressure rises once a week due to stress and workload. They consume salty, fried and junk food daily, mostly weekly and monthly too.

From table no.2 after analysing the questionnaire the result was found that nearly 32% of people having age 36-45 suffers from hypertension and half of them were diagnosed mostly within 1-5 years. 60% of the people even don't know the normal blood pressure of person. 80% of the people among them consume low salt intake. The cause of hypertension in this age group is majority of stress and minor smoking. 40% peoples suffers from the other attacks like paralysis and angina, 10% of them with heart stroke while other 50% does not have any attacks. Majority of them prefers calcium channel blockers their blood pressure rises once a week due to stress and workload. They also consume salty, fried and junk food weekly and monthly. Approximately 10% of the patients suffers from diabetes which they shared in other health issue details.

From table no. 3 after the analysing the questionnaire we found that 52% of peoples above 46 years of age suffer from hypertension and mostly diagnosed between 1-5 years and 6-10 years. 61% of people among them don't even know the normal blood pressure of a person. 46% of people's cause is mainly stress, 38.4% is smoking while rest observed increased blood pressure without any cause. 30% of them follow low salt diet while the other 70% follows medium salt diet. Heart strokes had occurred in nearly 65% of patients while 18-19% had undergone paralysis very few people are without any attack. In this age group also 47% of the people prefer calcium channel blocker where as other prefer AT1 antagonist (may be due to resistant action of calcium channel blockers) and rest beta-blocker. The blood pressure of 23.07% of people rises once a week and of 77% once in 15 days mostly due to stress. 46% of patients even consume salty fried and junk food weekly. Other health issues with them are that nearly 38.46% of people suffer from kidney problems and diabetes whereas 42% of them face artery blockage.

On comparing the data revealed in **graph 1** it was observed as out of all the age groups percentage of people suffering from hypertension was greater for above 46 years. Same way on comparing the data of **graph 2** the age group of above 46 years were diagnosed with this problem much earlier than other age groups. In **graph 3** it was found that the age group of above 46 years have somewhat higher percentage of not knowing the normal blood pressure of the person in compare to other age groups. From **graph 4** it was found that the cause of hypertension in all the age groups was mostly stress but in age group of above 46 years smoking was also a prominent cause. In **graph 5** it was found that 26-35 age group people knows about the health risks of hypertension whereas in age group this percentage was less as compared to this and lastly in age group of above 46 years the percentage of knowing about these risks factors on health was the least. In **graph 6** the low salt intake of 36-45 age group was maintained whereas in other age groups people consume medium salt intake more than low salt intake. Data of **graph 7** shows that in age group of above 46 years more of their close relatives suffer from hypertension in compare to other two age groups. **Graph 8** shows that people had faced severe attacks due to hypertension like heart stroke, angina paralysis out of which heart stroke had most occurred in above 46 years group while paralysis and angina in 36-45 age group which indicates that 46 above patients are the most sufferers. **Graph 9** shows people with age group 26-35 and 36-45 mostly prefer calcium channel blockers while the people in age group of above 46 years prefer calcium channel blockers, angiotensin antagonist and beta blockers mostly. On comparing the data in **graph 10** we found that the duration of increasing blood pressure was once a week for 26-35 and 36-45 whereas above 46 age group people blood pressure increases mostly once in 15 days and some of them weekly also. **Graph 11** shows that the percentage of people consuming salty, fried and junk food was mostly of the age group 26-35 years in compare to the other two age groups. **Graph 12** shows that other health issues like kidney problems, diabetes and also artery blockage was also mostly in age group of above 46 years as compared to other two groups which shows that these people are more vulnerable to the complications and health risks of hypertension.

CONCLUSION

The recent survey study revealed that hypertension is mostly occurring in people aged above 46 years. About 60% of patients don't even know the normal blood pressure of body. Majority of them consume salty and fried food and also suffers from stress. Medications ease their problem to some extent but still various plans have to be implemented for their better understanding of the complications and risk factors of hypertension. Therefore we have concluded that our aim should be to provide them necessary details regarding the maintenance of their health. Their stress should be reduced by organising some society refreshment programmes time to time. The government should organise the programme to focus on proper treatment, frequent B.P checkups and also point to point campaigns for proper counselling to the patients. Health and nutritious diet plans as well as healthy cardiac exercises should be provided by the workers of this programme so that their awareness towards hypertension and its severe risks can be increased. These ways can only reduce the mortality caused by hypertension and various other health issues caused by it.

Being a part of society we all should join hands to minimize this global rising problem of hypertension and move the people towards better safety margins.

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