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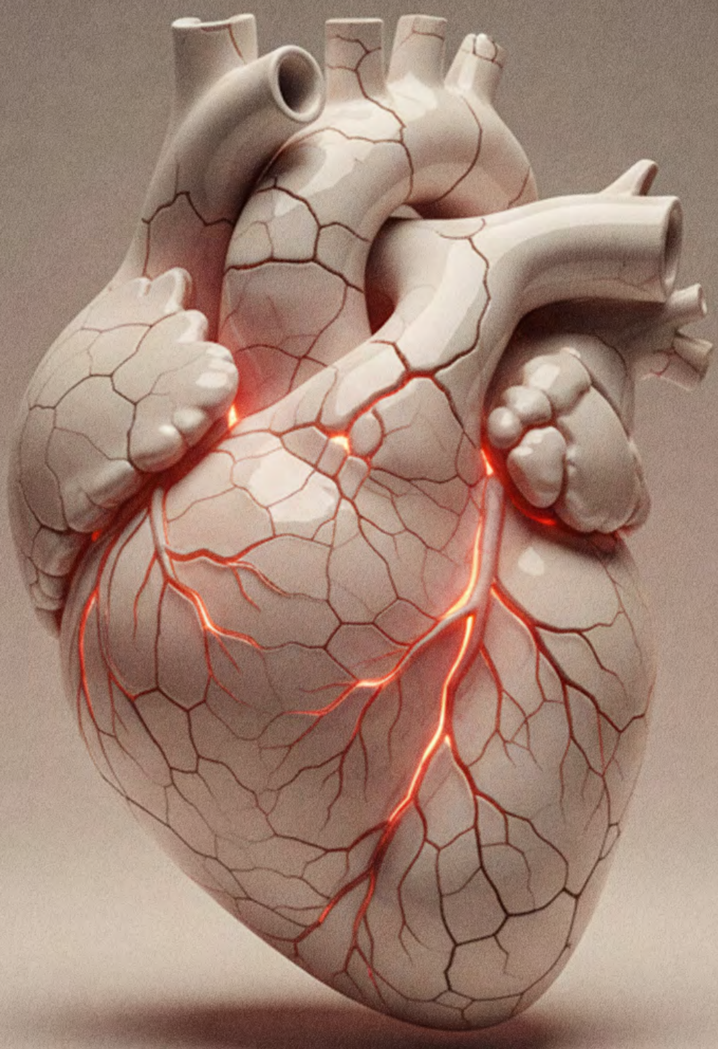

Heart of the Matter

A SPECIAL HANDBOOK

Designed for Mobile

The Indian EXPRESS

Every year, World Heart Day serves as a powerful reminder that the heart, though small in size, carries the weight of our lives and aspirations. Cardiovascular disease continues to be one of the leading causes of death globally, yet much of it is preventable with awareness, timely intervention, and healthier choices.

In this special handbook, we explore questions that are on everyone's mind: Does a heart attack really have early warning signs? Can an ECG miss it? How do stress, work burnout, and even the side we sleep on affect heart health? Alongside these, top cardiologists share secrets of their heart health.

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Does a heart attack have early warning signs?

– Dr Rajiv B Bhagwat

A 46-year-old patient of mine had been experiencing a dull pain and tightness in the centre of his chest whenever he exerted his body. Mistaking it for a gastric issue, given its temporary nature, he thought it to be a minor problem. Till the pains got sharper, the episodes more frequent, and he tired out all too fast. I suggested an angiography, which revealed an 80 per cent blockage in his heart. Had he postponed his decision to consult a cardiologist, it would have led to a heart attack.

This dull pain is called angina and is of different kinds, but is almost always indicative of the heart vessels clogging up and a future heart attack. In simple terms, this pain is indicative of your heart health, is an early warning system, and should be addressed immediately to prevent complications. The pain could be felt in the middle of your chest, sometimes travelling to the jaw, throat, back, left arm, and shoulder,s and then vanish after some rest or taking nitrate medication. That's why people tend to ignore it. Yet 33 per cent of angina patients do not survive during a first-time heart attack.

What causes angina?

This is caused by a gradual choking of arteries with cholesterol deposits and other fats, which prevent the free flow of oxygenated blood in the heart. This is usually diagnosed when your arteries are 70 to 80 per cent blocked. A heart attack happens when there is a 100 per cent blockage. Angina can continue for years; it is a ticking clock.

