



A STUDY ON THE ASSESSMENT OF EVIDENCE BASED PRESCRIBING PATTERN OF ANTIHYPERTENSIVE AGENTS IN A TERTIARY CARE HOSPITAL

To Assess the Knowledge and Awareness about Hypertension in hypertensive patients

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Abstract: Hypertension is the most common medical condition nowadays and it is the main disease that predisposes to other Cardiovascular, renal, cerebrovascular diseases. This study is a prospective observational study aimed at knowing the patients knowledge and awareness of hypertension and also focused on the assessment of evidence based medical treatment of the hypertension using a questionnaire and literature review. About 60% of the management of hypertensive condition, evidence based medicine method was practiced still needed to apply more. Subject's Knowledge and awareness on hypertension is comparatively less. Thus management of the conditions shouldn't be confined to the treatment plan but also on the subject's knowledge and awareness on the condition is essential for effective medication adherence and improving quality of life.

Key terms: Antihypertensive agents, Hypertension, Evidence based medicine, Knowledge, prescribing pattern

Hypertension is one of the major leading causes of many cardiovascular diseases, renal disease complications and cerebrovascular diseases. Based on some epidemiological studies on hypertension 1 billion people are affected with hypertension and it may exceed to 1.56 billion by 2025. Controlling the hypertension with Anti-hypertensive medications may lower the risk of myocardial infarction, heart failure, stroke, chronic kidney disease with hypertension and many other conditions (1). Rational use of Anti-hypertensive medications can lower the risk of mortality and morbidity resulting from hypertension and its complications.

Definition: Hypertension is defined as short term or long term elevation arterial blood pressure exceeding systolic blood pressure above 140mm Hg or a diastolic blood pressure above 90mm Hg(2)

CLASSIFICATION OF BLOOD PRESSURE IN ADULTS:

1. Normal Blood pressure shows systolic BP less than 120mmHg or Diastolic BP less than 80mmHg.
2. Pre Hypertension shows systolic BP which lies between 120-139mmHg and diastolic BP lies between 80-89 mmHg.
3. Stage 1 Hypertension shows Systolic BP which lies between 140-159mmHg and Diastolic BP lies between 90-99 mmHg.
4. Stage 2 Hypertension shows Systolic BP greater than 160 mmHg or Diastolic BP greater than 100mmHg (2).

HYPERTENSIVE CRISIS: If Blood pressure greater than 180/120 mmHg is known as Hypertensive Crisis. It is classified into Hypertensive emergency and Hypertensive urgency.

1. Hypertensive Emergency is defined as extreme elevated BP associated with target organ damage.
2. Hypertensive Urgency is defined as High elevated BP is not associated with target organ damage (2).

Etiology:

Hypertension may be primary (Essential) or secondary.

Primary Hypertension: It occurs due to unknown etiology (idiopathic). This Hypertension accounts for 90-95 % of cases (2).

Secondary Hypertension: It occurs due to specific cause. This Hypertension accounts for less than 10% of cases. Specific underlying causes includes renal, vascular, endocrine, neurogenic, drug induced and other causes.

Renal causes: Polycystic kidney disease, chronic kidney disease, liddle syndrome, Urinary tract Obstruction and Renin-producing tumor.

Vascular causes: Collagen Vascular disease, Vasculitis and Coarctation of aorta.

