

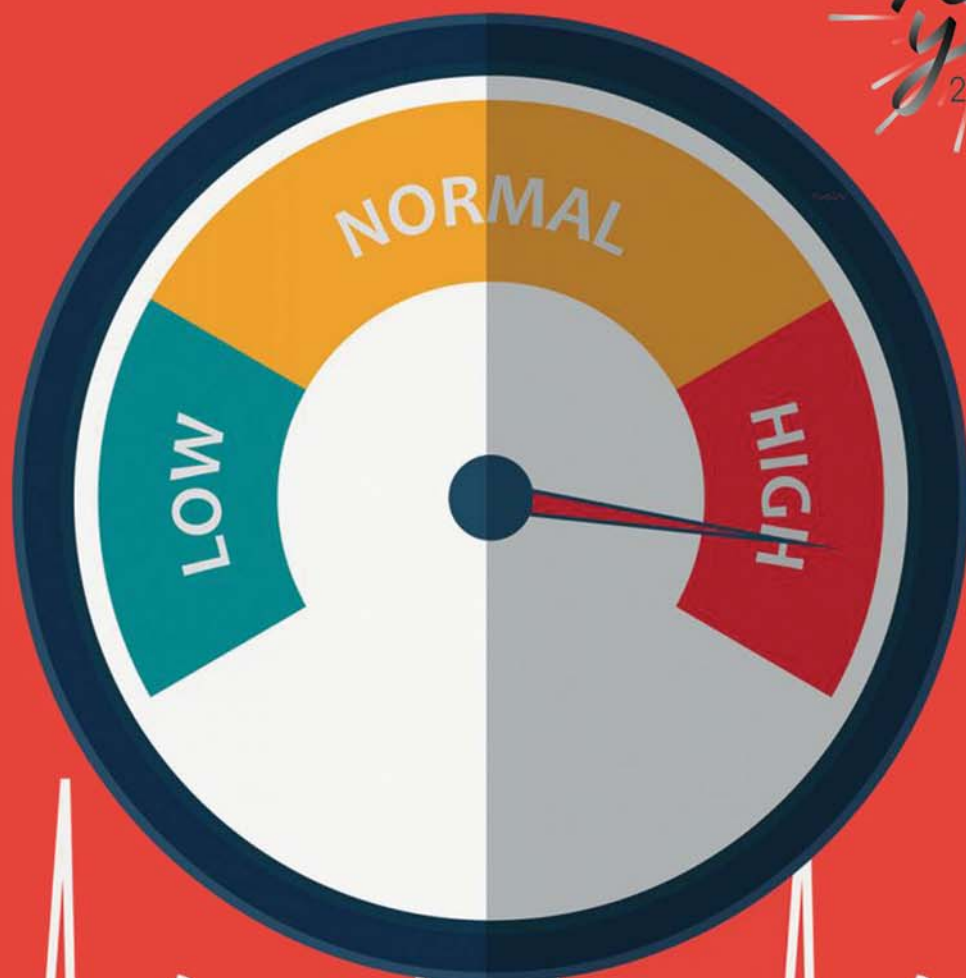
OFFICIAL JOURNAL OF HEART CARE FOUNDATION

October-December 2020 Vol 08 Issue No: 07



CARING

# HEARTS



**HYPER  
TENSION**

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Padma Shri Awardee  
Dr. Jose Chacko Periappuram  
Chairman, Heart Care Foundation

# Chairman's MESSAGE

Dear Friends in Heart Care Foundation

*Season's Greetings!!*

We are entering a New Year after a very anxious and stressful last year. While all of us would like to forget 2020 for the pandemic and the related hardship we had to go through, we as a community should not forget the lessons learnt both as a community and as an individual. As a society we learned to respect each other and take care of their needs during the crisis. As a person we have inculcated lot of discipline in terms of personal hygiene and the need to take care of our health. Every crisis teaches us several lessons which if we take it forward in our life can give us the dividends in long term.

At the Foundation, the first quarter of last year was eventful with the medical camps in connection with our project Hridayapoorvam - Alangad. Since then we have held online Awareness sessions and the World Heart Day in association with Lions District. Further, we also brought out a Special issue on COVID 19. We hope to complete the project at Alangad once the situation is conducive for the same.

The world is awaiting anxiously for the vaccine which are in the final stages of trial. As planned at the Government level let the front line health warriors get the vaccines, since, they are the most vulnerable people. I urge all my friends to show the magnanimity and maturity until the vaccine is available and keep up the strict vigil to keep the virus away.

Once again the Foundation salute the front line warriors for their hard work and courage in treating the people not withstanding the huge risk and sacrifice for them and their families.

A handwritten signature in black ink, appearing to be 'JCP' or similar, written in a cursive style.

**Dr. Jose Chacko Periappuram**  
Chairman HCF



## Heart Care Foundation

36/117 A 1, Second floor, Lisie Hospital Road,  
Kottecanal Junction, Kochi- 682018.  
Phone 0484 2406393, Mobile number: 9847006000  
Email: mail@heartcarefoundation.com  
Web: www.heartcarefoundation.com

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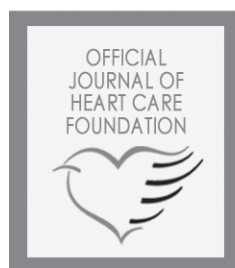
- Mr. Stephan Pascal

### Executive Director

- Mr. Dominic J. Mechery

### Conceived, Edited & Designed by

- themediafactory1@gmail.com



## Heart Care Foundation

36/117 A 1, Second floor,  
Lisie Hospital Road, Kottecanal Junction,  
Kochi- 682018  
Phone 0484 2406393  
Mobile number: 9847006000  
Email: mail@heartcarefoundation.com  
Web: www.heartcarefoundation.com

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Mr. Dominic J Mechery  
Executive Director

## ED'S MESSAGE

Finally there is a light visible at the end of the tunnel. Vaccine for COVID 19 is almost ready and some of the countries have actually started administering the vaccine. Our country is also bracing for an early approval for vaccine which is expected in weeks, while the Government have prioritised the categories eligible for vaccine in the first phase. We have practical issues to be put into place. Firstly, we have to ensure enough supplies of ready-to-administer vaccines that can cover millions in the country. Thereafter distribution has to take centre-stage by enabling a robust logistics and infrastructure system. The Polio experience may come in handy, but then Polio was an oral vaccine and therefore handling was easier. Secondly, we have to be very watchful on pricing of vaccines and understand that COVID-19 is a human tragedy. It would be very disheartening to see businesses taking back profits rather than serving the nation during these hard times. During the early days of the pandemic there have been instances where some businesses made huge profits on PPE Kits and ventilators. Also there should not be a situation where the rich and strong grab everything first. The high risk groups identified by Government should be administered first and the vaccine should be free. The price for the others should be either free or highly subsidized.

Disaster Management Act, 2005 was liberally used in India during the pandemic in the health sector for imposing lock downs and to control prices of masks and medical services. There is a scope for an integration of the disaster management with primary care. Primary care stands for things such as multi-sectoral action, community engagement, disease surveillance and essential health-care provision all of which are central to disaster management. Evidence also supports the significance of robust primary care during disasters and this is particularly relevant for low income settings. Government should therefore take immediate steps to put in place a strong primary care set up to meet disasters in future.

Another issue which have become relevant is the air pollution. Evidence has accumulated that loss of biodiversity and ever increasing human incursions into the natural world have contributed heavily to the out breaks of epidemic diseases. Understanding the three E's - Evolution, Ecology and the Environment will be key to identifying potential pandemics. There is also robust scientific evidence that air pollution exacerbates the impacts of COVID 19. We have to therefore take urgent measures to check air pollution without waiting for another disaster to overcome us.

Heart Care Foundation wishes all its readers a Happy and Healthy New Year 2021.

**Dominic J Mechery**  
Executive Director



Mr. Krishna Kumar P.  
Chief Editor

## Editor's MESSAGE

In History, 2020 will be known as the “Year of the Pandemic” and many surely will heave a deep sigh that a taxing year is finally over. A new dawn, a year full of hope is expected of 2021. But the year change is just in the calendar and I doubt if COVID is aware of the change. It is not yet time to lower our guard and every care should be taken to ensure that each and every one of us remains protected, till the vaccines prove effective.

In spite of all the curses that 2020 brought on itself, it was also a year many found health and togetherness. In the mad rush for conquering mountains of self-commitments, most of us had forgotten to take care of our health and our loved ones. In 2020, many rediscovered the joys of being together with loved ones; everyone had lots of time to explore forgotten passions, enjoy the wonderful taste of meals cooked with love, fulfil “back to nature” aspirations that remained a wall poster and many actually became healthier, thanks to the change of lifestyle and healthier food habits, forced upon them.

Doctors used to implore every patient to change their lifestyle, food habits, walk at least for half an hour or do some light exercise. I am sure the pandemic forced many to walk the line the doctors drew and found themselves healthier, just by the lifestyle change. Lifestyle is the cause of many illnesses and this edition of Caring Hearts is on yet another lifestyle disease, High Blood Pressure or Hypertension that affects the brain, the heart and causes damage to almost all vital organs in our body. Read more about it in the articles, written by eminent experts, in a language simple to understand.

I hope and pray that the good, healthier habits learned during the pandemic remains with everyone, while the pandemic itself abates post 2020.

Hope is the driving force that has sustained humanity throughout the ages and it has prevailed, always, whatever the adversity.

I do wish everyone a hopeful 2021, full of fulfilment. Let us be grateful to peaceful days and look forward to better tomorrows.

Please remain safe and healthy!

**Krishna Kumar**

# HYPERTENSION AND DIABETES MELLITUS



**Dr. Sony Joseph, M.D.**  
Consultant Senior Physician  
Ernakulam Medical Centre



## INTRODUCTION

Hypertension is becoming a major health problem not only in India, but all over the world. In India, prevalence of hypertension is increasing, but awareness and control is very low. Only 1/10<sup>th</sup> of urban and 1/5<sup>th</sup> of rural population have their blood pressure under control.

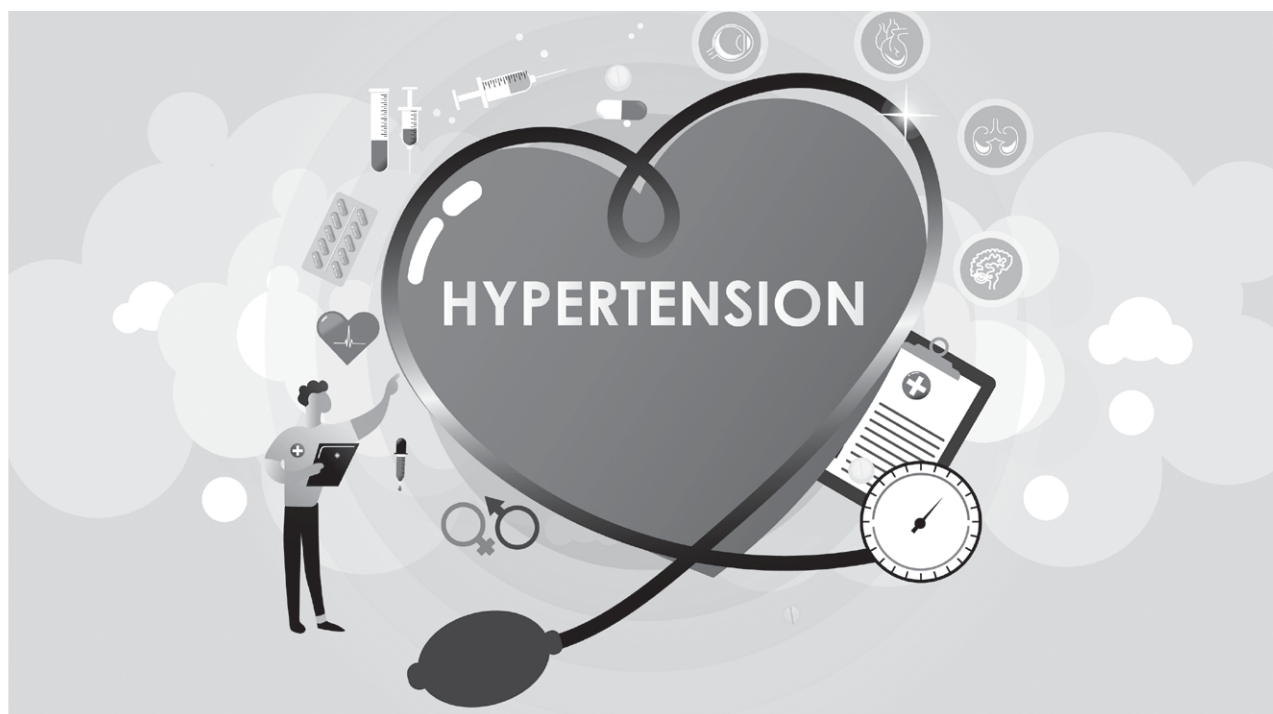
Hypertension is one of the important co-morbidity of diabetes and the co-existence of hypertension with diabetes mellitus dramatically increases the morbidity and mortality of the patient.