A study showed how eight per cent of patients with blocked arteries had daily or weekly episodes of angina and that 25 per cent experienced angina about once a month. But alarmingly, 67 didn't

have chest pain. So treat any abnormal pain as a red flag.

When should one go to a cardiologist?

You could have mild chest pain that goes away, or you might think that your pain is due to heartburn or a pulled muscle. Whatever the nature of your chest pain, do not sit on it; get it evaluated. In some cases, you may not develop any symptoms until the blood flow is so severely blocked that you have a heart attack and angina at the same time.

Your doctor will take a call on your blockage based on your angiography for putting a stent. He will advise you on statins to control cholesterol, clopidogrel to prevent clotting, and beta blockers to slow down heart rate, release heart stress, and lower blood pressure.

Types of angina pain

You may feel chest pain while walking, climbing stairs, and doing other activities that demand more blood and oxygen. A heaviness in your chest may be accompanied by some pain in the upper torso. And then it may just go away with rest, nitrate medication, and relaxation. This is

usually called stable angina.

Unstable angina is associated with severe and unexpected chest pain that doesn't go away with either rest or medication. This can even happen during rest. Sometimes, angina in younger people manifests as spasm in the coronary arteries. The pain is severe, too, but it gets better with medication. This indicates a higher risk for heart attack or dangerous irregular heart rhythms.

What are risk factors?

These are the same as those of a heart attack, namely high blood pressure, diabetes, high cholesterol, triglycerides, smoking, lack of physical activity, and obesity.

(Dr Bhagwat is an interventional cardiologist, Nanavati Max Super Speciality Hospital, Mumbai)

Why are heart attacks higher in younger women than men? PGI study has some answers

– *Parul*

When a 32-year-old marketing executive walked into the emergency room of Fortis Hospital, Mohali, complaining of severe fatigue, mild chest discomfort, and shortness of breath, she thought her blood pressure was fluctuating once again. As the staff decided to do a routine electrocardiogram (ECG), Dr Arun Kochar, additional director, cardiology, immediately ordered a troponin test, which indicates damage to the heart muscle. It showed she had already suffered a heart attack.

"Her symptoms were atypical as she did not have

chest pain, but her test results suggested acute myocardial infarction. An angiography revealed that she had a severe blockage in major heart arteries. We had to do an emergency bypass surgery. Two years later, she is on a regular follow-up, and her heart is functioning absolutely normally. Heart disease can affect any woman, regardless of age, even with the cardio-protective properties of estrogen in their reproductive years. A cocktail of smoking, alcohol, stress, and birth control pills is the new trigger," says Dr Kochar.

What are the risk factors among women?

Women's heart health is now a matter of concern across India as the age of patients keeps getting younger. Nobody knows it better than Dr Neelam Dahiya, assistant professor, Department of Cardiology, PGIMER, Chandigarh, which was among the first government hospitals to open a preventive heart clinic. "We did a study which shows that 44 per cent of women who suffered cardiovascular disease were obese, with only one per cent of them having adequate fruits and vegetables in their daily diet. Higher body fat and lower physical activity are red flags. High sugar, salty foods, and an unhealthy diet can tip you over the edge," she says.

Data from the last three years at PGIMER shows that 13-15 per cent of women who suffered from cardiovascular diseases (CVD) were under 50 years

of age. Not only that, the study found risk factors of heart disease were much more common in women, who were likely to have worse outcomes than men in terms of mortality, by as much as 50 per cent. “Often, women mistake their chores to be an indicator of physical activity. What they do not understand is that while they may tire you out, they are low-impact and do not burn calories,” Dr Dahiya adds.

Prof (Dr) Rajesh Vijayvergiya of the Advanced Cardiac Center, PGIMER, Chandigarh, says that heart attack is the leading cause of death in women, though it has a lower age-specific risk compared to men. “Risk factors like diabetes and abnormal cholesterol are more strongly associated with heart disease in women in comparison to men. Diabetic men have a two to three-fold increased risk of heart disease, while diabetic women have a three to seven-fold increased risk. Diabetes eliminates a gender advantage for women at any age,” he says. Which means women’s markers on hypertension, cholesterol, and diabetes should preferably be on the lower side of the healthy range.

Dr Vijayvergiya and his team treat about five young premenopausal women with heart disease every month. In fact, PGIMER’s pilot-scale study in north India, which was published in Molecular and Cellular Biochemistry, found risk factors such as hypertension in 75 per cent of patients, diabetes in 36 per cent, and metabolic syndrome (a cluster of conditions that precede

a heart attack) in 75 per cent, respectively. “The metabolic syndrome is very easy to track with numbers. Your waist circumference should not be more than 85 cm, triglycerides should not be more than 150 mg/dL, HDL or good cholesterol should not dip below 50 mg/dL, blood pressure should not be more than 130/85 mmHg, and fasting blood sugar should no way go higher than 110 mg/dL,” says Dr Vijayvergiya.

