



Naturopathy: A Collective Lifestyle Modification Approach to Combat Hypertension

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Article History	Abstract
Received: 06 June 2023 Revised: 05 Sept 2023 Accepted: 29 Oct 2023	<p><i>Hypertension is considered a highly prevalent disorder these days as Hypertension is the result of our hurried life and naturopathy stresses on normal pace of life hence suitable for hypertensive masses. A physiological understanding has been developed about hypertension as well as the Diagnostic and screening criteria of hypertension and relationship of hypertension with obesity revealed. Moreover, naturopathy covers all aspects of our life style modification it includes various kinds of modern exercise as well as yogasanas and stress relieving techniques. Hence, this review covers all the aspects of lifestyle modification in detail to combat hypertension through the weapons of Exercise, yogasanas and alternative medical practices to manage diabetes. Naturopathy believes that our body is made up of five basic elements and all the ailments can be treated with various kinds of therapies related to these basic elements of human body. These therapies include music therapy, meditation, hydrotherapy, mud therapy and colour therapy etc. Along with these therapies various kinds of alternative practices also mentioned that are utilised at Naturopathy centres to overcome high blood pressure like exercise, pranayam, unwise indulgence, food therapy and massage etc.</i></p>
CC License CC-BY-NC-SA 4.0	<p>Keywords: BMI (Body Mass Index), antihypertensive, essential hypertension, naturopathy etc.</p>

1. Introduction

Hypertension is a disorder of *Hurry-Worry-Curry*, which is the abstract of modern life style. It is the medical term for high blood pressure. It is comprised of two terms:

Hyper+ Tension i.e., Hypertension

Hyper means more and Tension means stress.i.e. When heart is stressed to work hard with out any physiological need then the situation is known as hypertension.

Hypertension or high blood pressure means a rise in level of blood pressure which is above normal for that particular age and sex. Blood pressure is the pressure per unit area exerted by blood against the walls of arteries. In common blood pressure is also called body pressure. Our body's pressure is affected by our daily activities such as meals, posture etc., apart from this age and sex also affect blood pressure (Kurahde *et al*,2004)

Prevalence Of Hypertension

Hypertension, which is also a curse of modern society is the precursor of several cardiovascular disorders and gives birth to fatal coronary lesions if not treated well in time. World Health Report (1998), presented that IHD Ischaemic Heart Disease stands first in the eleven biggest killers of 1997, which was accounting for 7.2 million deaths all over the world. (Ghai and Gupta,1994). Once considered a problem of the Western world, cardiovascular diseases are rapidly spreading to developing nations (Rodgers *et al*,2002) and are responsible for about 40 per cent of deaths in developing countries.

About 80 per cent of hypertensive patients have one or more risk factors like dyslipidemia, glucose intolerance, obesity and ventricular hypertrophy (Flamingham,2006). Hypertension is a major public health burden in the United States, in 1999, 65 million adults had the condition, an approximately 30

per cent increase from 1991 (Fields et al, 2004). Results of a base line cross sectional survey (as a part of CVD surveillance programme) of industrial populations from 10 companies across India by Reddy et al (2006) revealed 10.9 per cent cases of hypertension in all age groups, collectively. Whereas by JNC VII criteria it was 27.7 per cent. The prevalence of hypertension among persons aged 20-60 years was 59.9 and 69.9 per thousand in males and females respectively in urban population while it is significantly less in rural population (Kurahde et al, 2004).

Hypertension is associated with a doubled risk for CVD (Wilson et al, 1998) and the risk of stroke was also strongly related to SBP and ISH (Isolated Systolic hypertension) (Stamler et al, 1993) from 40 up to 89 years of age. (Pinto, 2007). Cardiac complications including enlargement of left ventricle and eventually left ventricular failure (Kurahde et al, 2004). Encephalopathy, retinopathy, kidney Problems like proteinuria and progressive renal failure are the other related diseases of hypertension.

Criteria of Assessment of Hypertension

The World Health Organization (WHO) criteria in its expert committee report has defined hypertension as a systolic blood pressure ≥ 160 mm Hg and /or diastolic blood pressure ≥ 95 mm Hg (WHO Tech Rep Ser, 1996).