Dyslipidemia, obesity, family history of diabetes, age group are certain factors which adversely affect diabetic and hypertensive patients. Both hypertension and diabetes are the most common chronic non-communicable and multi-factorial disorder affecting both developed and developing countries including India. Both hypertension and diabetes lead to coronary artery diseases, stroke, peripheral vascular diseases, retinopathy and nephropathy.

## RISK ASSOCIATED WITH CO-EXISTENCE OF HYPERTENSION AND DIABETES

A significant increase in the risk of vascular complications with co-existent hypertension and diabetes predispose to chronic kidney disease. The overlap between hypertension and diabetes substantially increases the risk of ischemic cerebrovascular disease, coronary artery disease, nephropathy, retinopathy and sexual

*(Contd... next page)*



dysfunction. In pregnant women with diabetes and hypertension, there is a risk of pre-eclampsia. Children with type 1 diabetes and hypertension are also vulnerable to chronic kidney disease. Other factors like age, gender, lack of awareness, sedentary occupation and socio-economic status also play a role in increasing the risk.

## MANAGEMENT OF HYPERTENSION AND DIABETES

In Indian scenario, management of hypertension in diabetic patients needs special consideration. These people have more isolated systolic hypertension because of autonomic neuropathy, less reduction in nocturnal blood pressure and higher baseline heart rate. They also have greater chances of developing orthostatic hypertension and are more resistant to treatment. An optimal blood pressure of < 120/80 mmHg is

kept as reference value. Risk increases by 3.1 fold in mild hypertension (140-159 mmHg/90-99 mmHg). Risk increases by 11.2 fold, if the patient has severe hypertension. Blood pressure should be taken at every routine clinical consultation. Those patients who have found to have elevated blood pressure (> 140/85 mmHg) should be confirmed using multiple BP readings including measurements on a separate day and if possible, monitor BP by using ambulatory BP monitoring (ABPM) to diagnose hypertension. Home monitoring of BP is also recommended.

## TREATMENT GOALS

Most patients with diabetes and hypertension should be treated to BP goal of 140/85 mmHg. Lower systolic and diastolic BP target such as 130/80 mmHg is appropriate for patients who have high risk of CVD. In pregnancy, targets of 120/80

mmHg suggested in the interest for optimizing long-term maternal health and minimizing impaired fetal growth.

## HYPERTENSION AND DIABETES PREVENTION STRATEGIES

Primary prevention will include:

1. Education on nutrition and physical activity.
2. Incorporate obesity and diabetes prevention in routine preventive healthcare service.
3. Enrolling individuals in weight reduction and exercise program from school days onwards.
4. Health policies on food and interventions
5. Awareness and physical education programs for screening of DM and



## Huge population with diabetes and hypertension, socio-economic status, availability of healthcare options and awareness about disease plays a major role in the prevalence of diabetes and hypertension

hypertension in schools.

Secondary prevention will include:

1. Increased access to healthcare.
2. Easily accessible, affordable medication.
3. Monitoring drug delivery system and compliance of medication.
4. Partnering with recreation and sports association for lifestyle activities of the elderly.

Tertiary prevention will include:

1. Early referrals and easy access for specialty care.

### LIFESTYLE INTERVENTIONS

1. In overweight or obese patients, weight loss is needed.
2. Dietary approaches

a. Reduction in salt intake.

b. Abstinence or moderate quantity of alcohol.

c. Abstinence from smoking.

d. Increase physical activity.

3. Patient counseling regarding compliance of medication and regular follow-up.

### PHARMACOLOGICAL INTERVENTIONS

There are different classes of anti-hypertensive medications which are appropriate for different subsets of patients. Titration of anti-hypertensive medications according to the patient's response/BP control is absolutely necessary.

### TAKE HOME MESSAGE

1. Huge population with diabetes and hypertension, socio-economic status,

availability of healthcare options and awareness about disease plays a major role in the prevalence of diabetes and hypertension.

2. Healthcare system in India should focus on better hypertension screening and control to reduce complications.
3. Detect early pre-diabetic and pre-hypertension stages.
4. Once detected, select drugs properly.
5. Achieve targets and maintain consistently.
6. Interventions and referrals to prevent further complications of hypertension and diabetes.

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# Shaking the salt habit in Systemic Hypertension



**Dr Biju Jacob**  
Consultant Physician  
Lisie hospital, Kochi

**“Salt is born of the purest parents the sun and the sea” (Pythagorus)**

Salt is a mineral compound primarily of Sodium Chloride. It is present in vast quantities in sea water (35gm/ litre) from which it is extracted by evaporation in salt mines and further processed to form refined table salt .

Earliest evidence of salt use dates back to 6000 BC. Salt is not only the seemingly simple white powder that has a place on every dining table from rich to poor, but throughout its journey in it has been an integral part

of many a civilizations. It was so much valued that the term “salary” itself has its origin ‘salt’. Salt was an integral component of trade, many a religious offerings and all the more the practice of ‘salting foods’ helped in preserving things for long that initiated men to travel more and explore unknown lands. The universality of salt and its vitality as a common man’s commodity has made its way into political battlefields the most reputed being the salt satyagraha in India

**“Its presence is never felt, its absence makes everything tasteless”**

This common saying applies to salt in the diet as well as the function of salt in the body. Our body gets Sodium from salt .

What are functions of Sodium in the body?

There is much to say but at the least

- Sodium is needed for the transmission of nerve impulses throughout the body
- Sodium regulates electric charges inside body cells
- Sodium plays an important role in muscle contraction.
- Sodium regulates the water content in your body and so do your blood pressure

If sodium level comes down you will feel dizzy, may start acting odd and even may throw a seizure which is quite dangerous.

**“Don’t trust everything you see, even salt looks like sugar”**

The mineral which was thus much loved by one and all gained villainous proportions with the advent of ‘the modern epidemic of lifestyle diseases’. It was found that increased salt in diet is an independent risk factor for the development of systemic hypertension. (high BP). Systemic Hypertension in turn is a risk factor for heart diseases, renal failure, stroke and peripheral vascular disease, the prevalence of all are increasing exponentially. Increased salt consumption leads to water retention and blood vessel changes causing hypertension, which subsequently increases workload of

the heart leading to heart failure and ischemic heart disease (imagine somebody pulling a heavy load onto the top of a steep slope, it's just like that).

**“Take life with a pinch of salt”**

The mean dietary salt intake in urban South Indian population is 8.5gm /day while the national average is 11gm /day; both of which are much higher than the recommended intake of less than 6gm /day ( i.e. about 1 ½ teaspoon for a person for one whole day!!!)

High salt intake is seen more in the older age group and high income population.

What are the sources of increased salt in our diet ?

Added salt is the most common source of increased salt in diet. But don't ever hold the misconception that ‘salt’ that we take daily is only the ‘salt’ that we have added in our platter. We need to be cautious about consuming processed food items and natural foods with increased sodium like cheese, seafood and olives.

The main salt sources in the South Indian diet include meat, poultry, egg, dairy, dairy products, fish and seafood; whereas in the North Indian diet it is dairy and dairy products followed by fruits, vegetables, bread and bakery products . (Baking soda in most bakery products is nothing but sodium bicarbonate and many preservatives and food additives have sodium as a component). Sodium can be sneaky!

The sodium content of table salt is

**The mean dietary salt intake in urban South Indian population is 8.5gm /day while the national average is 11gm / day; both of which are much higher than the recommended intake of less than 6gm /day ( i.e. about 1 ½ teaspoon for a person for one whole day!!!)**

40%. Of late people have a fascination for different forms of so called ‘healthy salts’ but in fact sodium content is almost the same in other salt forms like Sea salt and Koshar salt.

¼ teaspoon - 575 mg sodium  
½ tea spoon – 1,150 mg sodium  
¾ teaspoon- 1,725 mg sodium  
1 teaspoon – 2,300 mg sodium

What is the importance of balanced salt intake ?

The British Hypertension Society guidelines, which concur with that of The American Heart Association, recognise the wealth of quality behavioural modification and diet modification on hypertension.

It was found that even a 2 mm Hg decrease in diastolic blood pressure reduces the prevalence of hypertension by 17%; and the risks of heart disease and stroke by 6 % and 15% respectively.

>>>



## Coverstory



**Salt is not only a food component but also an emotion to many. Still the taste in our food can sometimes get in the way of taste in our lives. So beware and keep a watch on salt in your diet . Let us strive to live long as 'salt of the earth'**

What are the measures to reduce salt intake ?

The National Institute of Clinical Excellence recommends regular aerobic exercise and reduction in salt, alcohol, smoking and a low calorie diet.

1)We need to choose low sodium foods or low sodium versions of our favourites.

2) When buying prepared and prepacked foods, we must read the labels. Processed food items like soup, tomato sauce, condiments and canned food will have words like 'soda', 'sodium' and 'Na' which indicate the salt content.

3)The DASH diet (Dietary Approach to Stop Hypertension) includes a diet rich in fruits, vegetables and low fat dairy products; with reduced content

of saturated and total fat.

4) Select unsalted nuts, ground nuts and dried beans.

5) Avoid added salt to home made dishes.

6)Use very little salt for cooking and remove the salt shaker from our table.

7)Learn to use spices and herbs to enhance the natural flavour of our food.

Other life style modifications include weight reduction (attain a Body Mass Index  $<25\text{kg/m}^2$ ), reduced alcohol consumption (  $<2$  drinks /day for men and  $<1$  drink/day -women), and physical activity- regular aerobic exercise (brisk walk, swimming, cycling ) for 30mins /day.

The DASH trial convincingly demonstrated a reduction in BP for

mild hypertension and high normal BP in 8 weeks.

Is there a problem with eating too little sodium ?

The body needs only a small amount of sodium ( $<500\text{mg/day}$  or  $<1/4$  teaspoon) to function properly. Very few come close to eating less than this. Moreover, the kidneys are good at retaining the sodium that our body needs .The causes for low sodium which we commonly see are vomiting, diarrhea, drug induced, cancer, hormonal imbalances, heart, kidney and liver diseases

In a recent study conducted in India , it was found that awareness about the importance of optimal salt intake was very poor among the hypertensive population.