Smoking and birth control pills can increase the risk of a heart attack in women because they both affect the blood in different ways. The first restricts blood vessels and leads to rapid clot formation. Nicotine in cigarettes also increases blood pressure and heart rate. Birth control pills can thicken the blood and increase blood pressure. “Combining the two substances can increase the risk of cardiovascular issues like heart attacks and strokes,” says Dr Kochar. “Smoking has a greater influence on cardiovascular health in women compared to men, in whom it is one of the prime causes of high mortality and morbidity. Smoking erodes the cardio-protective effect of estrogen. The risk increases with the number of cigarettes smoked daily,” he explains.

A lesser talked about risk factor is stress cardiomyopathy, commonly known as broken heart syndrome, which occurs when a person experiences sudden acute emotional stress that can rapidly weaken the heart muscle. This manifests in middle-aged women faster than in other age groups. A woman’s risk of developing the

condition increases five times after the age of 55.

“Loss of estrogen may also play a part in the higher risks of heart disease after menopause. But we need to focus on heart health from our 20s,” says Dr Dahiya. The early onset of menopause and fast-dipping estrogen levels, sometimes before the age of 40, is a key reason for the rising incidence of heart attacks. Emerging heart disease risks for women include pregnancy-related complications, autoimmune diseases, mental health factors, breast cancer treatments, and sleep disorders, she adds.

Why are symptoms atypical?

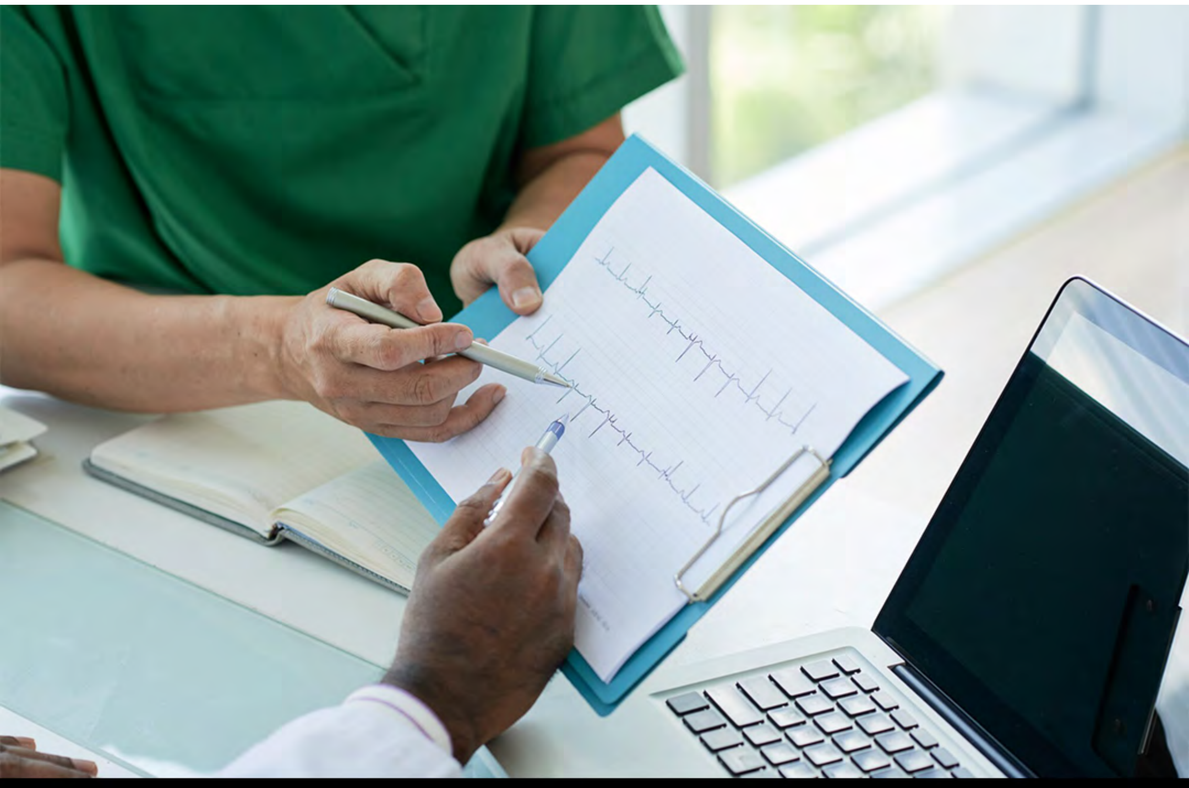
Of course, the biggest disadvantage for women is that they have very atypical symptoms — usually severe fatigue, shortness of breath, chest discomfort (not typical angina), light-headedness, nausea, and vomiting. They may have neck, back, or jaw pain with more nausea and less perspiration. A higher incidence of atypical symptoms results in delays in seeking medical care. “The discomfort in the upper abdomen, pain in the shoulders or jaw, or a sensation that radiates through both arms are often brushed off as indigestion or stress,” says Dr Kochar.