The sixth general report of the American Joint National Committee (JNC VI) on prevention, detection and evaluation and treatment of high blood pressure has classified blood pressure for those aged 18 years and older as:

Category	Systolic BLOOD PRESSURE (mmHg)	Diastolic BLOOD PRESSURE (mmHg)
Optimal	<120	<80
Normal	<130	<85
High Normal	130-139	85-89
Hypertension Stage I	140-159	90-99
Hypertension Stage II	160-179	100-109
Hypertension Stage III	180-209	110-119

Later on, the seventh general report of the American Joint National Committee (JNC VII, 2003) on prevention, detection and evaluation and treatment of high blood pressure has given the definition of hypertension as:

Normal-Systolic and diastolic <120/80

Prehypertensives: systolic 120-139 or diastolic 80-89 mm of Hg

Stage -1 hypertensives: systolic 140-159 or diastolic 90-99 mm of Hg

Stage -2 hypertensives: systolic 160 or diastolic 100 mm of Hg

The participants with history of hypertension and on antihypertensive drugs were also hypertensives.

Hypertension has been defined as an increase in the blood pressure within the arteries and arterioles (Meyer, 1980). It is not a disease rather; it is a symptom which may manifest itself in course of many disorders.

Hypertension in older subjects may be defined as (Systolic Blood Pressure) SBP ≥ 140 mm Hg or ≥ 160 mm Hg and /or a (Diastolic Blood Pressure) DBP ≥ 90 mm Hg (Pinto, 2006).

Secondary hypertension is a symptom developing in the course of a number of renal vascular and endocrinological disorders. However, in 96-99 per cent of the cases of hypertension, the cause or causes of blood pressure elevation are not clearly identifiable. This type of hypertension is termed as essential primary hypertension (WHO, 1985).

Relationship of Obesity and Hypertension

Body weight is one of the major environmental factor considered to be acting in population with essential hypertension. An association between body weight and hypertension has been observed in large number of studies (Landsberg et al, 1986; Meltzer et al, 1988). Dustum (1985) which states that hypertension occurs frequently in industrialized population that gain weight with advancing age and is infrequent in primitive population that are not obese. Moreover, Kurahde et al (2004) too positively correlated body weight with the risk of high blood pressure. Das et al. (2005) have shown that there is

a significant relationship between BMI and hypertension. Gupta (2000) has also reported the increasing influence of BMI on hypertension with advancing age.

According to Hajjar et al. (2003) one possible explanation for the increased prevalence of hypertension reported in latest survey data is that, over the last decade, there has been a marked increase in obesity and average body mass index.

Role Of Naturopathy in Treatment of Hypertension

Bakhru (2000) declared modern medical treatment of hypertension as highly unscientific because it brings down the pressure by drugs without making any effort to remove the underlying causes

Hypertension signifies homeostasis in coordination which could be managed well by applying non drug therapies with physiological justification which is possible through naturopathy only.

Rosenthal (2020) has rightly remarked that “Doctors should first treat high blood pressure patients with non-pharmacological methods like calorie and food restrictions, Weight control and reduction in salt intake. Every drug has some side effects. There is no drug without side effects.”

The following extracts from a composite report of Australian experts on hypertension contained in science of life books from Melbourne very nearly sums up the natural approach to the problem of high blood pressure:

“High blood pressure is not a disease but the symptom of existing circulation problems which may cause heart attacks, strokes or other disabling conditions..... when the cause of high blood pressure are removed, both the high blood pressure and the resulting dangers may disappear.”

However, no drug treatment is yet known which has ever cured or arrested the progress of essential hypertension, although their temporary palliative value, especially in the early stages cannot be questioned.

Life Style Modifications Suggested in Naturopathy to Combat Hypertension

Keeping in mind the given shortcomings of medical science a number of lives

style modifications are suggested in naturopathy to combat hypertension

along with their scientific implications to control hypertension:

Exercise

Exercise makes blood vessels more supple and elastic. With exercise one can withstand the artery hardening effect of age and of plaque buildup. With exercise body is able to shift fluids out of circulation in to intercellular spaces in all parts of the body. The volume of blood in circulation decreases and the blood pressure is reduced. (Dewan,1996).

Cooper (2021) confirms that “The best thing known to man to increase HDL cholesterol is aerobic exercise”

Huber *et al* (1972), placed 15 persons with high blood pressure on an exercise regimen for 5 to 8 weeks. They were not given any drugs. All showed a marked decrease of both systolic and diastolic pressure. They reported an all-round feeling of fitness which is the ultimate aim of naturopathy.

