

Herbal Anti Hypertension Drugs

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ABSTRACT

Hypertension or high blood pressure is a chronic medical condition in which the arterial blood pressure is elevated (normal blood pressure is 120/80 mm Hg). High Blood Pressure may lead to heart failure, stroke, coronary heart disease, kidney failure etc and may affect lungs, brain and heart. It is an important global problem and a very good percentage of people all over the world are affected by blood pressure. As there is no definite cure for this condition, hence controlling it is a big challenge. The main focus on BP management is to lower the elevated blood pressure and to prevent or reduce target organ damage. Although various antihypertensive drugs are available, they are usually associated with many sides –effects. The following article deals with the alternative measures used for lowering high blood pressure giving more importance on the various herbal drugs to be used as combination therapy.

Keywords: Hypertension, Conventional Antihypertensive drugs, Herbal Antihypertensive

INTRODUCTION

Hypertension refers to the prolonged and persistent elevation of blood pressure above the normal range. If not treated properly, hypertension can cause severe complications such as stroke, coronary heart disease and kidney failure.

Patients with hypertension must take antihypertensive drugs on a long-term basis. Although such drugs cannot give a radical cure, they can prevent heart failure, kidney failure and acute stroke induced by hypertension and delay the development of atherosclerosis by controlling the blood.^[1]

Hypertension or high blood pressure is often called the “Silent killer”. “Silent” because it

does not produce any significant recognizable symptoms and “killer” because even slightly high blood pressure can increase the risk of heart disease significantly.^[2]

RISK FACTORS IN HYPERTENSIVE PATIENTS (3)

1. Smoking
2. Age (women older than 65 years and men older than 55 years of the age)
3. Diabetes
4. Dyslipidemia (↑LDL, ↓HDL, ↑TG)
5. Microalbuminuria or g.f.r < 60 ml/min
6. Family history of cardiovascular disease
7. Sex (men and postmenopausal women)
8. Obesity

PHARMACOLOGY OF ANTIHYPERTENSIVE AGENT ^[4]

Hypertension: systolic BP ≥140mmHg and/or diastolic ≥90mmHg

Classification of hypertension for adults:

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CATEGORY	SYSTOLIC (mmHg)		DIASTOLIC (mmHg)
Optimal BP	<120	AND	<80
Normal BP	<130	AND	<85
High-normal BP	130-139	OR	85-89
Stage1(mild)	140-159	OR	90-99
Stage2(moderate)	160-179	OR	100-109
Stage3 (severe)	≥180	OR	≥110

DRUG TREATMENT FOR HYPERTENSION – FACTOR TO CONSIDER

1. Primary (essential hypertension) vs. secondary (10-15% patients)
E.g-pheochromocytoma, renal artery constriction, Cushing's syndrome.
2. Diagnosis (based on separate office visits) and severity of hypertension.
3. Individualization (age, gender, ethnicity) and patient compliance.
4. Pre-existing risk factors and medical conditions Smoking, hyperlipidemia, diabetes, CHF, asthma, current medication.
5. Single –drug therapy (mono therapy) vs. multiple drug therapy (poly pharmacy).

PRIMARY HYPERTENSION (ESSENTIAL HYPERTENSION)^[5]

Essential hypertension is the most prevalent type of hypertension, affecting 90 to 95% of hypertensive patients. Although no direct cause has identified itself, there are many factors such as sedentary life, stress, visceral obesity, potassium deficiency, alcohol intake, and vitamin D deficiency that increase the risk of developing hypertension.

Risk also increases with aging, some inherited genetic mutations, and having a family history of hypertension. An elevation of renin, an enzyme secreted by the kidney, is another risk factor, as is sympathetic nervous system over activity.

Consuming foods that contain high fructose cron syrup may increase one's risk of developing hypertension.

SECONDARY HYPERTENSION

This type is important to recognize since it is treated differently than essential hypertension, by treating the underlying cause of elevated BP. Hypertension results compromise or imbalance of pathophysiological mechanisms, such as the hormone regulating endocrine system, that regulate blood plasma volume and heart function. Some are common and well-recognized secondary causes such as Cushing's syndrome, which is a condition where the adrenal glands overproduce the hormone cortisol.