In some cases, high uric acid can be a red flag. Difficulty getting to sleep or waking up unusually may be a sign of a heart attack. Watch out for the unexplained cough.

But there is hope

All these risk factors are modifiable and controllable if we discipline ourselves on diet, exercise, stress, and adequate sleep. While everybody should screen their blood markers from their 20s, after 40, everyone should be evaluated for heart disease using ECG, echocardiogram, and treadmill test (TMT) as per the advice of a physician. These should be repeated depending on the underlying risks of every individual. “With checks and balances, we have even managed pregnancy in a few young women who had angioplasty in the past,” says Dr Dahiya.

Dr Vijayvergiya suggests a simple diet formula that can take care of all markers. “Increase vegetables (>200 gm), fruits (>200 gm), cereals, and fibre (> 20 gm/d) in your daily diet. Salt intake should be < 5 gm/d. Avoid foods with a high saturated fat content like red meat, dairy products, coconut, and palm oils. Cut out high trans fats like deep-fried fast foods, bakery products, packaged snack foods and margarine. All healthy adults should do 30 to 45 minutes of moderate to vigorous exercise, five days a week. Maintain a blood pressure <140/90 mmHg and a fasting blood sugar <110 mg/dL. Give up smoking,” he advises.



Can an ECG miss a heart attack?

– Dr Balbir Singh

Through the years in the emergency room, we have seen this all too often but most people do not know that this is all too common among heart attack patients. Yes, an ECG (electrocardiogram) can sometimes miss a heart attack, especially in the early stages or with certain types of heart attacks. We have had patients who came to us with an all-clear ECG hours ago from their nearest clinic after they suspected some symptoms, like breathlessness and pain, which worsened.

While an ECG is a valid tool for diagnosing heart attacks and may reflect the changes in the heart, it’s not always definitive and may not show all

abnormalities. Why is this so?

Timing of a heart attack

If an ECG is performed very early in a heart attack, before significant damage has occurred, it might not show the typical changes. In some cases, even with a heart attack, the ECG can appear normal, particularly if the damage is minor or if the ECG is taken at a time when the heart is not experiencing significant electrical disturbance.

Type of heart attack

Some heart attacks may not always present with clear ECG changes. Especially silent heart attacks, which may have few or no noticeable symptoms, can be missed by an ECG if they don’t cause significant electrical changes. That’s why in suspicious cases, where the patient is symptomatic but the ECG is not indicative, we keep the patient under observation for 12 to 24 hours and conduct serial ECGs.

What are other confirmatory tests?

We also test troponin, which is a protein that is released into the bloodstream when the heart

muscle is damaged. In fact, we do a repeat troponin test after 90 minutes to reconfirm an attack. While troponin is a highly sensitive and specific marker for heart muscle damage, it also takes time to rise in the bloodstream after a heart attack. A single negative troponin test, especially soon after the onset of chest pain, may not be enough to rule out a heart attack. That's why a repeat is necessary.

Other options are ultrasound, which can assess heart function and identify any damage or abnormalities. Coronary angiography, an invasive procedure, can visualise the coronary arteries and identify blockages.

What are preventive checks?

Be careful about tracking your hypertension, cholesterol, and obesity from age 25. Check for a genetic disorder called familial hypercholesterolemia (FH), an inherited condition. Such people tend to have increased levels of LDL cholesterol regardless of their weight, diet, habits, and exercise, and may need better control methods through medication. Check for lipoprotein (a), high levels of which can be risky even if other cholesterol levels are within the normal range. They accelerate plaque

deposition. An extended lipid profile test should give you their levels. Keep your LDL range less than 50 mg/dL, 30mg/dL for those with a family history. Keep triglycerides or blood fats low.