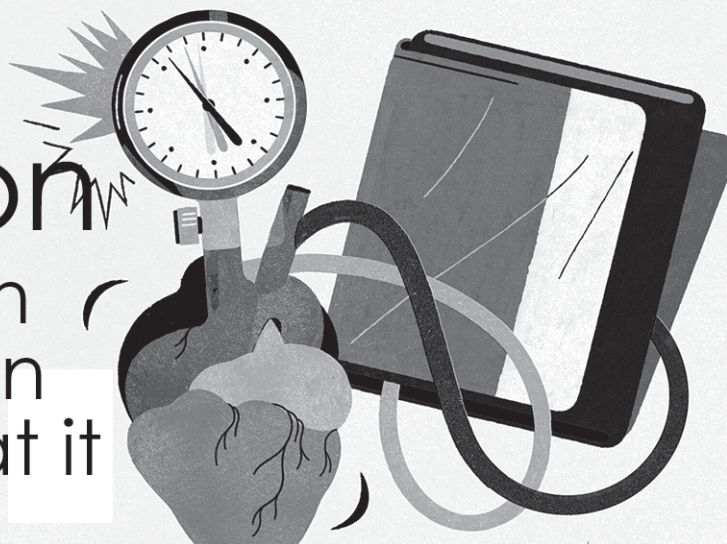
The Public Health Foundation of India has recently initiated a 'salt reduction' program in an attempt to create awareness to prevent and control Systemic Hypertension and Heart disease.

Salt is not only a food component but also an emotion to many. Still the taste in our food can sometimes get in the way of taste in our lives. So beware and keep a watch on salt in your diet . Let us strive to live long as 'salt of the earth'.



# Hypertension

leads to slow death  
and early detection  
is a must to combat it



Armed with a brand new MBBS degree, my son has become a doctor. The medical officer in charge of the social and preventive medicine department handed over the duty roster for the batch — girls were asked to manage the outpatient department at the Primary Health Centre and boys at the rural satellite centers.

My son reached the centre allotted to him to see a large crowd milling around. People jostled to get a slot closer to the clinic door. The elderly nurse welcomed him.

“Today is a busy OPD day and our usual medical officer has gone on leave. But don’t worry, just be fast. There would be roughly 200 patients,” she said.

“But sister, I have just... I mean today is my first day...”

“Don’t worry, let us start. We have enough paracetamol, one antibiotic, a cough mixture, pantoprazole and antacid,” she said. “You can write medicines for a maximum of five days. Any complicated case, we refer.”

She ushered him to the table, and adjusted the chair.

“One important thing is to keep the BP apparatus out of sight of patients;

**In India, an estimated 207 million people (24.7% of the population) have hypertension. Of them, 40 million end up with disability every year and 1.7 million die (eight times the 2, 50,000 death toll of the 2004 Indian Ocean tsunami) in just one year**

otherwise, everyone will want their BP checked; and we have no time for it...” She slid the BP apparatus inside the drawer.

Things that are sudden, catastrophic, unexpected or massive impress us, while slow decay doesn’t. A rusting bridge doesn’t make news; it needs to collapse suddenly to make it to the headlines.

So is the case with high blood pressure, which can cause hardening, narrowing and subsequent blockage of arteries in the heart, brain, eyes and kidneys, resulting in stroke, heart attack, kidney failure and visual loss. Hypertension has no symptoms initially. By the time symptoms develop, it would have already done some damage. It can promote blood clotting or end up in the breakage of arteries in the brain, resulting in cerebral haemorrhage.

In India, an estimated 207 million people (24.7% of the population)

have hypertension. Of them, 40 million end up with disability every year and 1.7 million die (eight times the 2, 50,000 death toll of the 2004 Indian Ocean tsunami) in just one year (*Journal of American medical Association*, March 2018).

Surprisingly, it takes just about 90 seconds to measure blood pressure. But checking the BP of 200 people needs five hours.

I am on the editorial board of two important hypertension journals, and we strongly advocate screening for hypertension whenever a person comes in medical contact for whatever reason it may be.

At school, I was taught that an ostrich hides its head in the sand when faced with a crisis, which later turned out to be incorrect. I am waiting to see how much time it will take to learn the same about hiding the BP apparatus.



*This is an article which appeared in the Opened Page in The Hindu newspaper in 2019*

## Coverstory

# High Blood Pressure & the Brain



**Dr. R. Krishna Das**

Senior Consultant Neurosurgeon  
Lisie Hospital

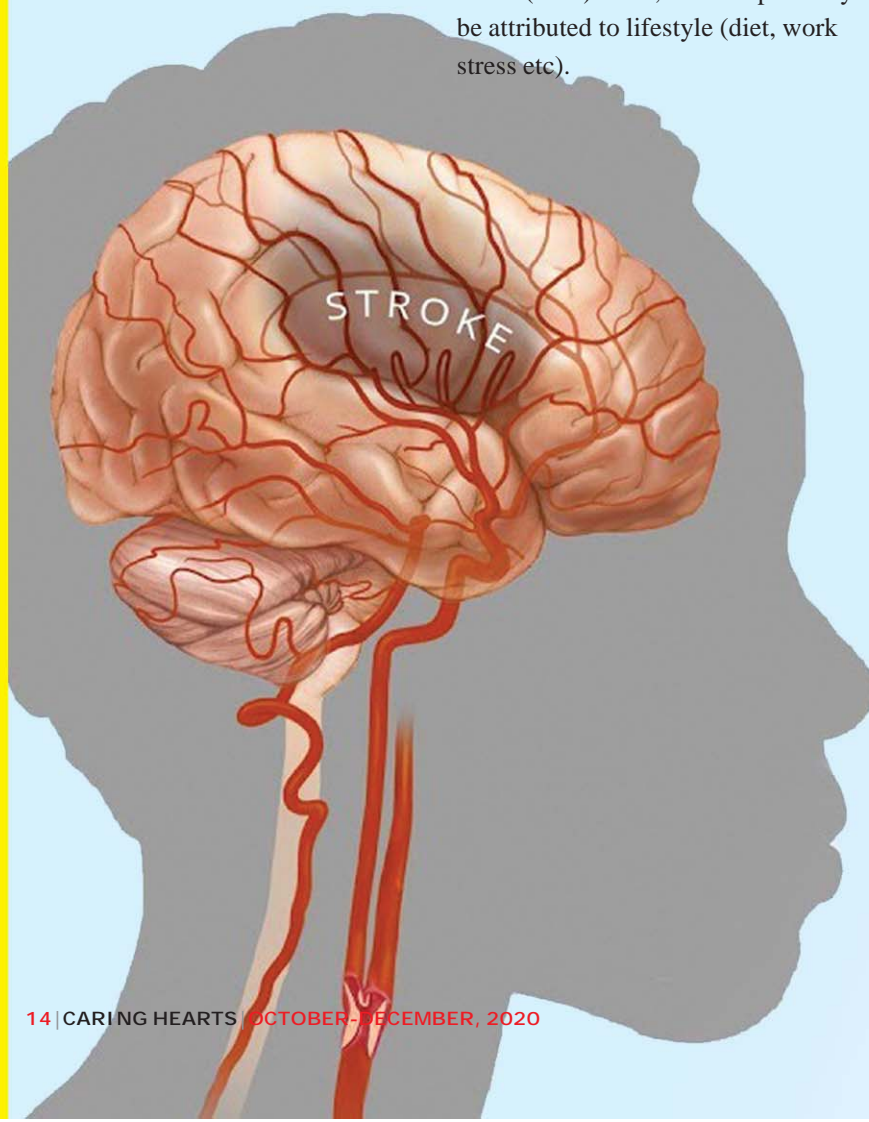
**H**ypertension is one of the major health problems of the world. HT is defined as the elevation in blood pressure above 140mm of Systolic or 90mm of Diastolic. It afflicts 25% of the general population in developed countries. In India the prevalence is higher at 30% and there is significant difference between rural (26%) and urban (34%) areas, and can probably be attributed to lifestyle (diet, work stress etc).

HT is an important risk factor for serious diseases affecting the brain, heart and kidneys. This discussion is about how it produces serious problems in the brain.

A lot is known about the mechanisms controlling blood pressure, but only in very few people can a cause for high blood pressure be ascertained. In a majority the cause cannot be found out and hence these people are said to be having “Essential Hypertension”. A wide variety of treatments are available to lower the blood pressure in those who are detected to be hypertensive and the use of these treatments has reduced the disease burden caused by hypertension.

One in three Indian adults has high blood pressure. Anyone, including children can develop it. The prevalence of hypertension was almost similar among men (30%) and women (28%). It increases with age from 7.5% among people aged 18-39 to 33% among adults aged 40-59 and 63% among those aged 60 and over.

The brain is a major target of the deleterious effects of hypertension and is responsible for a large portion of related mortality (death) and morbidity (harmful effects). There are two main effects (HT is the number one risk factor) of high blood pressure on the brain for stroke and decreased



mental function i.e. Dementia. HT is a powerful risk factor for Alzheimer's disease, the most common cause of dementia in the elderly.

Hypertension alters the structure of brain blood vessels and disrupts important regulatory mechanisms that assure adequate blood supply to the brain. This alteration threatens the blood supply to the brain and increases the risk of the brain to ischemic injury (stroke) as well as Alzheimer's disease.

How does high BP alter the brain blood vessels?

HT promotes the formation of atherosclerotic plaques in the cerebral (Brain) arteries which can block the artery and stop the blood flow to an area of the brain. High blood pressure can also affect the small blood vessels supplying critical areas by inducing Fibrinoid Necrosis.

#### Hypertension and Stroke

Stroke is the second most common cause of mortality worldwide and third most common cause of disability.

There are three main types of stroke.

- a) Ischemic (87%)
- b) Intra Cerebral Haemorrhage (Brain bleeding) (10%)
- c) Subarachnoid Haemorrhage (3%)

The stroke disease burden in India has increased nearly 100%. Stroke incidence in India is higher in rural areas- 194-215 per 100,000 populations as compared to national average of 119-145 for 100,000 populations. Developed countries due to their preventive health care practise (screening and treatment of HT) have witnessed a 42% drop in stroke rates.

It has been shown by numerous studies that detection of elevated blood pressure and its effective treatment prevents both heart attacks and strokes in middle aged population and older adults.

Ischemic stroke is the commonest, where blood supply to the area supplied by the blood vessel (artery) gets blocked resulting in a loss of function of that area. Stoppage of blood flow for three (3) minutes is sufficient to produce damage.

Mechanics by which stroke is produced by high blood pressure include;

- a) High pressure in the arteries damages the inner lining of the arteries which lead to thrombi (clot) formation. There is also alteration of smooth muscle that the blood vessel has, which leads to swelling of the brain (Edema).
- b) Hypertension accelerates the atherosclerotic process increasing the stenosis of major arteries and dislodgment of clots from bigger vessels into smaller vessels upstream.

Ischemic stroke, just like heart attack, needs to be detected early and if treated without wastage of time, can prevent permanent damage. Certain injections which dissolve clots if used during the window period (usually four hours) from start of symptoms may be able to reverse the damage. However, it must be understood that this may not happen in all and there are many contradictions in using these injections.

**High pressure in the arteries damages the inner lining of the arteries which lead to thrombi (clot) formation. There is also alteration of smooth muscle that the blood vessel has, which leads to swelling of the brain (Edema)**

The second commonest stroke seen in people with high blood pressure is bleeding into the brain (cerebral haemorrhage). High blood pressure can damage the lining of the blood vessel, which can "burst" with blood flowing under high pressure, just like a pipe bursting at its weakest point when water at a high pressure flows through it.