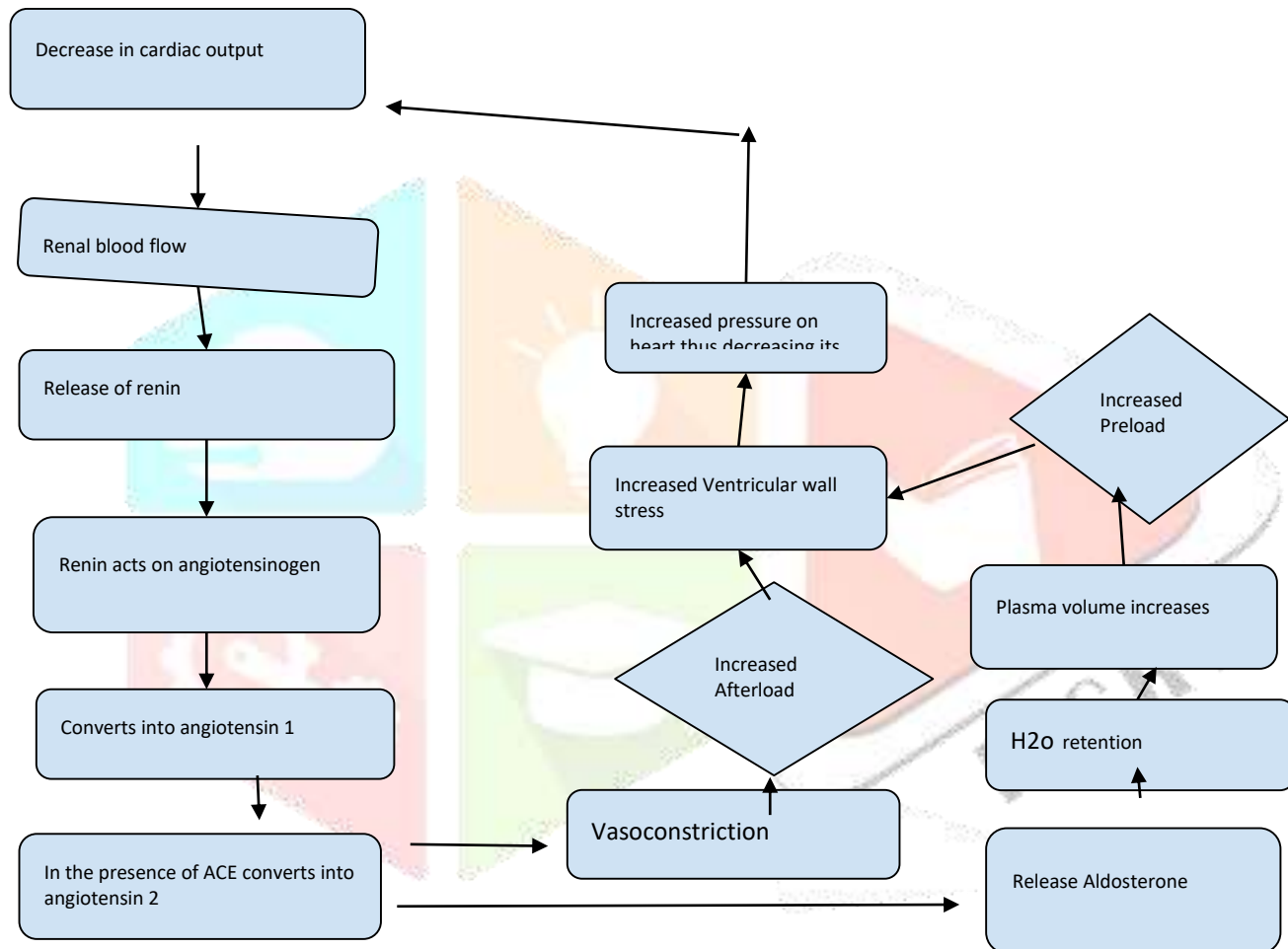
Endocrine causes: Congenital Adrenal Hyperplasia, Pheochromocytoma, Cushing Syndrome and Primary Hyperaldosteronism.

Neurogenic Causes: Intracranial Hypertension, Brain tumor, autonomic dysfunction and sleep apnea.

Drug induced causes: Corticosteroids, Alcohol, Cocaine, Cyclosporine, Tacrolimus, NSAIDS, Erythropoietin, Adrenergic medications, Ephedrine Containing Decongestants, Herbal remedies with composition of licorice or Ephedrine and nicotine.

Other Causes: Hypercalcaemia, Hypoparathyroidism, Acromegaly, Obstructive Sleep apnea, Pregnancy induced Hypertension, Hyperthyroidism and Hypothyroidism (3)

PATHOPHYSIOLOGY:



Clinical presentations of Hypertension includes - confusion, Headache, sweat, Tachycardia, Nose bleed, difficulty in breathing, trouble sleeping etc.

TREATMENT:

Hypertension therapy includes calcium channel blockers (dihydropyridine and non dihydropyridines), thiazide diuretics (thiazide, loop and potassium sparing diuretics), angiotensin converting enzymes(ACE) inhibitors (lisinopril, benazepril, captopril), angiotensin2 receptor blockers(ARBs) (candesartan and losartan), Beta blockers, alpha and beta blockers

• Calcium channel blockers: These drugs helps in relaxing the muscles of our blood vessels and some slows down the heart rate. Avoid grapefruit juice because it interacts with calcium channel blockers by increasing their blood levels and also prevents the breakdown of the drug in our blood.