Exercise improves blood circulation. More oxygen burns away the toxicity of blood. Digestive system is strengthened and the expulsion of toxins proceeds vigorously. All parts of the body, sense organs and glands gain strength and become active. All these reduce blood pressure.

Aerobic exercise must be done for a minimum of three days and normally for six days a week. Resenvold (1974) asserts that “A brisk walk is safe and helps circulation. Such an exercise tones up the blood vessel network, and helps to normalize minor blood pressure elevation.”

A brisk, vigorous morning walk continuously for 20 minutes at a stretch with breathing deeply and rhythmically in a pollution free environment is the best exercise. Thereafter comes running, swimming and cycling. While walking both the arms should continue to move in a natural manner, it strengthens the muscles of heart, lung, chest and back.

Exercises could be classified in to various categories like: Imperceptible exercises, Pranayam, Massage and Yogasanas as shown in the given figure 1:

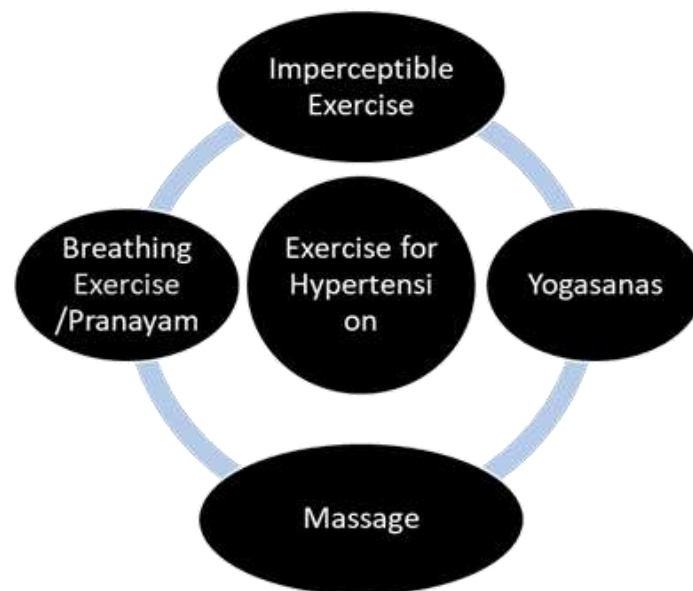


Figure-1

A. Imperceptible exercises:

These are the light exercises done in leisure time for a few seconds to reduce tension and strengthen muscles. For example: movement of abdominal muscles while standing or sitting, simple shoulder and neck movements and similar exercises for other limbs also (Bakhru,2000).

B. Breathing Exercise/Pranayam:

Shallow, ineffective breathing is the cause of high blood pressure. In a survey ,out of one hundred professional singers who breathe correctly, not a single one suffered from hypertension. So the method of breathing must be corrected. This can be learnt from a infant in deep sleep. This is diaphragmatic system of breathing which should be adopted. In it, with every inhale the abdomen goes up and on exhale it comes down.

Breathing exercise are pranayams. Recommended pranayam for hypertensive patients are ; *Nadi Shodhak Pranayam, Sitkari Pranayam and Ujjayi pranayam etc.*

Deep breathing in open air is the best relaxation technique.

A report in the British journal of Hospitals indicate that “Single bouts of vigorous aerobic exercise have been found to reduce anxiety up to four hours after wards” As we exercise, the body naturally releases its own pain killers(endorphins) which have the effect of natural mood setter (Bakhru, 2000).

C. Massage: It is also a form of exercise. Massage has a therapeutic effect in lowering blood pressure.It has to be a whole body light reverse massage, with rhythmic strokes to soothe and relax. Massage should be with repetitive rhythmic strokes to soothe and relax. A good masseur could lull one to sleep. Massage of a hypertensive has to be away from the heart, hand rubbing the skin only in one direction.

Brushing Massage involves brushing the body with firm bristles or a small spongy stone either dry or at the time of bath. It will open all pores for elimination of toxic matter and for intake of oxygen. It will provide blood circulation even to the minor blood vessels near the skin and thus directly reduce blood pressure. In due course it will provide a glow to the skin.

D. Yogasanas: Thakur (1992), stated that high blood pressure may be controlled through yogasanas named as ;*Padamasana, Sidhasana, Vajarasana, Halasana, Paschimottasana and Savasana*. Das et al. (2005) suggests public health remedial measures to address growing hypertension in the common people through the practice of yoga on the basis of his studies on Indian population.