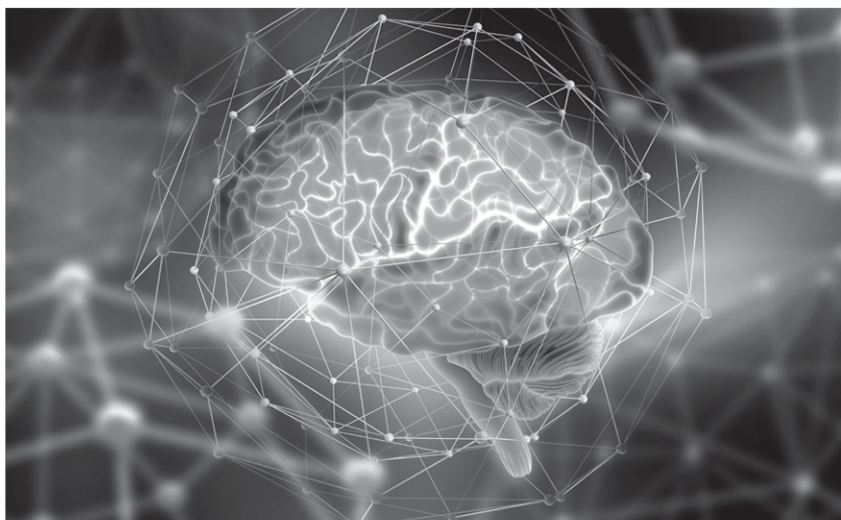
There are certain areas of the brain which are more prone to suffer from bleeding and include deep areas of the brain called ganglionic areas, brain stem, cerebellum and parietal cortex.

When bleeding occurs, that area of the brain is damaged and the function controlled by that specific area of the brain is lost. Surgery to remove the clot is usually done as a life saving procedure.

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## Coverstory



The third type of stroke due to high blood pressure is subarachnoid haemorrhage. High blood pressure damages the blood vessel wall from which outpouching (Bleb) develops especially at vessel branching in the base of the brain. These blebs called aneurysm can burst leading to subarachnoid haemorrhage. This is a dangerous condition as 50% of the people die from the initial bleed. Those who are in good condition are usually operated to obliterate the bleb (aneurysm). Either coiling or clipping is done.

Hypertension and Alzheimer's disease

Loss of mental capacity (cognitive function) is one of the most devastating manifestations of high blood pressure. Dementia is becoming an important cause of disability worldwide and contributes significantly to increased mortality. Hypertension is the most important modifiable risk factor for development and progression of cognitive decline and dementia.

High blood pressure produces damage to both the small and large

blood vessels of the brain leading to brain damage and dementia. High blood pressure leads to decrease in brain vascular reserve capacity and degenerative vascular wall changes lead to complete and incomplete brain infarcts, haemorrhage and white matter hyper intensities.

Currently in India there are about 3.7 million people with dementia and the number is projected to double by 2030. India has a huge burden of vascular disease risk factors. Many trials and data have emerged from all over the world and the American Heart Association has formed recommendations on the treatment of hypertension in prevention of stroke and dementia.

### Hypertension

- a) American Heart Association recommends a therapeutic BP goal of 130mm Systolic and 80mm Diastolic (130/80).

### Dementia

- a) In people with stroke, lowering of blood pressure is effective in reducing the

**Systemic hypertension is the leading cause of cardiovascular and cerebrovascular mortality and morbidity. Yet it is a condition which can be diagnosed easily and without much cost. Aggressive control of hypertension is mandatory to preserve and protect health in India**

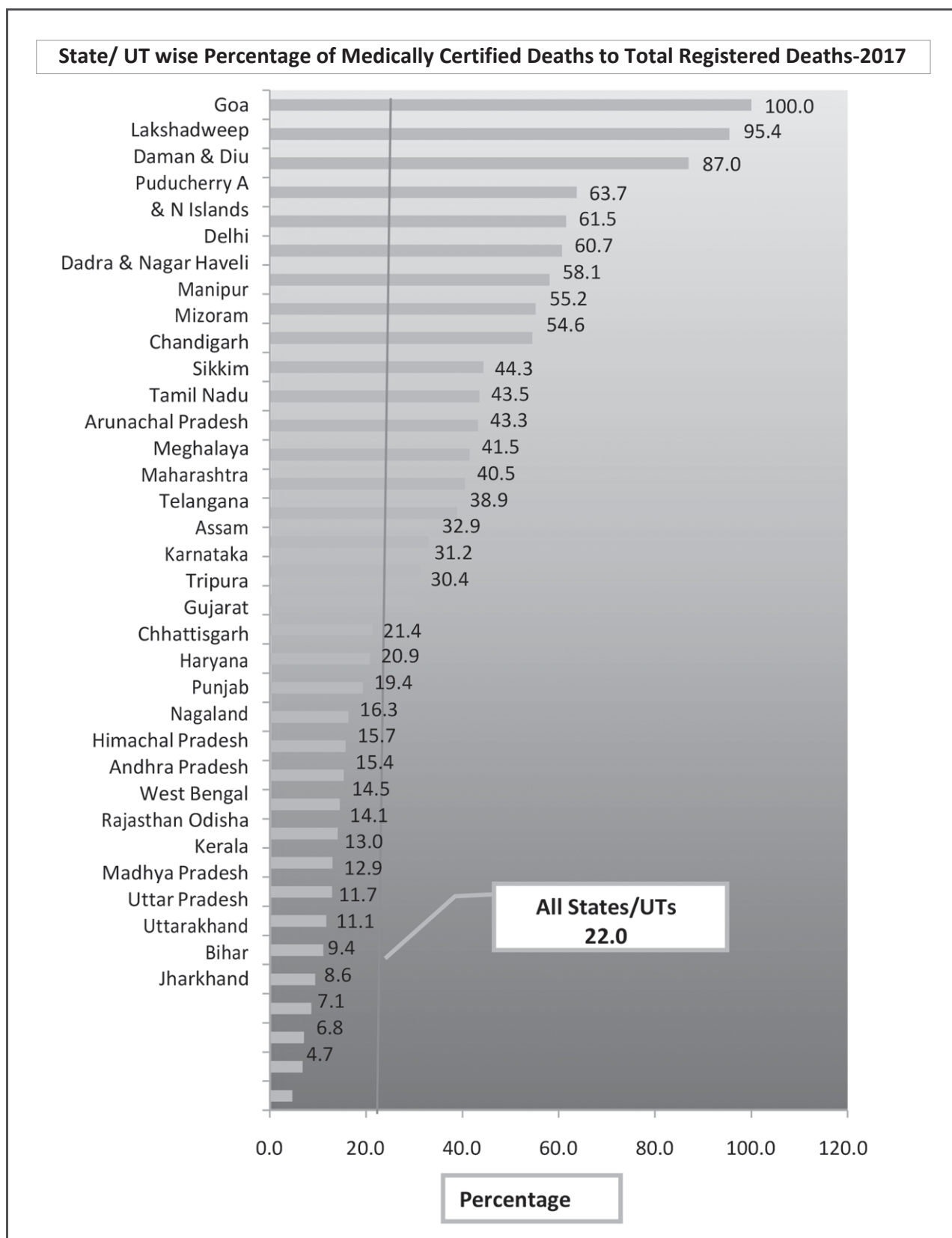
risk of post stroke dementia.

- b) Reasonable evidence that in middle aged and young elderly persons lowering of blood pressure is useful for prevention of late life dementia.
- c) The usefulness of lowering blood pressure in people over 80 years for prevention of dementia is not well established.

Systemic hypertension is the leading cause of cardiovascular and cerebrovascular mortality and morbidity. Yet it is a condition which can be diagnosed easily and without much cost. Aggressive control of hypertension is mandatory to preserve and protect health in India.



**Report on Medical Certification of Cause of Death-2017**



# Are we an inclusive society?



**R Sudhir**

**A**s news channel around the globe telecast live the ascension to presidency of USA's first African American First Citizen, I had mixed feelings. There was, of course, elation at the breaking of the "color" barrier, as it signaled a move to more inclusive society. But, there was also a feeling of despondency and frustration as millions around the world, including in the USA, continue to exist at the margins of the society, disadvantaged due to what can euphemistically be referred to as the "ability" barrier.....

I am talking of the persons with Disabilities (PWD), of which I myself am a part. Progressively, the society has been graduating from referring to us as "the blind, the dump of the lame" to "the physically handicapped", "the disabled or challenged". More polite and politically correct terminology, of

course, but little else seems to have changed on the ground, in terms of change in mindsets, access to the basic requirements of a dignified human existence such as education, employment, infotainment etc. and integration in to the mainstream. Especially, in India.

Of course, we do have the legislation in place – the Rehabilitation Council of India Act of 1990, the PWD Act of 1995 and the National Trust Act of 1999. And, the official machinery is also in place. Commissioners of PWD at all state capitals and a Chief Commissioner at New Delhi. India was even among the first countries in the world to ratify the UN Convention of rights of PWDs in last May. And yet, even getting the legally mandated 3% reservation in education, employment etc. in the government sector translated into reality is still a pipe dream of the PWDs. The media takes interest only when sensational cases are involved –

like when Javed Abidi (a leading activist who is orthopedically challenged) was humiliated by the airline staff, or when Dinaker (a visually challenged youngster who scored a high rank in the Civil Services Examination), was refused entry in to the IAS for almost 3 years, or when the Indian Institute of Management, Bangalore refused to admit a visually challenged girl with dazzling percentile score in the CAT exam.

Hundreds of thousands of PWDs face rejection, humiliation and stigmatization across the country – in schools, trains places of worship or banks and government offices. But their cries for help go unnoticed and unaddressed, may be, because we are not yet a vote bank of substantial consequence in this teeming democracy.

If we pause for a moment and reflect, it is easy to recognize that a physical disability is just a whisker away for

any able – bodies person – an accident or disease leading to an amputation or loss of sight or hearing. Or, come to think of it, isn't every person who walks this planet challenged in some way or other – physically (say difficulty in walking due to knee pain or fading vision due to old age), mentally (memory loss of various degrees or a learning disability), emotionally (lack of empathy or comparison), attitudinally (inhibitions or mental blocks), technologically (technologically or device phobia) or spiritually?.

This reflection can change the perspective altogether. Then, we realize that making life a bit easier for the people with special needs is going to make life a lot easier for the rest of the society – be it installing ramps in our buildings to make them accessible for wheelchair users, or making newspaper and magazines accessible to the visual and hearing challenged through the medium of Daisy (Digitally Accessible Information Systems) books or making our websites and software applications accessible to screen readers used by the sightless....

Unfortunately, lack of awareness on what and how PWDs can contribute to the society results in these valuable resources being under – utilized. For example, even leading ophthalmologists are not aware of assistive technology devices like screen readers (which help the visually challenged to work on computers), can – and – read software (which can be used for reading printed matter) etc. and hence they are not able to direct persons with law and/ or failing sight to the nearest rehabilitation center for imparting computer training. Often, these persons are told they have irreversible conditions and they sink into deep depression, dreading the inevitable loss of vision, and vegetating thereafter.

Employers too are not aware of the potential of PWDs and consider them fit only for posts of telephone operators or, at best, teachers. It is difficult to convince them that a lot of visually challenged persons are working successfully as lawyers, top company executives, accountants, programmers and even such as photographers! That too in our own India.

Which brings us to the thrust of this narrative? There are a lot of Homers (visually challenged author of Iliad & Odyssey), Helen Kellers (vision, hearing and speech challenged who defied all odds), Beethovens (hearing challenged composer of western classical music) and Sur Dass (visually challenged composer of devotional verses) remaining hidden and unstopped among the 40 – odd million physically challenged person in India, who are silently waiting for a break – may be, a financial assistance to continue their studies, or for services of a scribe write their exams, or for that first job that would allow them to prove their mettle.

It is for the Indian society to step forward and give us a break – the same society that has elected women as Prime Minister and Chief Minister (much before the so – called liberal democracies of the West did). The same society that has allowed persons from disadvantaged communities to become President and Chief Justice of India, the same society that prides itself in its inclusiveness and ability to accommodate everybody in its fold, without any discrimination. Can India rise to this challenge?