1. Amlodipine: Mechanism of this drug involves relaxing the blood vessels so that blood can flow more easily.

Dosage: Initially 5mg of drug is given to adult patients per day and may be increased by 2.5mg for every 7 to 14 days.

2. Diltiazem: It Increases the supply of blood and oxygen to the heart and also relaxes the blood vessels so that the heart does not have to pump so hard.

Dosage: -Oral dose for adults ranges from 120mg to 540 mg per day.

-The tablets that acts immediately are given up to four times a day.

-The tablets that have extended action are given once a day, it should not be chewed.

- **Thiazide diuretics:** Diuretics are also called as water pills which are the medications that acts on our kidneys to eliminate sodium and water from the body further reducing the blood volume and also increases the production and urine output(diuresis).

1. **Chlorthalidone:** Chlorthalidone can be taken orally and is taken once a day or every alternate day post breakfast. Interactions with this drug includes: cisapride, dofetilide, lithium. NSAIDS like ibuprofen, naproxen and cough-cold medications have some ingredients that could raise our blood pressure leads to heart failure.

This drug interferes and produces false results for certain laboratory tests like parathyroid hormone test (PTH test), protein-bound iodide test(PBI test). So, be cautious before using this drug and get suggestions from your consultant.

2. **Hydrochlorothiazide:** It acts as a first-line treatment for high blood pressure.

Dosage: 25 mg is given once daily per oral as initial dose and may increase it to 50mg once or in 2 divided doses orally as maintenance dose.

- **Angiotensin-converting enzyme (ACE) inhibitors:** It acts by blocking the formation of a natural chemical which narrows blood vessels further relaxing the blood vessels. ACE inhibitors works as the best drug for the patients with chronic kidney disease.

1. **Lisinopril:** This drug is given in combination therapy. It helps in lowering the blood pressure by relaxing the blood vessels which further reduces the stress on your heart. This drug is contraindicated in pregnant women and those who planned to become pregnant.

Dosage:

-5mg to 10mg of drug can be given once in a day per oral initially.

-20 to 40 mg of drug per oral can be given as maintenance dose where 80mg once daily is the maximum dose.

2. **Benazepril:**

Benazepril can be used alone and in combination with other drugs. This drug should not be used within 36 hours of using sacubitril. This drug also shows impact on mood disorders (Mood stabilizer drug).

Dosage: 5mg of drug is given for the patients orally per day to avoid excessive hypotension those who are on diuretics.

10mg of drug is given for the patients orally per day who are not on diuretics.

Maintenance dose is: 20 to 40mg per day.

3. **Captopril:**

Avoid this drug in pregnancy.

In diabetic conditions, those who are on medications like aliskiren, should stop taking captopril. In case of taking any potassium supplements, working out with strenuous exercises leading to dehydration problems, alcohol consumption, DOSAGE:

Initial dose: 25 mg of drug is taken orally 2 to 3 times a day one hour before meals.

Maintenance dose: May increase the dose for every 1 to 2 weeks up to 50 mg three times in a day orally. Adding thiazide diuretic and titrating to its highest usual antihypertensive dose before, rather increasing the dose of captopril can be used in uncontrolled hypertension even after 1 to 2 weeks.

Maximum dose: 450 mg per day.

This group of medications have similar chemical structure and have similar mechanism of action, also works to treat similar conditions.

- **Angiotensin II receptor blockers (ARBs).** This drug relaxes the blood vessels by only blocking the action of a natural chemical which narrows the blood vessels but does not plays its role in their formation. These medications benefits for the patients those who are with chronic kidney disease.

1. **Candesartan:**

Candesartan can leads to fetal damage when it is taken by pregnant women, during second or third trimester. This drug is very effective when given in combination with diuretics like chlorthalidone and are available with the combination of hydrochlorothiazide (low dose) In some cases due to inhibition of the renin-angiotensin system, Anemia may cause.

Dosage:

Initial dose: 16 mg of drug can be given once in a day per oral where maintenance dose

Ranges from 8 to 32mg per day in 1 to 2 divided doses orally.

Maximum dose is 32 mg/day.