Asanas work on both body and mind, keep cholesterol level in check, normalize blood pressure, detoxify the body and boost the immune system (Jain,2007).

For stress control, yoga exercise is a relaxation technique in which movements of body (*asanas*) are made along with regulated slow breathing (*Pranayam*) which helps to lower the blood pressure in heart patients (Ramakrishnan,1996).

Bakhru (2000) asked for discontinuing the *asanas* except *shavasana* if the blood pressure is above 200 millimeters.

Bakhru (2000) further suggested following stress relieving techniques:

Research shows that chronic excess of stress is clearly a pre disease stage!

Naturally gifted life force is ever engaged in preventing disease and keeping you healthy but it stops working as soon as the body stress exceeds the ordinary limits.

This excess of stress thus immediately creates symptoms of increase in blood pressure and heart rate, release of fatty acids and sugar in the blood stream, muscle tension or disturbance of the digestive processes.

Body stress is a creation of the mind. So, the first thing to do is to pacify the mind. Sit for contemplation and meditation, the use of oxygen and metabolic rate go down and the blood pressure also goes down (Back to nature for healthy living).

Music Therapy

Singing and listening to the cool, calm and soothing music like classical songs, gazals and attending devotional music concerts greatly reduce tension, that's why all the naturopathy centers organize evening get togethers for this purpose (Bakhru, 2000).

Meditation

The motto of meditation should be "Know thyself to Heal thyself (physically, mentally and spiritually)"

In a recent symposium on "Preventive Cardiology and Cardiovascular Epidemiology" Dr. Paul Whelmer of John Hopkins Institute, USA, expresses the view that "If hypertension is detected early, drug requirement will be minimal and control can be effected through exercise, yoga and meditation."

Through meditation we tactfully and patiently, discipline and bring calmness to mind at all times by removing the disturbing element from it. It helps in harmonious development of mind, body and soul. Our saints (*rishis*) have designed various methods of meditation to suit individual temperament and aptitude of different *sadhaks* (aspirants) to achieve the objective and enjoy complete peace and tranquility (Rawal,2000).

Vipassana

This technique of meditation is referred in our scriptures and practiced by the Buddhists. Vipassana means "to see things as they really are". It is the process of self-purification through self-observation. It helps to reduce the extent of anger, greed, aversion, jealousy etc. (Bakhru, 2000).

Hydro Therapy

Hydrotherapy brought in origin about 500BC by Hippocrates. Water is the second most important element for sustaining life. All food contains 10 to 90 per cent water. With the aid of water, nutrition enters the blood and is conveyed to places where repair and growth are needed. Warm water bath thus affords a thoroughly rational method of either raising or lowering blood tension, as may be needed. (Hiralal,2000)

According to Dr. Hiralal (Secretary General, International Foundation of Natural Health and Yoga) Some hydrotherapy actions taken for ordinary cases of hypertension are hip bath, spinal bath, immersion bath, enema, cold frictions, wet sheet pack etc.

Mud Therapy

Mud therapy is the name given to the procedure used to bring to balance the body element of earth. This element can be replenished from food as well as from earth in the form of mud. Mud therapy carries immense importance for hypertension treatment than for any other disease. (Hiralal,2000)

Some important mud therapy actions for hypertensives are as follows:

Mud bath once a week, remaining buried in sand near river or stream for 30-40 minutes, earth massage with dry earth and sand mixture.

Mud Bandage on heart region, stomach region for hypertensive constipation patient, on the spine in case of emotional upset give a healing touch.

Color Therapy

According to Verma and Naraina (2000) blue, green and yellow are the colours which has specific effect on blood pressure.

Blue rays are soothing cooling and relaxing in nature, they reduce worries, tension and constant nervous state. Light blue reduces high blood pressure in most cases.

Green is the master healer, nature's favourite color, stimulates pancreas which in turn stimulates other glands and decreases blood pressure. green stimulates the cardiac chakram in the body center in the same way as green pervades all nature.

Acupressure

Shah (2000) suggested following points when pressed are likely to result in reduction of high blood pressure: At the center of the natural hair line, Nap points, inside the ears, on the throat, at the solar plexus, middle finger.