MALIGNANT HYPERTENSION^[6]

The term hypertensive emergency is primarily used as a specific term for a hypertensive crisis with a diastolic blood pressure greater than or equal to 120 mmHg and/ or systolic blood pressure greater than or equal to 180mmHg. Hypertensive emergency differs from hypertensive crisis in that, in the former, there is evidence of acute organ damage.

A hypertensive emergency (formerly called "malignant hypertension") is hypertension (high blood pressure) with acute impairment of one or more organ systems (especially the CNS, cardiovascular system and/or the renal system) that can result in irreversible organ damage. In a hypertensive emergency, the blood pressure should be slowly lowered over a period of minutes to hours with an antihypertensive agent.

COMMON HYPERTENSION DRUGS ^[8]

CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECTS	SPECIAL MEASURES
Angiotensin II Receptors Blockers (ARBs)	Atacand	candesartan	1.Dizziness, Light headedness Or faintness upon Rising	ARBs can be taken on an empty or full stomach.
	Atacand HCT	candesartan+HCT		
	Avalide	irbesartan+HCT		
	Avapro	irbesartan		Monitor B/P,CBC, electrolytes and renal function
	Benicar	olmesartan	2. Physical problems: Muscle cramps or weakness, back or legs pain,	
	Benicar HCT	olmesartan+HCT		
	Cozaar	losartan		Fall risk precaution especially early in therapy
	Diovan	valsartan		
	Diovan HCT	valsartan+HCT		
	Exforge	valsartan+amlodipine	insomnia, irregular heartbeat or rapid or slow heartbeat.	
	Hyzaar	losartan+HCT		
	Micardis	telmisartan	3.Confusion	
	Micardis HCT	telmisartan+HCT		
	Teveten	eprosartan	4.Severe vomiting or diarrhea	
	Teveten HCT	eprosartan+HCT	5.Cough	
				INDICATIONS
				Hypertension, alone or in combination with other antihypertensive drugs
				Nephropathy in type II diabetes mellitus
				Heart failure in combination with ACE inhibitor Reduce the risk of stroke

CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECT	SPECIAL MEASURE
Angiotensin Converting Enzyme Inhibitors (ACEIs)	Accupril	Quinapril	1.Cough	Take on an empty stomach one hour before meals.
	Accuretic	Quinapril/HCT	2.Red,itchy,skin rash	
	Aceon	Perindopril		
	Altace	Ramipril	3.Dizziness, Lightheadedness, Or faintness upon rising	Do not use salt substitutes while taking ACE inhibitors.
	Capoten	Captopril		
	Capozide	Captopril/HCT		
	Lexxel	Enalapril/felodipine		Avoid NSAIDs like Aleve and Mortin.
	Lotensin	benazepril	4. Physical symptoms: sore throat, fever, mouth sores, chest pain, and swelling	
	Lotensin HCT	benazepril/HCT		
	Mavik	trandolapril		
	Monopril	fosinopril		
	Monopril HCT	fosinopril/HCT		

	Prinivil Prinzide Taka Teczem Uniretic Univasc Vaseretic Vasotec Zestoretic Zestril	lisinopril lisinopril/HCT trandolapril/verapamil enalapril/diltiazem moexipril/HCT moexipril enalapril/HCT enalaprilat lisinopril/HCT lisinopril	of feet, ankles and lower legs. 5. Swelling of the neck, face, and tongue. 6. High potassium levels 7. Kidney failure 8. Severe vomiting or diarrhoea.	Fall risk precautions especially early in therapy. Do not interrupt therapy without a MD order.
				INDICATIONS Hypertension, alone or in combination with other antihypertensive drugs. Congestive heart failure in conjunction with diuretics. Diabetes neuropathy. Hypertension in the presence of kidney disease.

CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECTS	SPECIAL MEASURES
Beta Blockers	Blocadren Brevibloc Bystolic Cartrol Coreg Corgard Corzide Inderal Inderide Inno-PranXL Kerlone Normodyne Levatol Lopressor	timolol esmolol nebivolol carteolol carvediol nadolol nadolol/ bendroflumethiazide propanolol propanolol+HCT propanolol betaxolol labetalol penbutolol metoprolol	1. Dizziness or lightheadedness 2. Sleeping problems and drowsiness 3. Fatigue 4. Cold hands and feet 5. Slow heartbeat 6. Edema (swelling in ankles, feet, or legs) 7. Trouble breathing, Especially asthma symptoms 8. Depression	Monitor pulse, report if <60/min. Monitor B/P Contraindicated with asthma or emphysema, extremely low blood pressure, heart block, or bradycardia Take with meal or right after meals

	Lopressor HCT Sectral Tenoretic Tenormin Timolide Toprol Trandate Visken Zebeta Ziac	metoprolol+HCT acebutolol atenolol/chlrothalidone atenolol timolol+HCT metaprolol labetalol pindolol bisoprolol bisoprolol/HCT		DRUG INTERACTIONS Allergy or cold medications including over-the-counter products. Diabetes medicines, including insulin Other antihypertensive medication
				INDICATIONS Hypertension Angina pectoris Myocardio infarction Migraine Congestive heart failure

CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECT	SPECIAL MEASURES
Calcium Channel Blockers:	Adalat	nifedipine	1.Dizziness or lightheadedness	Take with food or milk.
	Azor	amlodipine/olmesartan	2.Hypotension	Monitor pulse and B/P.
	Cardene	nicardipine	3.Heart rhythm Problems	No alcohol interferes with the effects of the drug and Increases the side effects.
	Cleviprex	clevidipine	4.Dry mouth	Other blood pressure medication in combination
	Dynacirc	isradipine	5. Edema of ankles, feet, or lower legs.	With a calcium channel blocker may cause a sudden drop in blood pressure.
	Exforge	amlodipine/valsartan	6.Headache	
	Lexxel	felodipine/enalapril	7.Nausea	
	Lotrel	amlodipine/benazepril	8.Fatigue	
	Nimotop	nimodipine	9.Skin rash	
	Norvasc	amlodipine	10.Constipation or Diarrhoea	
	Plendil	felodipine		
	Procardia	nifedipine		
	Sular	nisoldipine		
	Calan	verapamil		
	Cardizem	diltiazem		
	Covera	verapamil		
	Dilacor	diltiazem		
	Diltia	diltiazem		
	Isoptin	verapamil		
	Tarka	verapamil/trandolapril		
				INDICATIONS

	Teczem Tiamate Tiazac Vasocor Verelen	diltiazem/enalapril diltiazem diltiazem bepridil verapril		Angina Pectoris Hypertension Subarachnoid hemorrhage Atrial fibrillation/flutter
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CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECTS	SPECIAL MEASURES
Alpha-I-Adrenergic Blockers Agents	Cardura Dibenzyliline Esimil Hylarel Hytrin Ismelin Minipress Minizide Regitine	doxazosin phenoxybenzamine guanethidine+HCT guanadrel terazosin guanethidine prazosin prazosin+polythiazide phentolamine	1.sudden hypotension and syncope 2. Angina, arrhythmia 3.Nausea,andVomiting Dry mouth 4.Diarrhoea constipation and Abdominal pain 5.Depression ,anxiety and nervousness 6.Joint pain 7.Dyspnea,sinusitis, cough 8.Edema,weight gain 9.Urinary frequency 10.Drowsiness	Administer at bed time to minimize fainting
				Monitor for angina, B/P
				Take with milk/meals to avoid GI upset
				Avoid OTC cold medications
				INDICATIONS
				Hypertension, alone Or in combination With other antihypertensive drugs
				BPH for doxazosin, terazosin

CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECTS	SPECIAL MEASURES
Alpha-II Agonists and Other Centrally Acting Drugs	Aldoctor Aldomet Aldoril Catapres Clorpres Combipres Duraclon	methyldopa/chlorothiazide methyldopa methyldopa/HCT clonidine clonidine/clorthalidone clonidine/clorthalidone	1.Dizziness,drowsiness, fatigue 2.Headache 3.Dry mouth, vomiting Nausea,	Sound A like:do Not confuse With Aldomet and Aldoril.
				Fall risk related to dizziness

	Tenex	clonidine guanfacine	flatulence 4.GI upset 5.Skin rash	Monitor B/P for fluctuations
				INDICATIONS
				Hypertension in person with impaired renal function , renal hypertension and resistant cases related to stroke.
				Hypertension in conjunction with a diuretic.

CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECTS	SPECIAL MEASURES
Diuretics	Aldactazide Aldactone Bumex Demadex Diurcardin Diuril Dyazide Dyrenium Edecrin Enduron Esidrex Hydrodiural Hygroton Inspira Lasix Lozol Maxide Microzide Midamor Modiuretic Mykrox Oretic Renese Saluron Thalitone Zaroxolyn	spironolactone/HCT spironolactone bumetanide torsemide hydroflumethiazide chlorothiazide hydrochlorothiazide/ triamterene triamterene ethacrynic acid methyclothiazide hydrochlorothiazide hydrochlorothiazide chlorthalidone eplerenone furosemide indapamide triamterene/HCT hydrochlorothiazide amiloride amiloride/HCT metolazone hydrochlorothiazide polythiazide hydroflumethiazide chlrothalidone metolazone	1.Frequent urination 2.Arrythmias 3.Electrolyte abnormalities 4.Extreme tiredness or weakness 5.Muscle cramps or weakness 6.Dizziness, Lightheadedness 7.Skin rash 8.Loss of appetite, Nausea, vomiting,or muscle cramps 9.Fever, sore throat, cough, Rapid and excessive weight loss.	IN Blood test monitoring of electrolytes in important Before and during drug use. Monitor for signs of low potassium levels. Alcohol and sleep aids should be avoided Monitor weight and B/P Take with food/milk to minimize gastric upset. Indication Hypertension ,in combination with other antihypertensive drugs

				Edema associated with CHF Acute pulmonary edema
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CLASS	TRADE NAME	GENERIC NAME	SIDE EFFECTS	SPECIAL MEASURES
Direct Vasodilator	BiDil	Hydralazine/ Isosorbide dinitrate	1.Headache , Vascular headache 2.Hypotension, Lightheadedness 3.Cough 4.Edema,(Rogaine- minoxidil) 5.Changes in cardiac rhythm(Rogaine- minoxidil)	Sound Alike/look Alike drugs Do not confuse Isordil with Isuprel Or Inderal Do not confuse minoxidil with monopril
	Hydralazine Hyperstat Imdur, ismo	hydralazine diazoxide isosorbide mononitrate		Take of empty side stomach unless resident experiencing headaches. Then takes with meals.
	Isordil	isosordibe dinitrate		Do not chew or swallow sublingual tablets.
	Lonitrin Nitro-Bid Nitroprusside	minoxidil nitroglycerine sodium nitroprusside minoxidil		INDICATIONS Angina pectoris Severe hypertension (Rogaine)
	Rogaine Sorbitrate	isosorbide dinitrate		

ADVANTAGE AND DISADVANTAGE OF HERBAL MEDICINE ⁽⁹⁾

Advantages of Herbal Medicine

1. Allopathic medicines are very costly. In contrast, herbal medicines are very cheap. This cost effectiveness makes them all the more alluring.
2. Herbal medicines can be brought without prescription and they are available in all most all health stores. Some herbs can even be grown at home.

3. For certain aliment, herbal medicine are consider to be more effective than allopathic medicines.
4. The natural detoxification process of body is effectively enhanced by herbal medicines. They can be used to cleanse the colon, improve digestion and food absorption. Herbal medicines are also very good in boosting the immune system.
5. Herbal medicines are very effective in curing various digestive disorders like colitis, indigestion, peptic ulcers and irregular bowel movements.

6. These types of medicines are best for people who are allergic to various types of drugs.
7. Herbal medicines are also effective in boosting the mental health.
8. Most of the ailments related to blood circulation like high blood pressure, varicose ulcers, and many others can be controlled through herbal medicine.
9. Some herbal medicines are very good in reducing the cholesterol level in the blood stream. They are also used to treat coronary artery diseases.
10. Herbal medicine can be used to reduce weight by regulating appetite.

DISADVANTAGES OF HERBAL MEDICINES

Herbal medicines do have quite a few disadvantages.

1. The main drawback is that herbal medicines take too much time to act. The entire process is very slow. When you go for herbal medicines, it is best to have immense patience.
2. There is also a remote chance that herbal medicine may not give the desired result.