Take the calcium score test. This test involves a simple CT scan and does not need an invasive procedure with dyes. It measures the amount of calcified plaque in your arteries, which in turn leads to heart attacks and strokes. A high score puts you in the at-risk category, but it doesn’t mean you will get a heart attack the next moment. It indicates a probability so that medical intervention with drugs and lifestyle modification can be started early.

(Dr Singh is chairman, cardiac sciences, Max Healthcare)

The ‘hub and spoke’ therapy model

– Anonna Dutt

What if a person suffers a heart attack in a remote village and the local health centre doesn’t have a cardiologist or the infrastructure to do an angioplasty — a procedure to remove blood clots from heart arteries? The patient can still live and recover if the centre is connected to a bigger hospital through a chat platform, where specialists can recommend clot-dissolving drugs to local healthcare personnel and buy some time for the patient to get to a bigger hospital for surgical interventions.

A study conducted by the Institute of Cardiology at Madras Medical College connected 188 smaller

hospitals, which do not have catheter labs for angioplasty procedures, to 18 big hospitals in Tamil Nadu as part of a “hub and spoke” therapy model. Cardiologists at bigger hospitals read the ECG, patient history, and test results, suggested drugs and procedures, all through WhatsApp, improving the odds of patients at smaller centres surviving a heart attack.

What a pilot study shows

The study, which covered 71,000 people over five years, was able to demonstrate that by guiding smaller hospitals on WhatsApp, more lives could be saved. Within five years, nearly one in five patients treated for a heart attack in the hub hospital came from a spoke hospital, indicating how the linking system improved access. In the second phase of the study with six hub hospitals, the doctors saw a remarkable increase in the proportion of people who got any intervention from 52.6 per cent in 2019 to 87.1 per cent by 2022.

The findings, which were recently published in the Indian Journal of Medical Research, are significant because they lay the template for broad-based cardiac care to cover the last mile. With more Indians experiencing heart attacks in their early years, such a public health intervention can make heart care accessible even during emergencies. The data is from the cardiac

care policy implemented by the government of Tamil Nadu.

Why this model can reduce deaths from heart attacks

“The sooner a person can undergo a procedure to open up a heart blockage or at least get a medicine that can help in dissolving the clot, the more muscles we end up saving. Sadly, a very small proportion of people receive these timely interventions,” said Dr G Justin Paul, professor at the Madras Medical College, who designed the model. He also leads the state government’s heart attack management programme team.

“There are two types of heart attacks. A STEMI (ST-elevation Myocardial Infarction) is a major heart attack where the clot blocks blood flow completely to a part of the heart, resulting in muscles dying. Non-STEMI is referred to as a minor heart attack. Once the heart muscles die, there is no way of reviving them. However, there is now enough evidence to show that giving the clot-dissolving drug immediately and then doing the procedure within 24 hours is also equally effective. While most hospitals may not be able to do the procedure, they can certainly give the drug and then move the patients to the bigger hub hospital,” said Dr Paul.

In fact, the WhatsApp chat platform also helps

smaller centres share transfer protocols and coordinate patient care with bigger hospitals. “This system of care worked in Tamil Nadu because of the availability of cardiologists in several Government hospitals, even in those that did not have a catheter lab prior to the study. This may not be true for all of India. However, the model may be modified and adopted,” said Dr Paul.

Benefits in numbers

In the first cluster with 12 hub hospitals, including the key Madras Medical College, the proportion of patients undergoing the stenting procedure after getting the clot-dissolving medicine streptokinase increased from 9.1 per cent to 33.2 per cent. The proportion of patients able to receive the procedure within hours of a heart attack also increased from 5.7 per cent to 9.7 per cent.

“The cost of angioplasty in a private hospital — which can range from Rs 1.5 lakh to Rs 6 lakh — can be a deterrent. But, more importantly, not all hospitals have the facility to conduct the procedure. This is the reason many may not be able to get the procedure within a few hours of the heart attack,” reasoned Dr Paul.

The results from the second cluster were even more impressive. While the proportion of

patients undergoing the procedure immediately remained the same, those getting the procedure after having received the medicine increased from 0.9 per cent to 5.3 per cent. The proportion of deaths also reduced from 8.5 per cent to 5.8 per cent.

While the study used the less costly streptokinase which is given as an infusion, newer drugs can also be used. “These one-shot injections are costly at present, but the price may be brought down by governmental action, much in the same way as the stent prices were lowered,” said Dr Paul.