Food Therapy for Hypertension

In a study of US and Indian dietary recommendations study by Karmally (2003) clinical and epidemiological studies have demonstrated the many common links between nutritional factors and chronic degenerative diseases such as coronary heart disease, diabetes, cancer and obesity. Dietary factors including high intake of saturated fat and cholesterol, low intake of fiber, increased intake of calories, low intake of food sources of antioxidant nutrients such as vitamin E and vitamin C are associated with the risk and manifestations of these diseases. It also revealed that unsaturated fatty acids, antioxidants and fiber containing foods are not only protective but also reduce the risk and complications of diseases.

Dietary habits also seem to have some relationship with essential hypertension.

Further, Mani et al. (2003) on the basis of their research findings on 60 adult overweight or obese subjects from Gujarat refinery hospital, Baroda suggested that weight reduction and nutrition counseling along with dietary modifications does help in bringing about a reduction in blood pressure levels, in mild to moderate hypertensive subjects. Bakhru (2000), A nationally acclaimed naturopath, suggest that "A hypertensive patient should start the process of healing by living on an exclusive fruit diet for at least a week and take fruits at five hourly intervals thrice in the day. Oranges, apples, pears, mangoes, guava, pineapples, raspberry, water melon are the best diet in such cases. Banana and Jack fruits should not be taken.

Similarly, Chutani and Khanna (2003) carried out a study on 100 mild hypertensive subjects' men and women aged 21-65 years, not on medication. The general objective of the study was to find out effect of higher intake of fruit and vegetable on the blood pressure in mild hypertensives. They were divided in to experimental and control groups, both were continued with existing dietary pattern and was advised low sodium intake and changes in life style pattern. Experimental group was provided with 500 gm of fruits every day for 8 weeks. Blood pressure measurement, biochemical, anthropometric and diet assessment results concluded that- this non pharmacologic means of preventing and delaying the onset of hypertension could play a major role in primary prevention of coronary heart disease.

According to Dewan (1998) hypertension is the result of imbalance in acid-alkaline ratio in body chemistry. So, by providing acid alkaline balancing diet one can improve the morbidity status of the hypertensive patient. Apart from this other major lifestyle causes of hypertension are as follows:

Wise indulgence:

Eating too much fat, following sedentary life style, smoking, drinking, remaining under constant tension and psychological pressure.

Unwise dietetics:

One should avoid red meat and eradicate non vegetarian diets, whole milk and its products, tea and coffee, white flour and its products from their consumption pattern. As Australian researcher Rouse found that putting persons on vegetarian diet from typical meat diet reduced blood pressure significantly. Dewan (1998)

Over consumption of highly refined foods and drinks, adulterated foods and foods with additives living on artificial commercialized, denatured and devitalized foods, excessive consumption of fats. According to Dennis Burkitt, a leader in dietary fiber research, "a high fat diet is always a low fiber diet and a high fiber diet is always a low-fat diet. So, a high fiber diet is imparted to the patient of hypertension in the naturopathy center. As British Medical Journal (1979) states that "A high fiber diet tends to lower the blood pressure of hypertensive patients."

The Major Food Therapy Strategies to Combat Hypertension are as follows:

1) Milk: Milk may be taken after a week of fruits only diet. The milk should be fresh and should be boiled only once. The patient can be permitted cereals in his food after two weeks (Bakhru, 2000). Palimeri of Puerto Rico Heart Health Programme Study analysed food habits and blood pressure among almost 8000 men. Those who drink no milk were almost twice as likely to have hypertension as those who drank a quart of milk or more per day.

2) Vegetables: They are good for a patient of hypertension. They should preferably be taken raw. If they are cooked it should be ensured that their natural juices are not burnt in the process of cooking. Vegetables like cucumber, carrot, tomatoes, onion, radishes, cabbage and spinach are best taken in their raw form, they may be cut in to small pieces and sprinkled with a little salt and the juice of lemon added to them so as to make them more palatable (Bakhru, 2000).

Singh et al (2003) has studied the nutritional and health implications of antioxidant phytonutrients and concluded that vegetables contain numerous compounds that can significantly impact human health beyond the maintenance of basic nutrition. Such compounds are commonly referred as phytonutrients and nutraceuticals. Out of them the particular interest is the broad class of antioxidants, which have been associated with reduced risk of cardiovascular disease and several types of cancer.

4) Garlic: It is regarded as one of the most effective remedies to lower blood pressure. The blood pressure and tension are reduced because it has the power to ease the spasm of the small arteries. It also slows the pulse and modifies the heart rhythm besides relieving the symptoms of dizziness, numbness, shortness of breath and the formation of gas with in the digestive tract. The average dosage should be two to three capsules a day to make a dent in the blood pressure (Bakhru, 2000).