3. Herbal medicines are not good for serious trauma like broken bones. It also cannot heal a heart attack. It is also ineffective in sudden illnesses and accidents.
4. Some plant chemicals can be toxic to the body. In addition, certain ingredients react differently with different people. So, it is always necessary to test the herbal medicine to check that it is not allergic to the body.
5. For some ailments, herbal medicines can cause negative side effects. These side effects may also take a long time to reveal.
6. Herbal medicines are also not properly regulated and so they do not carry any quality assurance.
7. Herbal medicines require very good practitioners and these are very few. Most of the 'doctors' that populate the commercial herbal remedy market are not qualified and so people must stay away from them.
8. Some herbal medicines can interact with medications like antidepressants.

LIST OF HERBAL DRUGS

COMMON NAME	BOTANICAL NAME OR FAMILY	PARTS USED	MEDICINAL USED
1. Garlic	Allium sativum Fam-Liliaceae	Bulbs ⁽¹⁰⁾	It is a high blood pressure herb, which is useful for heart by stimulating blood circulation. It used as a carminative, expectorant, stimulant And disinfectant in the treatment of pulmonary conditions. ⁽¹¹⁾
2. Arjuna ⁽¹²⁾	Terminalia arjuna Fam-Combretaceae	Stem bark	It is used as a cardiotonic. The drug exhibits hypotensive action with vasodilatation and decreased heart Rate.
3. Sarpagandha ⁽¹³⁾	Rauwolfia Serpentina	Root	This herb has sedative and antihypertension property.
4. Punarnava	Boerhaavia diffusa Fam-Nyctaginaceae	Herb ⁽¹⁴⁾	It is a excellent natural diuretics (thus do lower blood pressure) and heart tonic. It is useful in treating obesity, improving appetite jaundice and general fever. ⁽¹⁵⁾
5. Coriander ⁽¹⁶⁾	Coriandrum sativum Fam-Umbelliferae	Seed, Leaf	It is a good diuretic; it makes the kidneys perform their roles of excretion better and thus lower high blood pressure.

6.Ashwagandha	Withania somnifera Fam-Solanaccac	Root and stem ⁽¹⁷⁾	It is a sedative, diuretic, good for stress related hypertension. ⁽¹⁸⁾
7.Gingerroot	Zingiber officinale Fam-Zingiberaceae	Dried scrapped or unscrapped rhizomes. ⁽¹⁹⁾	Ginger aids to improve blood circulation and relaxes muscles surrounding blood vessels thus used to lessen blood pressure. Ginger is also a powerful digestive herb that helps relieve uneasiness and nausea. ⁽²⁰⁾
8.Ginkgo	Gingko biloba Fam-Gingkoaceae	Dried leaves ⁽²¹⁾	Gingko biloba improves blood circulation and dilates arteries, reducing blood pressure. Ginkgo also aids in improving memory and mental alertness because of increased blood flow to the brain. ⁽²²⁾
9.Rauwolfia ⁽²³⁾	Rauwolfia serpentine Benth Fam-Apocyanaceae	Root	It is used to treat mild essential hypertension and may be an effective adjunct to the treatment of more severe hypertension.
10.Neem ⁽²⁴⁾	Azadiracta indica	Rhizome	Hypertensive, Sedative, analgesic, epilepsy.
11.Bach ⁽²⁵⁾ Sweet flag	Acorus Calamus Fam-araceae	Rhizome	Hypertensive, sedative, analgesic, epilepsy
12.Cardamom ⁽²⁶⁾	Elettaria cardamomum Maton Var, minuscule Burkill Fam-Zingiberaceae	Dried ripe fruits	It is used as an aromatic, a carminative, and stimulant. It is also a good flavouring agent and antihypertensive properties.
13.Cinammon ⁽²⁷⁾	Cinnamomum zeylanicum Fam-Lauraceae	Bark	Lower blood pressure, carminative, stomachic, flavor, stimulant, aromatic, antiseptic, astringent
14.Hawthorne berries ⁽²⁸⁾	Crataegus oxyacanthas	Branches	Regulates high and low blood pressure, hypoglycemia and heart disease.
15.Ginseng	Panax ginseng	Herbs ⁽²⁷⁾	It will lower high blood pressure, but raise low blood pressure. It is also taken to reduce the effects of stress, improve performance boost energy levels ,enhance memory. ⁽²⁹⁾
16 Coleus ⁽³⁰⁾	Coleus forskoli Fam-Lamiaceae	Root	Vasodilator, Cardio stimulants, lowering blood pressure and intra-ocular pressure used in glaucoma.
17.Gotu Kola	Centella Asiatica Fam-Apiaceae	Whole plant ⁽⁵⁾	It is used for high blood pressure, sentility, aging, and the help the body protect itself against toxins. ⁽²⁷⁾
18.Nutmeg ⁽³¹⁾	Myristica fragrans Fam-Myristicaceae	Seeds	Lower blood pressure It is used as an aromatic, Carminative and stimulants. ⁽³²⁾
19.Kelp ⁽³³⁾	Fucus vesiculosus Fam-Fucaceae	Whole plant	Lower blood pressure It has been used in the treatment of goiter and Scrofulous swelling.