Can the Heart Care Foundation, which does such a lot of wonderful things, play a catalytic role in this noble cause?

■ ■

*(Article appeared in the 'Caring Hearts' January-March 2009 issue)*

*The author is the Marketing Manager of a software company at Kochi and is visually challenged. He can be reached at [Sudhir.r@nestgroup.net](mailto:Sudhir.r@nestgroup.net) or 98 47 276126*



**It is for the Indian society to step forward and give us a break – the same society that has elected women as Prime Minister and Chief Minister**



## Coverstory



# B.P

## Here are nine facts you should know

### 1. How does hypertension do its damage?

Just as a garden hose that is under too much pressure can develop bulges and blowouts, and be too forceful when aimed at delicate plants, blood flowing through our blood vessels under too much pressure can weaken blood vessels walls, causing bulges and ruptures, as well as damage delicate organs, like the heart, eyes or the kidneys, that receive the flow. It can force the heart to work harder, contributing to eventual heart failure.

### 2. What cause high BP?

In 90 percent of cases, there is no direct cause. Doctors attribute it to genetic predisposition, “If your parents had blood pressure at a certain age, you will be at risk of contracting BP when you reach that age too”, says Dr. Muthusamy. This is called “primary hypertension”. Obesity, lack of exercise, high alcohol and salt consumption, stress, smoking and family history are all risk factors. “It’s considered normal if a 60 - year old person has a BP of 140/ 90. However isolated high reading are often seen in the elderly,

and must not be ignore”, says Dr. Agarkar.

In about five percent of the cases, high BP is actually caused by another illness or medication. This is “secondary hypertension”. Kidney disease and problems related to the thyroid and adrenal glands, or other rarer diseases can cause it.

Medication and supplements that may cause a rise in BP include oral contraceptive common cold medications, non-steroidal and herbal supplements like ginseng and St. Jon’s Wort.

### 3. How is BP measured?

The device called a sphygmomanometer. With the arm supported and the patient keeping still, a cuff is inflated around the upper arm, at the level of the heart. In the manual method, the doctor pumps up the cuff until the blood flow in the arm is stopped. Then watching the dial or column of numbers, the pressure on the cuff is slowly released until, with a stethoscope, the doctor hear the first tapping “Korokoff sounds” representing the top number (120 in a fraction like 120/80

mm Hg), which is the “systolic pressure”. After that, the pressure is released until all sounds disappear. The reading taken now will be the bottom number (80), or “diastolic pressure”. Accurate machines are now available to take these measurements automatically.

The systolic pressure is the force exerted on your blood vessels walls when your heart beats and squeezes our blood. The diastolic pressure is the force exerted on your vessels when the heart relaxes between beats. Optimal BP is when the numbers are at or a few points under 120/80 mm Hg. If the BP rises over 140/90 mm Hg, you have hypertension. “Frequent monitoring is important and everyone should know their blood pressure readings”, say Dr. Muthusamy.

### 4. How often should BP be measured?

Take test at least once every year. Indeed, most patients have their hypertension detected when they see the doctor for something else. “The patients may have to visit the family physician more frequently during the



## **It is best to make major lifestyle changes when the hypertension is still in its mild or moderate stage. It can be hard, but remember it's all for your future well being**

initial phase of the diagnosis. Once medication is started, the patient should visit the doctor every month initially for a check-up and once or twice a year for follow ups”, advises Dr. Muthusamy.

### **5. How many readings should you have?**

All the guidelines recommended that doctors make patients sit quietly for the first reading and then take once or two more, a minute or two apart, then average those measurements, particularly if the readings are high. When hypertension is in the mild to moderate range, a follow-up appointment should be to take those readings again. “The main goal of treatment of hypertension is to lower blood pressure to less than 140/90”, says Dr. J S N Murthy, Vice-chancellor and Professor of Cardiology at Sri Ramachandra University Chennai.

A small percentage of people have abnormally high readings when their blood pressure is taken at a doctor's office – when more anxious – but are fine at home. This is called “white-coat hypertension”. Others may have normal readings at the doctor's office but are actually hypertensive at home. This is called “masked hypertension”. Our BP is not fixed - it rises and falls throughout the day in response to what we are doing and what is happening around us. “If a patient is

very anxious, his systolic blood pressure can rise considerably, by as much as 30 mm Hg”. Reveals Dr. Murthy.

“Taking BP readings at home with a digital monitor is an excellent way to keep a check on the condition”, says Hyderabad Cardiologist Dr. Sharath Reddy Annam. He warns that there could be slight calibration differences between your home monitor and the one your doctor uses, which means slightly different readings. “I advise patients to bring in their digital monitor during check-ups, so I can note any such difference. It helps dispense the right dose of medication”, Dr. Reddy says.

### **6. What else should be done if your readings are high?**

Any hypertension reading should trigger a careful medical history. Other risk factors must be investigated with blood and urine tests, and investigation done for any cardiovascular diseases, diabetes, kidney damage, gout and arthritics. Also, a careful family history should be taken. What's basic here is to get your BP back in the normal range.

### **7. What lifestyle factors make a difference?**

Five key behaviors can have a big impact on BP: exercise at least five times a week, reduce alcohol consumption to not more than two

drinks a day for men and one for women, reduce salt consumption (particularly by avoiding processed foods), maintain a healthy weight, and increase fruit and vegetable intake. Also stop smoking and manage stress. Recent studies suggest that cutting sugar intake, even without weight reduction, reduce BP. “Making healthful changes to your lifestyle can not only delay the onset of hypertension, it can have significant beneficial effects on other aspects of your health as well”, says cardiologist Sharath Reddy Annam.

### **8. Is it ever too late to make lifestyle changes?**

No. During the past year, Usha Periakapuram, 61, a Mysore homemaker, decided to make small, yet significant lifestyle changes. At age 42 she had been diagnosed with stage 2 hypertension (readings of 170/100 mm Hg) and has since been on medication. This year, she decided to limit her sugar intake, gradually cutting back on ice cream, sweets and biscuits, even though isn't diabetic. She also started 20 minutes of moderate walking and “energization” exercise. The result: Usha has since lost five kilos in six months and her doctor has scaled down her BP medication to a minimal dose. “I've never skipped my medication even for a day”, she says. “That has always helped me keep my blood pressure under control”.

It is best to make major lifestyle changes when the hypertension is still in its mild or moderate stage. It can be hard, but remember it's all for your future well being.

>>>

## 9. Will there be side effects if I take BP meds?

Many types of medication are now available, so a doctor should fine the drug, or a combination, that controls BP with minimal-to-no side effects. Some Hypertension drug may cause diarrhea or other gastrointestinal problems. Tell your doctor about any side effects so that he or she will work with you to find the right medication.

Sometimes it calls for a bit of work on the doctor's part, even if there are no side effects, especially if other illnesses complicate treatment. Kumudini Bhat, 53, Mumbai homemaker, was diagnosed with both diabetes and hypertension in 1990 after suffering intense bouts of dizziness and fatigue her doctor found her initial BP readings, of 190/100, alarmingly high. She was treated for both conditions, but prescriptions had to be constantly altered over the years to contend with other medical problems, including the side effects of her diabetes medication. In January, she was prescribed Lasix (furosemide), a diuretic pill that prevents the body from absorbing too much salt, thereby controlling her blood pressure, which is now within the normal range.

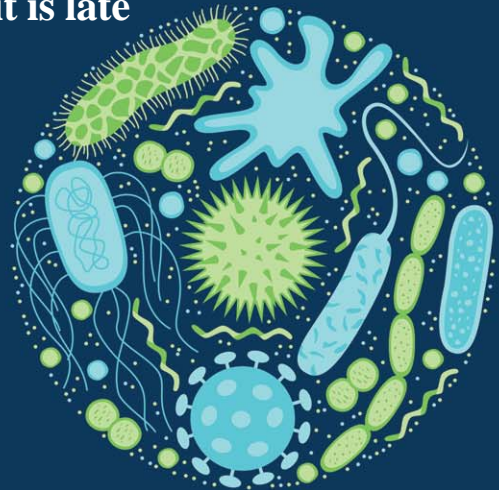
"There have been significant strides in this area", says Dr. Muthusamy. "Cost effective medication that combines several drug formulations are now available so even the most resistant cases can be controlled. As education and literacy increase, greater awareness about BP can help save more lives".

Take climate scientist E Vivekanadan's case. The longtime BP patient has proved that it is possible, with awareness and care to live a full, productive life.

*Caring Hearts / July September, 2015*

# A looming health crisis

**Antimicrobial resistance is growing exponentially and needs to be tackled before it is late**



ATUL BAGAI

While the COVID – 19 pandemic continues to wreak havoc on our daily lives, a silent pandemic has been brewing in the background for decades. Governments need to factor in new research and bring in business and consumers as active stakeholders before it is too late.

Antimicrobial resistance (AMR) is growing at an alarming rate. Globally about 35% of common human infection have become resistant to available medicines. About 700,000 people die every year because available antimicrobial drugs – antibiotics, antivirals,

## **The Center and State governments in India can strengthen the environmental dimensions of their plans to tackle antimicrobial resistance. It is particularly important to promote measures that address known hotspots such as hospitals and manufacturing and waste treatment facilities**

antiparasitic and antifungals have become less effective at combating pathogens. Resistance to second and third line antibiotics the last lines of defense against some common disease are projected to almost double between 2005 and 2030. In India, the largest consumer of antibiotics in the world, this is a serious problem. According to a study published in the Lancet, an estimated 58000 new born children die annually from sepsis in India alone because antibiotics can no longer treat certain bacterial infections.

We have long known that microorganisms develop resistance to antimicrobial agents as a natural defense mechanism. We have also known for some time that human activity has significantly accelerated the process. The misuse and overuse of antimicrobials for humans, livestock and agriculture is probably the largest reason for this, but other factors also contribute.

Research points to the role of environment and pollution in AMR. Once consumed, up to 80% of antibiotic drugs are excreted un-metabolised, along with resistant bacteria. Their release in effluents from households and health and

pharmaceutical facilities, and agricultural run-off, is propagating resistant microorganisms. Wastewater treatment facilities are unable to remove all antibiotics and resistant bacteria.

In India, there is capacity to treat only about 37% on the sewage generated annually. The rest is discharged into natural water bodies without treatment. An analysis of single wastewater discharged from a treatment facility in India catering to drug manufactures found concentrations of antibiotics high enough to treat over 40,000 people daily.

Water, then, may be a major mode for the spread of AMR, especially in places with inadequate water supply, sanitation and hygiene. Wildlife that comes into contact with discharge containing antimicrobials can also become colonized with drug resistant organism.

### **Key initiatives**

The issue has been on the radar of scientist for several years. The United Nations Environment Programme (UNEP) identified antimicrobial resistance as one of six

emerging issues of environmental concern in its 2017 Frontiers Report. In that same year, the UN Environmental Assembly pressed the need to further understand the role of environmental pollution in spreading AMR. UN agencies are working together to develop in one Health AMR Global Action Plan (GAP) that addresses the issue in human, animal, and plant health and food and environment sector.

The Center and State governments in India can strengthen the environmental dimensions of their plans to tackle antimicrobial resistance. It is particularly important to promote measures that address known hotspots such as hospitals and manufacturing and waste treatment facilities.