Besides scores of other advantages of this miracle food, according to the journal of American Medical Association, liberal doses of fresh garlic produce with in one or two hours brings about dilation of blood vessels. This is very useful in hypertension. It lowers cholesterol also.

5) Soybean: Soybean foods were found in a wide-ranging study in 1981, to lower cholesterol levels by 23 to 25 per cent in eight weeks. after some time, soybean raises HDL and reverses arterial disease. Tofu was found superior to cheese. With low sodium it lowers blood pressures.

6) Amla: Bakhru (2000) considered Indian goose berry as another effective food remedy for high blood pressure and recommended intake of a tablespoon each of fresh amla juice and honey mixed together every morning.

7) Lemon: Bakhru (2000) regarded lemon as a valuable food to control high blood pressure. And said that it is a rich source of Vitamin P which is found in both juice and peel of the fruit. This vitamin is essential for preventing capillary fragility.

8) Water melon: According to Bakhru (2000) water melon is another valuable safeguard against high blood pressure. It was proven in recent experiments that a substance extracted from water melon seeds has a definite action in dilating the blood vessels, which result in lowering the blood pressure. He recommended the intake of juice made of white rind and the green outer skin of water melon which are fed to the animal or discarded to reduce high blood pressure and have an all-round cooling effect on the body system.

9) Oat Bran: Murthy et al (1988) have stipulated that dietary fiber intake of 27 to 40 gms per day was beneficial to maintain a normal blood pressure (Dewan, 2000).

10) Alfalfa: It softens the hard arteries so good for hypertension and heart dysfunctions (Dewan, 2000).

11) Apple: According to Dewan (1998) apple's organic potassium salts make it diuretic, which reduces body sodium and thus good for blood pressure. He recommended diet of apple and rice for lowering blood pressure.

12) Banana: Potassium of banana help in controlling hypertension and pectin lowers the cholesterol content of the blood. Prevention magazine (USA) of March, 1991 talked of potassium power as "A

banana at breakfast may help give high cholesterol a slip and a baked potato at dinner may help take the stream out of high blood pressure.” (Dewan,2000)

13) Honey: Honey is a heart tonic and medicine for all ailments of the heart and blood pressure. Acetylcholine, present in honey, increase the blood flow to the heart and thus decreases the blood pressure and the heart rate (Dewan,2000).

14) Pineapple: Pine apple is considered good for hypertensives by Bakhru (2000).

15) Goose feet: The great Ayurved *Maharishi Charak* praises goosefeet (*bathua*) as a heart tonic and a blood purifier.

16) Cucumber: Potassium of cucumber is helpful both in high and low blood pressures (Dewan,2000).

17) Green tea: Balkh Institute reports that green tea given to Russian patients reduced their blood pressure and strengthened their blood vessels Bakhru (2000).

18) Wheat grass juice: Juice of sweet wheat grass which have been grown in indirect sunlight on organic manure lowers blood pressure and corrects blood chemistry, 10-15 gms of wheat grass is enough for the daily dose (Dewan,2000).

19) Tulsi: Take 5 to 10 leaves of tulsi wash and beat them in to paste and take with curd or butter milk, preferably first thing in the morning (Bakhru,1998).

20) Hard water: Magnesium helps to lower blood pressure by interacting With potassium, calcium and sodium. (Dyckner and Wester (1983); Proceedings of the National Academy of Sciences (1989); Mg bulletin (1936)). It has high mg content. In areas using hard water has minimum heart problems. A few studies indicate that the residents of soft water drinking areas in the world have been found to have high blood pressure than those with hard water.

4. Conclusion

The summative effect of various therapies in naturopathy center treatment are a reliable tool for effective weight reduction and blood pressure regulation. It corrects a lot of faulty lifestyles and incorporates a lot of healthful food stuffs in their dietary resume with the synergistic role of various therapies in controlling blood pressure. Since lifestyle correction is an emerging field of interest in controlling various lifestyle disorders more studies pertaining to vegetarian diet, yoga and meditation are desired. Naturopathic treatment is firmly based upon the intake of only satvik (natural and simple free from any kind of strong chemicals may be natural or synthetic) food in limited quantity and adoption of numerous noninvasive therapies serves the purpose of blood pressure regulation as well as it also lead to the cleansing and strengthening of physiology as a whole.

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