20. Onions ⁽³⁴⁾	Allium cepa Fam-Lillaceae	Bulbs	Lower blood pressure
21. Buchu ⁽³⁵⁾	Agathosma betulina Fam-Rutaceae	Leaves	It is an effective diuretics and anti-inflammation.
22. Carrot ⁽³⁶⁾	Daucus carota Fam-Umbelliferae	Root	It has been used in traditional medicine to treat hypertension.
23. Hardy fuchsia, Chiko, Tilco ⁽³⁷⁾	Fuchsia magellanica Fam- Onagraceae	Leaf	Infusion of the leaf extract reduced body temperature acts as a diuretics and lower blood pressure.
24. Soybean ⁽³⁸⁾	Glycine max Fam-Fabaceae	Seeds	It has been found to effective as hypotensive agents.
25. Mistletoe ⁽³⁹⁾	Viscum album Fam-Santalaceae	Leaves	The crude extract produced a significant decrease in BP i.e. 11.28, 23.98, 18.80% in the normotensive occluded hypertension and sham-induced Hypertensive treated sub groups. ⁽⁴⁰⁾
26. Curry leaves ⁽⁴¹⁾	Murraya koenigii Fam-Rutaceae	Leaves	Curry laves is found to be effective as antioxidant, antidiabetic, antibacterial, antihypertensive.

SIDES EFFECTS OF THE DRUGS

Side effects of antihypertensive drugs vary with individual drugs. Common side effects include the following temporary reactions:

1. Headache, weakness or fatigue.
2. Dizziness upon rising quickly from a sitting or lying position.
3. Numbness or sharp pain in fingers or toes.
4. Cold hands and feet.
5. Dry eyes, mouth and throat.
6. Nightmares or sleeping difficulties.

Advice on Medication

The following should be borne in mind when taking antihypertensive drugs:

1. Learn the name and dosage of the drugs you are taking.
2. Take the drugs regularly as instructed by your doctor in order to have effective control of hypertension. Keep on taking the drugs even if your conditions improve.
3. Do not stop medication without your doctor's instruction. Take your medicines at the same fixed time every day as far as possible. If you miss a dose, take it as soon as possible unless it is almost time for the next scheduled dose. In

that case, skip the missed dose and take the next dose directed. Do not take double doses.

4. The drugs should not be taken with alcoholic drinks to avoid dizziness or fainting.
5. Do not put different drugs in the same bottle. Each drug should be put into its original labeled container.

Life Adaptation

People with hypertension should take note of the following in their daily lives:

1. Quit smoking.
2. Reduce salt intake. Eat less preserving and processed food such as sausages, pickles and potato chips.
3. Drink less caffeinated beverages like strong tea, coffee and coke.
4. Do moderate exercise regularly
5. Keep optimal body weight.
6. Learn self-relaxation because anxiety, loss of temper and overstrain all give rises to increased blood pressure.

CONCLUSION

The World Health Organization has identified hypertension, or high blood pressure, as the

leading cause of cardiovascular mortality so; proper awareness is required to reduce the consequences of high blood pressure and reduce the need for antihypertensive drug therapy. The conventional Pharmacologic therapy has various side effects and hence the hypertensive individuals prefer natural alternatives instead of conventional medications as they are not only effective but are comparatively safe. The widely used

alternative measures for lowering high blood pressure are Lifestyle modifications; Dietary changes and use of combination therapy with herbs. Normally the herbal medicines do not have any side effects, at the same time they give additional side benefits.

Hence it can be concluded that a even though a person may have an elevated Blood Pressure, with proper medication and lifestyle one can lead a normal life.

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