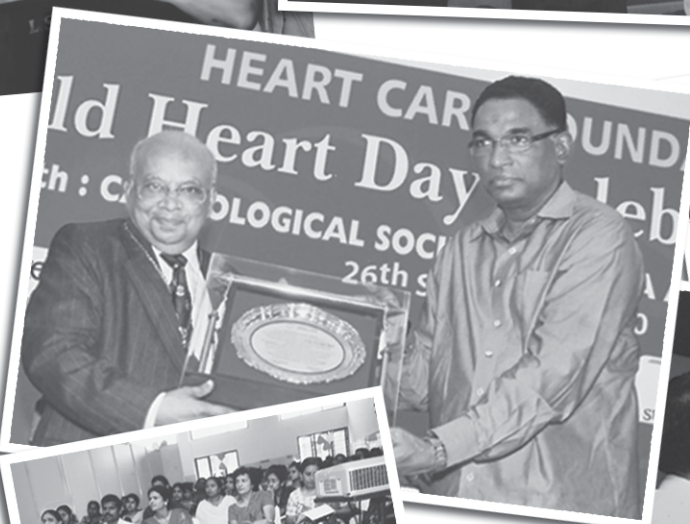
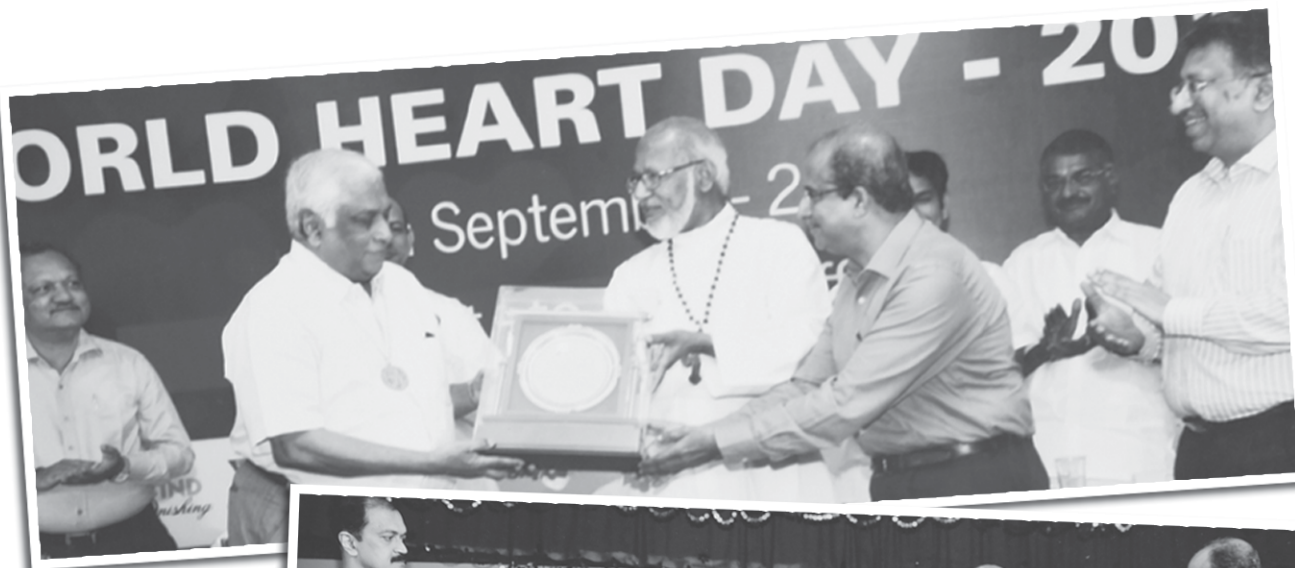
This has started to an extent. Early in 2020, The Ministry of Environment, Forest and Climate Change (MoEF&CC) issued draft standards which set limits for residues of 121 antibiotics in treated effluents from drug production units. These standards await finalization. And in July this year, the Ministry of Health and Family Welfare and MoEF&CC constituted the inter- ministerial Steering Committee on Environment and Health, with representation from WHO and UNEP.

We saw how quickly a pandemic can spread if we are not ready. This is an opportunity to get ahead of the next one.

*(Atul Bagai is Head, UN Environment Programme, Country Office, India Excerpts from the Hindu)*







## *HCF*heart-facts

### **What was the ‘Heart lung machine’ used for?**

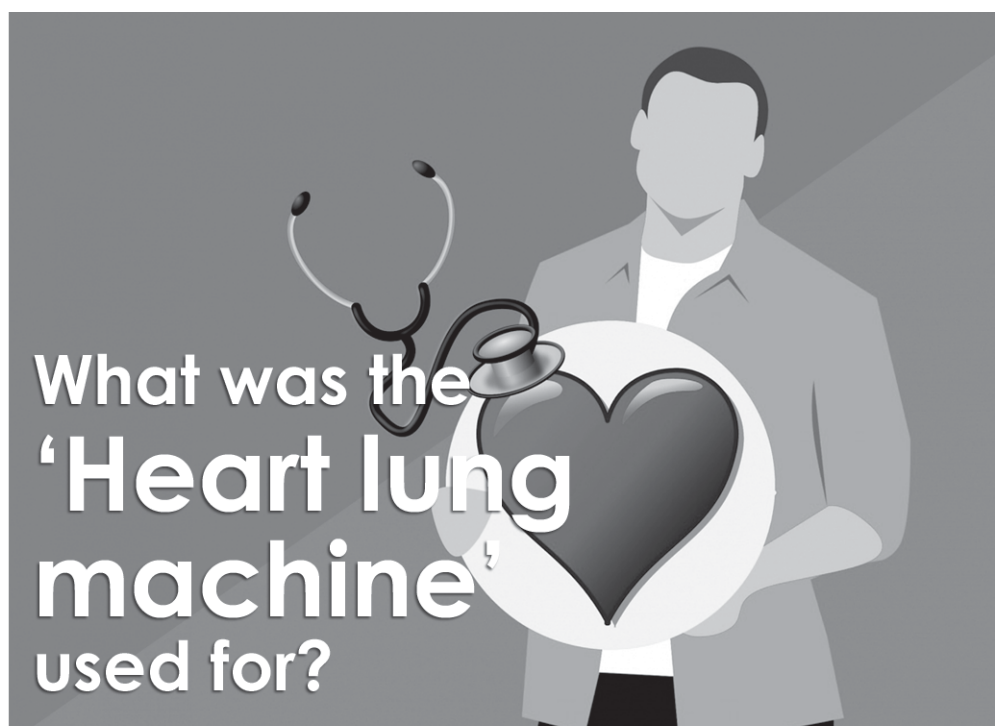
It is the function of the heart to provide circulation of blood at all times. It pushes blood out into the body, and through the lungs. It must function every minute of every day of life to maintain the health of the tissues throughout the body.

The heart malfunctions at times, requires surgery to correct the problem. Surgeons searched for a means to stop the heart so they could correct defects, yet keep the patient alive by circulating by another means. After years of research by several scientists, a heart lung machine was developed by Dr John Gibbon in 1930. It was used to provide blood circulation and oxygenation while the heart is stopped. It was a means of keeping the patient alive while his heart was stopped, or even removed from his body.

In 1953, at Jefferson Medical College in Philadelphia, Dr John Gibbon connected the circulatory system of an 18 year old female to the machine, stopped the woman's heart for 26 minutes he performed surgery to close a hole in the wall of the heart. It was the first successful use of a heart–lung machine, and the beginning of a new era in cardiac surgery.

### **What was Dr Christian Bernard's great achievement?**

On December 03, 1967, a South African surgeon Dr Christian Bernard made medical history at Groote Schuur Hospital in Cape Town. He completed the first successful heart transplant.



A heart transplant is a procedure in which a surgeon removes a disabled heart and replaces it with a heart that has been donated by someone who died recently. During a heart transplant, a mechanical pump circulates blood through the body while surgeon removes the diseased heart, and replaces it with the donated healthy heart. The surgeon connects the donor heart to the major blood vessels, and he hooks the heart up to wires that temporarily control the heartbeat. The procedure takes several hours.

To prevent the body from rejecting the donor heart, powerful drugs called immunosuppressants are given immediately after surgery, and they must be taken continuously.

Dr Bernard's patient was 59 year old Louis Washkansky, and he received his new heart from a 25 year old woman who died after hit by a car. Unfortunately for Washkansky, the drugs given after surgery to prevent the body from rejecting the new organ made him very weak. He contracted pneumonia and died 18

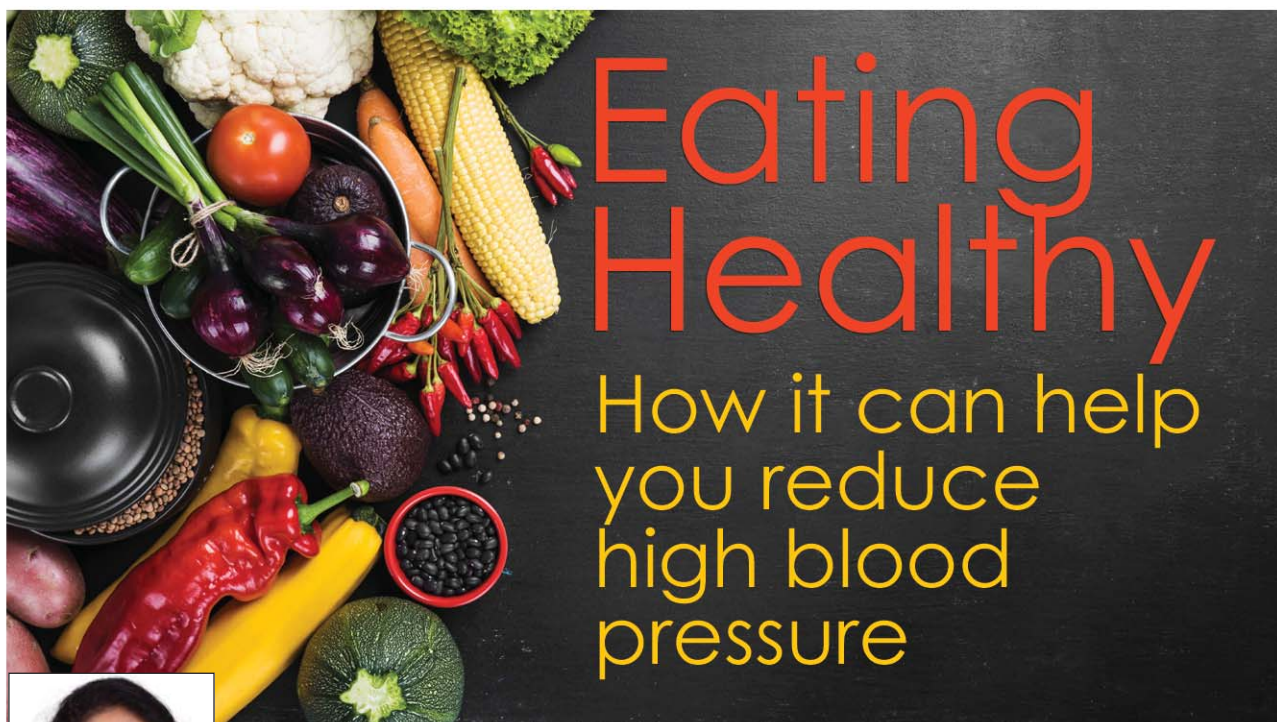
**After years of research by several scientists, a heart lung machine was developed by Dr John Gibbon in 1930. It was used to provide blood circulation and oxygenation while the heart is stopped**

days later.

The anti-rejection drugs continued to claim lives of many of his transplant patients. The high death rate forced surgeons to stop conducting heart transplant until 1974. That's when a Norwegian researcher discovered the drug Cyclosporin. Cyclosporin worked to keep the body from rejecting a donated organ as well as helped to protect patients from infection. ■■

*Source: Tell Me Why- Part 28 (Manorama)*





**Dr. Nisha Vikraman**  
Assistant Professor  
Department of Home Science  
St. Teresa's College, Ernakulam

### What is hypertension?

Blood pressure is the force exerted by circulating blood against the walls of the body's arteries, the major blood vessels in the body.