2. **Losartan:**

It reduces the blood pressure and promotes blood flow by narrowing the blood vessels. Avoid taking losartan in case of pregnancy or any allergies. In diabetic conditions, those who are on medications like aliskiren, should stop using this drug.

Dosage:

Initial dose: 50 mg of drug can be given once in a day orally where Maintenance dose ranges from 25 to 100 mg in 1 to 2 divided doses.

Other Prescribed Drugs Include:

- Alpha blockers: Alpha blockers include doxazosin and prazosin.

It reduces the effects of natural chemicals which narrows the blood vessels by reducing the nerve impulses to blood vessels.

- Alpha-beta blockers: Alpha-beta blockers include carvedilol and labetalol.

Alpha-beta blockers slows down the heartbeat to decrease the amount of blood that have to be pumped through the blood vessels and also reduces the nerve impulses to the blood vessels.

- Beta blockers: Beta blockers include acebutolol and atenolol.

It causes your heart to beat slower and with less force thereby reducing the workload on heart and also helps in opening the blood vessels.

- Beta blockers are more effective when given in combination with other blood pressure medications.

- Aldosterone antagonists: Aldosterone antagonists include spironolactone and

Eplerenone. It contributes in lowering high blood pressure by blocking the effect of natural chemical leading to salt and fluid retention.

- Renin inhibitors: Renin inhibitors include Aliskiren. Renin is an enzyme which converts angiotensinogen to angiotensin I and then converted to angiotensin II by the help of angiotensin converting enzyme which is a potent vasoconstrictor that rises the blood pressure. It also causes vasodilation by blocking the activity of renin i.e., renin inhibitors.

- Vasodilators: Vasodilators include hydralazine and minoxidil

It reduces the muscles from tightening and your arteries from narrowing by acting directly on the muscles of the walls of arteries.

- Central-acting agents: Central-acting agents include clonidine, guanfacine and

methyl dopa. This drug helps in increasing your heart rate and also narrows your blood vessels by preventing the signals to your nervous system from the brain.

METHODOLOGY

For the study, protocol, questionnaires, informed consent form and patient's proforma were designed and submitted to IRB for approval- After getting IRB approval the following tasks were performed .

Study Site: Virinchi Hospital, banjarahills.

Study Design: This was a prospective, observational and cross-sectional descriptive comparative study.

Study Duration: 6 months

Sampling Methods:

The eligible respondents were selected by systematic randomized controlled sampling method.

Inclusion Criteria –

- subjects with a known history of hypertension or DE novo hypertension
- Patients with other co-morbid conditions
- age criteria- >30 years

Exclusion Criteria –

- Pediatrics departments
- Comatose patients.
- Mentally incompetent

Source of Data -

Patient's data relevant to the study obtained from the following sources:

-Patient data collection form – A well designed patient data collection form was developed for the complete details of patient's condition and treatment given.

-Hypertension Fact Questionnaire -Interaction with the patient and senior cardiologist.

Sample Size- 100

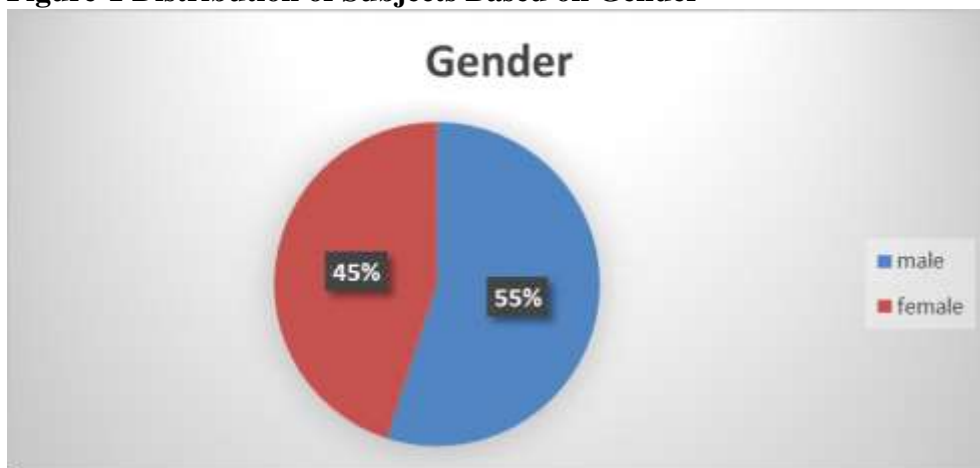
Results and Discussion:

Table-1 Age wise distribution of patients:

Among 100 patients included in study, majority of patient are found under the age group of 51-70 (45%) with a mean age of 56±11.53 years

Age in years	No. of patients	Percentage
30-50	35	35%
51-70	45	45%
71-90	20	20%

Descriptive Statistics								
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Age	100	52	31	83	56.87	1.153	11.534	133.023

Figure-1 Distribution of Subjects Based on Gender –**Fig-1 Distribution based on gender****Table-2 Classification Based on the Treatment**

Treatment of Drugs	No of prescriptions	percen tage
Amlodipine	3	3%
Atenolol	2	2%
Atenolol, Amlodipine, Enalapril	1	1%
Atenolol, Enalapril	4	4%
Atenolol, Enalapril, Furosemide	1	1%
Atenolol, Enalapril, Furosemide, spironolactone	1	1%
Atenolol, Enalapril, Spironolactone	1	1%
Atenolol, Enalapril, Torsemide	1	1%
Atenolol, Telmisartan, torsemide	1	1%
Carvedilol, Furosemide, Spiranolactone	1	1%
Carvedilol, Furosemide, Spironolactone	1	1%
Carvedilol, Nicorandil	2	2%
Enalapril	8	8%
Enalapril, Atenolol	2	2%
Enalapril, Atenolol, spironolactone	1	1%
Enalapril, metoprol	2	2%
Enalapril, spironolactone, atenolol	2	2%
Enalapril, Torsemide	1	1%
Furosemide	2	1%
Furosemide, amlodipine	1	1%
Furosemide, Carvedilol, Enalapril	1	1%
Furosemide, Carvedilol, Enalapril, spironolactone	3	3%
Furosemide, Enalapril	2	2%
Furosemide, Enalapril, Atenolol, spiranolactone	1	1%
Furosemide, Enalapril, metoprolol, spironolactone	1	1%

Furosemide, Metoprolol, Spironolactone, Enalapril	1	1%
Furosemide, Spironolactone, Enalapril	1	1%
Furosemide, Spironolactone, Enalapril	1	1%
Furosemide, Spironolactone, Enalapril, atenolol	1	1%
Furosemide, Spironolactone, Enalapril, Carvedilol	1	1%
Furosemide, Spironolactone, Furosemide	1	1%
Metoprolol	7	7%
Metoprolol, Nicorandil, Torsemide	1	1%
Metoprolol, Telmisartan	1	1%
Nefidipine	1	1%
Nicorandil, Metoprolol, Furosemide	1	1%
Spironolactone, Amlodipine, Enalapril	1	1%
Spironolactone, Furosemide, metoprolol, enalapril	1	1%
Telmisartan	27	27%
Telmisartan, Atenolol, Enalapril	1	1%
Telmisartan, Torsemide	1	1%
Torsemide	2	2%
Torsemide, Enalapril, Atenolol	1	1%
Torsemide, Enalapril, Carvedilol, Metoprolol	1	1%
Torsemide, Labetolol	1	1%
Valsartan	1	1%

Table-3 Distribution Based On Co-Morbid Conditions –

Co –morbid conditions	Number of subjects (%)
DM	41(41%)
CAD	29(29%)
CKD	3(3%)
Hypothyroidism	23(23%)
Seizures	4(4%)

Table-4 Distribution Based On Social History –

A total of 100 patients were analyzed, among them 78% of the patients were non-alcoholic and non-smokers. 8% of the patients were only alcoholic and 1% was only smoker. 7% were both smoker and alcoholics. 3% of the patients were ex-alcoholic and ex-smokers. Remaining 3% were ex-smokers with occasionally alcoholics and chronic alcoholics.

Table-5 Distribution Based On Types of Drug Therapy in –

Drug therapy	No. of prescriptions	Percentage
Monotherapy	53	53.0%
Dual therapy	17	17%
Multiple therapy	30	30%

Monotherapy distribution of drugs -

Our study shows that the most commonly prescribed drug classes involved in Mono therapy were Angiotensin II receptor antagonists followed by ACE Inhibitors.