Hypertension is when blood pressure is too high.

Blood pressure is written as two numbers. The first (systolic) number represents the pressure in blood vessels when the heart contracts or beats. The second (diastolic) number represents the pressure in the vessels when the heart rests between beats.

Hypertension is diagnosed if, when it is measured on two different days, the systolic blood pressure readings on both days is  $\geq 140$  mmHg and/or the diastolic blood pressure readings on both days is  $\geq 90$  mmHg.

### Key facts

- Hypertension - or elevated blood pressure - is a serious medical condition that significantly increases the risks of heart, brain, kidney and other diseases.
- An estimated 1.13 billion people worldwide have hypertension, most (two-thirds) living in low- and middle-income countries.
- Fewer than 1 in 5 people with hypertension have the problem under control.
- Hypertension is a major cause of premature death worldwide.

One of the global targets for non communicable diseases is to reduce the prevalence of hypertension by 25% by 2025 (baseline 2010).

### What are the risk factors for hypertension?

Modifiable risk factors include unhealthy diets (excessive salt consumption, a diet high in saturated fat and trans fats, low intake of fruits and vegetables), physical inactivity, consumption of tobacco and alcohol, and being overweight or obese.

Non-modifiable risk factors include a family history of hypertension, age over 65 years and co-existing diseases such as diabetes or kidney disease.

### What are common symptoms of hypertension?

Hypertension is called a "silent killer". Most people with hypertension are unaware of the problem because it may have no warning signs or symptoms. For this reason, it is



essential that blood pressure is measured regularly.

When symptoms do occur, they can include early morning headaches, nosebleeds, irregular heart rhythms, vision changes, and buzzing in the ears. Severe hypertension can cause fatigue, nausea, vomiting, confusion, anxiety, chest pain, and muscle tremors.

The only way to detect hypertension is to have a health professional measure blood pressure. Having blood pressure measured is quick and painless. Individuals can also measure their own blood pressure using automated devices, however, an evaluation by a health professional is important for assessment of risk and associated conditions.

### **What are the complications of uncontrolled hypertension?**

Among other complications, hypertension can cause serious damage to the heart. Excessive pressure can harden arteries, decreasing the flow of blood and oxygen to the heart. This elevated pressure and reduced blood flow can cause:

- Chest pain, also called angina.
- Heart attack, which occurs when the blood supply to the heart is blocked and heart muscle cells die from lack of oxygen. The longer the blood flow is blocked, the greater the damage to the heart.
- Heart failure, which occurs when the heart cannot pump enough blood and oxygen to other vital body organs.

- Irregular heart beat which can lead to a sudden death.

Hypertension can also burst or block arteries that supply blood and oxygen to the brain, causing a stroke. In addition, hypertension can cause kidney damage, leading to kidney failure.

### **How can the burden of hypertension be reduced?**

Reducing hypertension prevents heart attack, stroke, and kidney damage, as well as other health problems.

#### **Prevention**

- Reducing salt intake (to less than 5g daily)
- Eating more fruit and vegetables
- Being physically active on a regular basis
- Avoiding use of tobacco
- Reducing alcohol consumption
- Limiting the intake of foods high in saturated fats
- Eliminating/reducing trans fats in diet

Eating a diet that is rich in whole grains, fruits, vegetables and low-fat **dairy** products and skimps on saturated fat and cholesterol can lower your blood pressure by up to 11 mm Hg if you have high blood pressure. This eating plan is known as the Dietary Approaches to Stop Hypertension (DASH) diet.

### **Foods that help lower blood pressure**

#### **1. Leafy greens**

Potassium helps your kidneys get rid of more sodium through your urine. This in turn lowers your blood pressure.

**Modifiable risk factors include unhealthy diets (excessive salt consumption, a diet high in saturated fat and trans fats, low intake of fruits and vegetables), physical inactivity, consumption of tobacco and alcohol, and being overweight or obese**

Leafy greens, which are high in potassium, include:

- romaine lettuce
- arugula
- kale
- turnip greens
- collard greens
- spinach
- beet greens
- Swiss chard

Canned vegetables often have added sodium. But frozen vegetables contain as many nutrients as fresh vegetables, and they're easier to store. You can also blend these veggies with bananas and nut milk for a healthy, sweet green juice.

#### **2. Berries**

Berries, especially blueberries, are rich in natural compounds called flavonoids. One study found that consuming these compounds might prevent hypertension and help lower blood pressure.

Blueberries, raspberries, and strawberries are easy to add to your diet. You can put them on your cereal or granola in the morning, or keep

>>>

## Coverstory

frozen berries on hand for a quick and healthy dessert.

### 3. Red beets

Beets are high in nitric oxide, which can help open your blood vessels and lower blood pressure. Researchers also found that the nitrates in beetroot juice lowered research participants' blood pressure within just 24 hours.

You can juice your own beets or simply cook and eat the whole root. Beetroot is delicious when roasted or added to stir-fries and stews. You can also bake them into chips. Be careful when handling beets — the juice can stain your hands and clothes.

### 4. Skim milk and yogurt

Skim milk is an excellent source of calcium and is low in fat. These are both important elements of a diet for lowering blood pressure. You can also opt for yogurt if you don't like milk.

According to the American Heart Association, women who ate five or more servings of yogurt a week experienced a 20 percent reduction in their risk for developing high blood pressure.

Try incorporating granola, almond slivers, and fruits into your yogurt for extra heart-healthy benefits. When buying yogurt, be sure to check for added sugar. The lower the sugar quantity per serving, the better.

### 5. Oatmeal

Oatmeal fits the bill for a high-fiber, low-fat, and low-sodium way to lower your blood pressure. Eating oatmeal for breakfast is a great way to fuel up for the day.

Overnight oats are a popular breakfast option. To make them, soak 1/2 cup of rolled oats and 1/2 cup of nut milk in a jar. In the morning, stir and add berries, granola, and cinnamon to taste.

### 6. Bananas

Eating foods that are rich in potassium is better than taking supplements. Slice a banana into your cereal or oatmeal for a potassium-rich addition. You can also take one to go along with a boiled egg for a quick breakfast or snack.

### 7. Salmon, mackerel, and fish with omega-3s

Fish are a great source of lean protein. Fatty fish like mackerel and salmon are high in omega-3 fatty acids, which can lower blood pressure, reduce inflammation, and lower triglycerides. In addition to these fish sources, trout contains vitamin D. Foods rarely contain vitamin D, and this hormone-like vitamin has properties that can lower blood pressure.

One benefit of preparing fish is that it's easy to flavor and cook. To try it, place a fillet of salmon in parchment paper and season with herbs, lemon, and olive oil. Bake the fish in a preheated oven at 450°F for 12-15 minutes.

### 8. Seeds

Unsalted seeds are high in potassium, magnesium, and other minerals known to reduce blood pressure. Enjoy 1/4 cup of sunflower, pumpkin, or squash seeds as a snack between meals.

### 9. Garlic and herbs

Garlic can help reduce hypertension by increasing the amount of nitric oxide in the body. Nitric oxide helps promote vasodilatation, or the widening of arteries, to reduce blood pressure.

Incorporating flavorful herbs and spices into your daily diet can also help you cut back on your salt intake.



Examples of herbs and spices you can add include basil, cinnamon, thyme, rosemary, and more.

10. Dark chocolate

A 2015 study found that eating dark chocolate is associated with a lower risk for cardiovascular disease (CVD). The study suggests that up to 100 grams per day of dark chocolate may be associated with a lower risk of CVD.

Dark chocolate contains more than 60 percent cocoa solids and has less sugar than regular chocolate. You can add dark chocolate to yogurt or eat it with fruits, such as strawberries, blueberries, or raspberries, as a healthy dessert.

11. Pistachios

Pistachios are a healthy way to decrease blood pressure by reducing peripheral vascular resistance, or blood vessel tightening, and heart rate. You can incorporate pistachios into your diet by adding them to crusts, pesto sauces, and salads, or by eating them plain as a snack.

12. Olive oil

Olive oil is an example of a healthy fat. It contains polyphenols, which are inflammation-fighting compounds that can help reduce blood pressure.

Olive oil can help you meet your two to three daily servings of fat as part of the DASH diet (see below for more about this diet). It’s also a great alternative to canola oil, butter, or commercial salad dressing.

13. Pomegranates

Pomegranates are a healthy fruit that you can enjoy raw or as a juice. Drinking

a cup of pomegranate juice once a day for four weeks helps lower blood pressure over the short term.

Pomegranate juice is tasty with a healthy breakfast. Be sure to check the sugar content in store-bought juices, as the added sugars can negate the health benefits.

The DASH diet and recommended foods

Dietary recommendations for lowering blood pressure, such as the Dietary Approaches to Stop Hypertension Trusted Source (DASH) diet, include reducing your intake of fat, sodium, and alcohol. Following the DASH diet for two weeks can lower your systolic blood pressure (the top number of a blood pressure reading) by 8-14 points.

Serving suggestions for the DASH diet include:

| Foods                                     | Serving per day  |
|---|--|
| sodium                                    | no more than 2,300 mg on a traditional diet or 1,500 mg on a low-sodium diet |
| dairy (low-fat)                           | 2 to 3   |
| healthy fats (avocado, coconut oil, ghee) | 2 to 3   |
| vegetables                                | 4 to 5   |
| fruit                                     | 4 to 5   |
| nuts, seeds, and legumes                  | 4 to 5   |
| lean meat, poultry, and fish              | 6  |
| whole grains                              | 6 to 8   |

In general, you should eat more low-fat protein sources, whole grains, and plenty of fruits and vegetables. The DASH guidelines also suggest eating more foods rich in potassium, calcium, and magnesium.

In general, you should eat more low-fat protein sources, whole grains, and plenty of fruits and vegetables. The DASH guidelines also suggest eating more foods rich in potassium, calcium, and magnesium. The guidelines also recommend no more than:

- Five servings of sweets per week
- One drink per day for women
- Two drinks per day for men

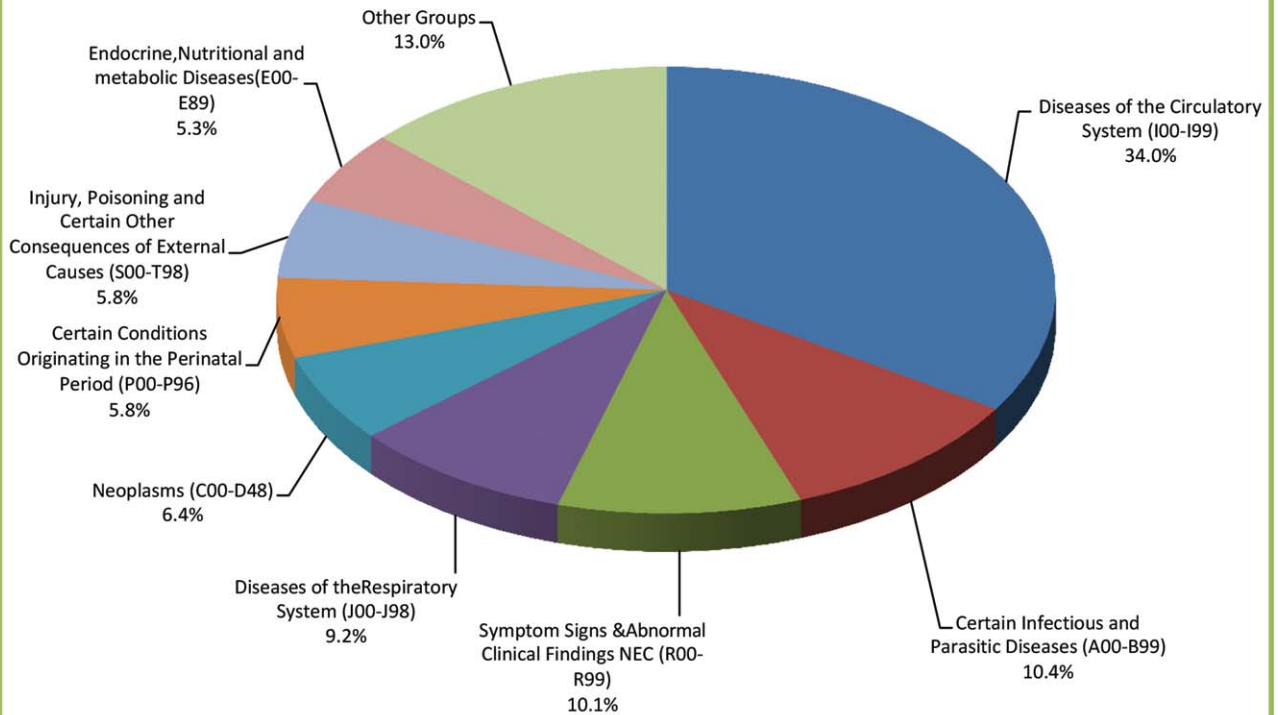
High-fat (full fat) DASH diet reduces the same amount of blood pressure as the traditional DASH diet. Another review looked at results of 17 studies and found that the DASH diet reduced blood pressure on average by 6.74 mmHg for systolic blood pressure and 3.54 mmHg points for diastolic blood pressure.