Table-6 Monotherapy distribution of drugs

Monotherapy Drugs	Number and percentage
Angiotensin II Receptor antagonists <ul style="list-style-type: none"> Telmisartan Valsartan 	27 (27%) 1(1%)
ACE Inhibitors <ul style="list-style-type: none"> Enalapril 	8(8%)
Beta blockers <ul style="list-style-type: none"> Metoprolol Atenolol 	7(7%) 2 (2%)
Calcium channel blockers <ul style="list-style-type: none"> Amlodipine Nifedipine 	3(3%) 1(1%)
Diuretics <ul style="list-style-type: none"> Furosemide 	2(2%)

• Torsemide	2(2%)
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Dual therapy distribution of drugs -

- Among 100 prescriptions included in our study, most commonly prescribed dual therapy drugs were Enalapril + Atenolol (6%) followed by carvedilol + Nicorandil (2%), Enalapril+Metoprolol (2%) and others.

Table 7- Dual therapy distribution of drugs

Dual therapy	Number and Percentage
Enalapril+Atenolol	6(6%)
Carvedilol+Nicorandil	2(2%)
Enalapril+Metoprolol	2(2%)
Furosemide+Enalapril	2(2%)
Others Dual Therapy Combinations	5(5%)

Knowledge and Awareness of Hypertension among Patients

The knowledge and awareness of hypertension were tested among 100 hypertensive patients with validated questionnaires and results were shown in Tables given below. 71.0% of patients had adequate knowledge about hypertension. However, 29% of patients had minimum knowledge about hypertension. Even though they had good knowledge about hypertension, 43 % of patients were unaware of their disease status. 41% of patients didn't know their values of blood pressure at time of diagnosis. 37% of patients were unaware of their values of blood pressure at the time of their last visit. 48.2% of patients had awareness of target organ damage due to hypertension. 31% of patients were concerned that high blood pressure is a serious health issue. Almost 68% of patients thought that taking medicine is key to control the blood pressure

Table-8 Question-a

Do you have knowledge on confirmed diagnosis of hypertension					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	71	71.0	71.0	71.0
	no	29	29.0	29.0	100.0
	Total	100	100.0	100.0	

- Among 100 patients 71% of the patients knows blood pressure values in diagnosing as hypertension.

Table-9 Question-b

Do you know Blood Pressure Values In Diagnosing As Hypertension					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	72	72.0	72.0	72.0
	No	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

Table-10 Question-c

Do you know The Values Of Target Personal Blood Pressure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	56	56.0	56.0	56.0
	no	44	44.0	44.0	100.0
	Total	100	100.0	100.0	

Among 100 patients, 56% of the patients know the values of target personal blood pressure

Table-11 Question-d

Do You Know Controlling Of Blood Pressure Reduces Your Complications					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	24	24.0	24.0	24.0
	No	76	76.0	76.0	100.0
	Total	100	100.0	100.0	

Among 100 patients only 24% of the patients know that controlling of blood pressure reduces the complications of hypertension

Table-12 Question-e

Uncontrolled Hypertension Can Lead To Your Organ's Damage					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	21	21.0	21.0	21.0
	No	79	79.0	79.0	100.0
	Total	100	100.0	100.0	

Among 100 patients only 21% of the patients know that uncontrolled hypertension can lead to organ's damage.

Table-13 Question-f

Knowing Values Of Blood Pressure At Recent Visit					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	63	63.0	63.0	63.0
	No	37	37.0	37.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 63% of the patients know the values of their blood pressure at recent visit .

Table-14 Question-g

Do You Think That Hypertension Is Curable Condition					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	80	80.0	80.0	80.0
	no	20	20.0	20.0	100.0
	Total	100	100.0	100.0	

Among 100 patients included in our study, 80% of the patients think that hypertension is a curable condition.

Table-15 Question-h

Do you know how much your Blood pressure improved over the last 12 months.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	62	62.0	62.0	62.0
	no	38	38.0	38.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 62% of the patients have improved their blood pressure levels over the last 12 months.

Table-16 Question-i

Do you think Changing Your Life Style Helps To Lower Your Blood Pressure					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	44	44.0	44.0	44.0
	No	56	56.0	56.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 44% of the patients know that changing their life style helps in lowering their blood pressure.

Table-17 Question-j

Do you think Increase in BP>140/90 mmHg is called hypertension					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	43	43.0	43.0	43.0
	yes	57	57.0	57.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 57% of the patients know that increase in BP > 140/90 mmHg is called hypertension.

Table-18 Question-k

Do you think Hypertension Can Progress Along With The Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	48	48.0	48.0	48.0
	Yes	52	52.0	52.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 52% of the patients think that hypertension can progress along with the age.

Table-19 Question-l

Do you think Both The Sexes Have Equal Chance Of Developing Hypertension					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	61	61.0	61.0	61.0
	yes	39	39.0	39.0	100.0
	Total	100	100.0	100.0	

Among 100 patients only 39% of the patients know that both the sexes have equal chance of developing hypertension

Table-20 Question-m

Do you think Hypertension is treatable condition					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	21	21.0	21.0	21.0
	yes	79	79.0	79.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 79% of the patients think that hypertension is a treatable condition.

Table-21 Question-n

Do you think there is a Risk of developing Hypertension if you have family history of HTN					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	70	70.0	70.0	70.0
	yes	30	30.0	30.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 30% of the patients think that risk of developing hypertension if there is a family history of hypertension.

Table-22 Question-o

Do you think Aging is a greater risk of Hypertension					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	42	42.0	42.0	42.0
	yes	58	58.0	58.0	100.0
	Total	100	100.0	100.0	

Among 100 patients included in our study 58% of the patients know that aging is a greater risk of hypertension.

Table-23 Question-p

Do you think Smoking Is A Risk Factor For HTN					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	65	65.0	65.0	65.0
	Yes	35	35.0	35.0	100.0
	Total	100	100.0	100.0	

- Among 100 patients 47% of the patients know that smoking is a risk factor for hypertension.

Table-24 Question-q

Do you think Eating fatty foods is a risk factor for HTN					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	53	53.0	53.0	53.0
	yes	47	47.0	47.0	100.0
	Total	100	100.0	100.0	

- Among 100 patients 47% of the patients know that eating fatty foods is a risk factor for hypertension.

Table-25 Question-r

Do you think over weight is a risk factor for HTN					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	67	67.0	67.0	67.0
	yes	33	33.0	33.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 33% of the patients know that over weight is a risk factor for hypertension.

Table-26 Question-s

Do you think Regular physical exercise reduces Hypertension					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	40	40.0	40.0	40.0
	yes	60	60.0	60.0	100.0
	Total	100	100.0	100.0	

Among 100 patients included in our study 60% of the patients know that regular physical exercise reduces hypertension.

Table-26 Question-t

Do you think More salt consumption increases BP					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	16	16.0	16.0	16.0
	yes	84	84.0	84.0	100.0
	Total	100	100.0	100.0	

Among 100 patients included in our study 84% of the patients know that more salt consumption increases BP.

Table-27 Question-u

Do you think Medication Alone In Controlling Hypertension is sufficient					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	32	32.0	32.0	32.0
	Yes	68	68.0	68.0	100.0
	Total	100	100.0	100.0	

Among 100 patients 68% of the patients think that medication alone in controlling hypertension.

Table-28 Question-v

Do you think Hypertension can lead to life threatening condition					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	69	69.0	69.0	69.0
	yes	31	31.0	31.0	100.0
	Total	100	100.0	100.0	

Among 100 patients included in our study 31% of the patients know that hypertension can lead to life threatening condition.

Conclusion: About 60% of the management of hypertensive condition, evidence based medicine method was practiced still needed to apply more. Subject's Knowledge and awareness on hypertension is comparatively less. Thus management of the conditions shouldn't be confined to the treatment plan but also on the subject's knowledge and awareness on the condition is essential for effective medication adherence and improving quality of life.

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Conflict of interest:

All Authors declares no conflicts of interest.

References:

- 1) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4808570/>
- 2) Pharmacotherapy hand book ninth edition, Barbara G. Wells PharmD, Joseph T. DiPiro PharmD FCCP, Terry L. Schwinghammer PharmD, Cecily V. DiPiro, PharmD.
- 3) <https://emedicine.medscape.com/article/241381-overview#a4>
- 4) <https://www.webmd.com/drugs/2/drug-5891/amlodipine-oral/details>
- 5) <https://www.drugs.com/diltiazem.html>
- 6) https://www.medicinenet.com/thiazide_diuretics-oral/article.htm
- 7) <https://medlineplus.gov/medlineplus.html>