The bottom line

Through a heart-healthy diet, you can reduce your risks for hypertension and promote good health overall.



**Chart 3.4**  
**Percentage distribution of deaths under MCCD by leading cause groups - 2017**



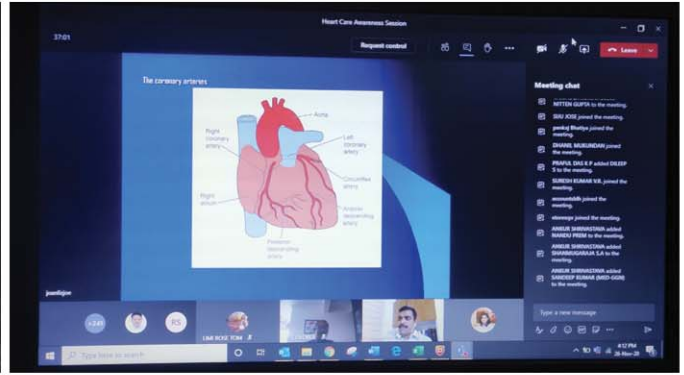
**3.5** The percentage distribution of eight major cause groups of death for the period 2000 to 2017 is presented in the Statement 3.5. The data reveals that, since 2000, the group *Diseases of the Circulatory System* has not only occupied the position of *top-most killer*, but its percentage to total deaths has registered an increasing trend over the years. The increase in the share of deaths under this cause group is 9.7 percentage points in 2017 compared to 2000.

**ഹോം ഐസൊലേഷനിൽ കഴിയുന്നവർ ശ്രദ്ധിക്കേണ്ടത്**

കൊറോണ ബാധിതമായ പ്രദേശങ്ങളിൽ നിന്ന് വരുന്നവരിൽ വൈറസ് ബാധ ഉണ്ടാകാനുള്ള സാധ്യത കൂടുതലാണ്.

വിഭജിതത് നിന്നും വരുന്നവർ 28 ദിവസം വീടുകൾക്കുള്ളിൽ തന്നെ കഴിയേണ്ടതാണ്.

തങ്ങൾക്കും മറ്റുള്ളവർക്കും അണുബാധ ഉണ്ടാകുന്നില്ല എന്ന് ഉറപ്പാക്കുക

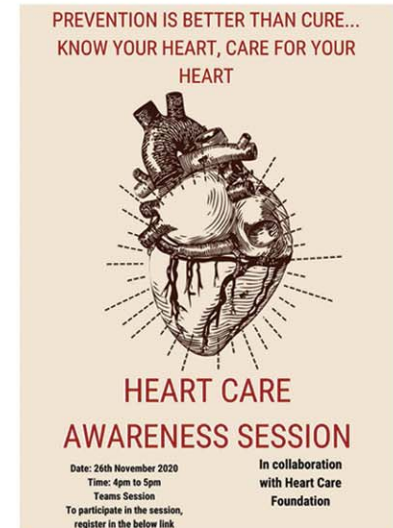


## A report on the Awareness Session on Heart Care for V Guard Industries on Zoom platform- 4.00 pm Thursday November 26,2020

An Awareness Session was conducted for the benefit of the employees of V Guard on Thursday November 26, 2020. Dr Jo Joseph, Consultant Cardiologist & Trustee, Heart Care Foundation led the presentation. Employees of V Guard numbering over 250 from across India participated in the session. The Session was implemented and executed in the background of COVID pandemic and the resultant less activities of the employees.

The subject and the scope of the

session and introduction of the speaker were done by the hostess. Thereafter Mr P T George V P-H R of V- Guard Industries gave his opening remarks. This was followed by the presentation by Dr Jo Joseph. In his presentation he touched upon the functions of Heart, the diseases affecting the heart, and the methods to prevent the disease. After the detailed presentation the session was open for Q & A. There were several questions from the employees' side which was very efficiently handled by the hostess and



put across to Dr Jo Joseph. He took time to explain various aspects of the questions to the satisfaction of the attendees.



# We need your help...

## Let us help those in need together...



**D**ear Friend, since you are reading this I presume that you either are a Heart Care Foundation member or a member friend has given this to you. Either way, you are very important to this humble movement called Heart Care Foundation and we all are thankful for whatever help your valuable association can bring to the Foundation.

Let me briefly explain to you the activities of the Foundation. Founded on the World Heart Day, September 29, 2005 and inaugurated by the then Governor Sri. R.L Bhatia, HCF was able to successfully complete several projects related to heart care in Kerala. Our first project '**Save 1000 hearts, 1000 lives, 1000 families**' provided financial assistance to over 1500 needy patients from all over the state, without any discrimination in cast or creed. The next program '**Save a Life, Save a Lifetime**' launched in 2007 has been a big hit among the corporate houses, schools and colleges and we have conducted over 200 training sessions on Basic Life Support-CPR and was instrumental in the installation of AED's (Automated External Defibrillator) at many prominent public centers.

Every World Heart Day is celebrated as the inception day of Heart Care Foundation and during the very elegant official function each year, an eminent doctor,

selected by an expert panel, is awarded the Heart Care Foundation's **Lifetime Achievement Award**.

Another very important activity, '**Hrudayasangamam**' happens twice a year and its primary objective is the rehabilitation of patients who underwent heart surgery during the period. Through general Q&A with senior doctors, physiotherapists and dietitians, the patients are encouraged back in to normal life stream. Family members of the patients form an integral part of this get-together and the experience sharing as well as the general Q&A with the experts helps them realize that their loved one is no longer an invalid. Adding charm to this social gathering is our '**Social Excellence Award**' constituted in memory of our founder member Mr. C V Shanmugam. Selected by another expert panel, the awardee is an eminent personality that excelled in their respective field of activity.

Yet another project is ongoing and is unique as well as ambitious and will help a much larger populace, hopefully covering the entire state. Recently launched by Sri P.Sreeramakrishnan, Honorable Speaker, Kerala Legislative Assembly, '**Hridayapoorvam**', is aimed at making the general public '**Heart care literate**', panchayath by



# HEART CARE FOUNDATION



panchayath. In a three phased program, people of age group 30 to 60 will be given tests at the local labs and the results will be fed in to a software program developed under the guidance of the HCF. The program will analyze the cardiac risk factor of each result and an awareness session conducted by an eminent cardiologist will make sure that everyone understands their cardiac health. Those with risks will be advised to consult their local physician and others will be given general tips to keep up a healthy, heart friendly life style. We have selected **Alangad Grama Panchayath** as the first locality for the project and response from the people as well as the government agencies has been very heartening. Hopefully, entire Kerala will soon be **Heart Care literate** in a short while.

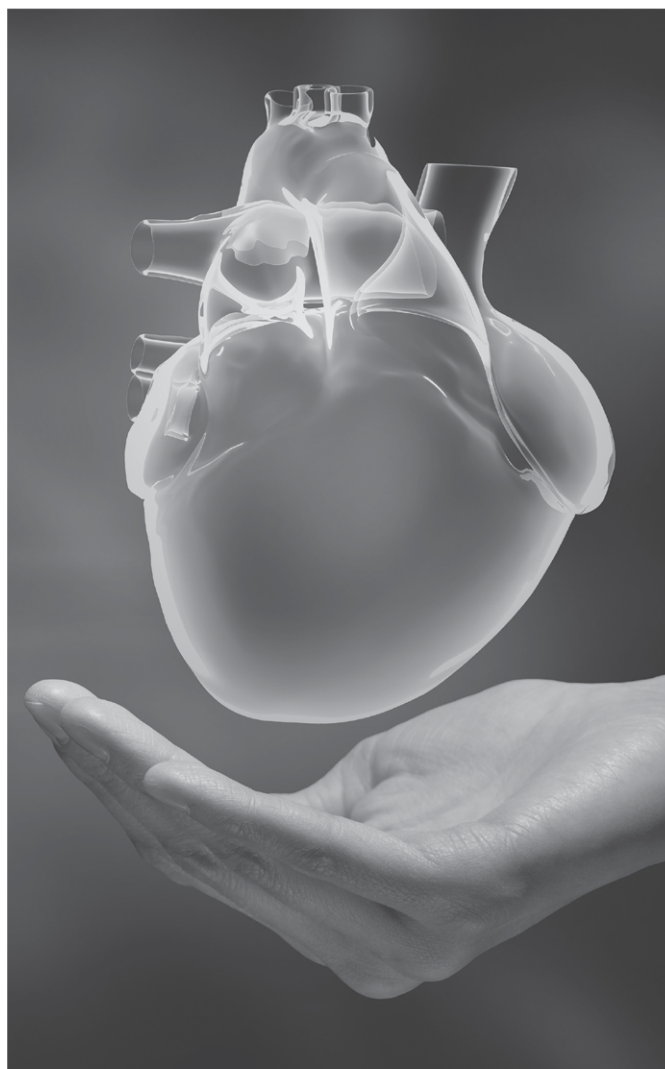
*There are many ways to actively associate with Heart Care Foundation. Being a member is the first step. Please get in touch with any member or directly with the HCF office and they will guide you.*

*We need your help. Let us help those in need together.*

*Looking forward to your association,*

**Dr. Jose Chacko Periappuram**  
**Chairman, Heart Care Foundation**

*There are many ways to actively associate with Heart Care Foundation. Being a member is the first step. Please get in touch with any member or directly with the HCF office and they will guide you*





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☐ I Want to sponsor a poor heart patient and enclose herewith a sum of Rs. 25,000/part thereof; and become a member of the Foundation.

☐ I Want to be a subscriber of the quarterly health magazine 'Caring Hearts' for 3 years And become a member of the Foundation, by paying Rs. 1250/-

☐ I Want to become a member of the Foundation (by donating any amount as affordable)

Please ☒ wherever applicable.

Details Of payment favouring **Heart Care Foundation**, Kochi:

Amount (Rs) : ..... DD/Cheque No: .....

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36/117 A 1, Second floor,  
 Lisie Hospital Road,  
 Kottacanal Junction,  
 Kochi- 682018  
 Phone 0484 2406393  
 Mobile number: 9847006000  
 Email: mail@heartcarefoundation.com  
 Web: www.heartcarefoundation.com





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