“Any revascularisation (restoring blood supply) saves heart muscles and reduces the odds of death. Hence, organising timely revascularisation for major heart attacks should be a governmental and societal responsibility,” he added.

Can Vitamin B12 deficiency raise the risk of a heart attack?

– *Dr Suranjit Chatterjee*

When patients talk about hypertension and plaques in the heart, doctors find quick targets to blame in their diet, stress levels, lack of exercise, and sleep. Undoubtedly, they are big risk factors, but now science is starting to uncover the part that certain nutrient deficiencies, most notably vitamin B12, play in silently pushing blood pressure and heart risk over the years.

According to the International Journal of Academic Medicine and Pharmacy, current population-based research has identified a fascinating inverse

association. When vitamin B12 levels decline, blood pressure rises, which damages the heart vessels over time. This association is significant for the prevention and therapy of hypertension, given that vitamin B12 deficiency occurs in tens of millions of individuals globally.

Why Vitamin B12 matters

Vitamin B12 is required for the formation of red blood cells, nerve function, and the synthesis of DNA. In addition to these functions, it also serves to regulate homocysteine, a blood amino acid. When the homocysteine level becomes elevated, it becomes a risk factor for hypertension, stroke, and heart attack.

The relationship between Vitamin B12 deficiency and heart health

When B12 levels are low, the body is unable to convert homocysteine to useful compounds effectively. High homocysteine is toxic to blood vessels, causing them to become rigid and less flexible. This further leads to inflammation and damages the inner lining of arteries, which accelerates the process of atherosclerosis or deposition of plaque.

Elevated homocysteine can also make the blood more likely to form clots, increasing the risk of blockages that cause heart attacks and stroke. Vitamin B12 interacts closely with folate and vitamin B6 to keep homocysteine under control. Lack of any one of these can multiply the risk factor, forming a vicious cycle that stresses out blood vessels and high blood pressure.

In many cases, B12 deficiency can impair nerve function, including nerves that control heart rate and vascular tone. This imbalance can lead to blood pressure fluctuations or, in worst-case scenarios, high blood pressure.

Severe B12 deficiency leads to megaloblastic anemia, a condition that lowers the oxygen-carrying capacity of blood. In response, the heart works more intensely, which can indirectly raise blood pressure levels in long-term management.

Know your numbers

Normal vitamin B12 levels swing between 200 and 900 picograms per milliliter (pg/mL). Levels below 200 pg/mL are considered deficient, while those between 200 and 300 pg/mL can be considered borderline cases. B12 is largely present in animal food items like eggs, milk,

fish, poultry, and meat. Vegetarians and vegans may need fortified foods. Oral supplements or injections can be prescribed for people with absorption problems, for example, those with gastrointestinal conditions or older persons. To manage your B12 levels, it is crucial to have regular check-ups. A basic blood test can quantify B12 and homocysteine levels, aiding in early identification of risks.

Vitamin B12 deficiency is overlooked in most cases. But maintaining sufficient levels through diet, supplements, and regular checks can be an easy but effective step towards improving heart health.

(Dr Suranjit Chatterjee is senior consultant, internal medicine, Indraprastha Apollo Hospitals, New Delhi)

What's the rice-roti link to heart attack?

– Dr Ranjan Shetty

Recently, there has been a lot of talk about reducing oil consumption in our diet. But we need to reduce another macronutrient too — carbohydrates. We suggest that the daily recommended intack of cooking oil for an adult should be four teaspoons or around 20 g. But what good is restricting oil when you don't restrict carbohydrates?

Considering Indians have mostly sedentary lives, their overall calorie intake should be between 1,400 and 1,600 calories per day unless they have very high activity. So for your total calorie allowance during the day, reserve 30 per cent from carbohydrates, 15 to 20 per cent from fat,

30 to 40 per cent from protein, and the remaining from fibre, which, though low in calories, can give you energy when it is fermented by gut bacteria. But a typical Indian diet has a high proportion of carbohydrates, between 50 and 70 per cent of the daily carbohydrate allowance.

How do carbs impact the heart?

The logic is simple: excess calories get converted to fat. So even if you are controlling dietary fat intake, unless you stop limiting your carbs, your body fat is still high.

When you consume excess carbohydrates and simple sugars, your body converts them into triglycerides and stores them as fat in your body. This process happens in the liver when you eat more calories than you burn. This fat is the reason for abdominal obesity. Triglycerides can trigger inflammation of your arteries that leads to plaque buildup or atherosclerosis. Excess carbs over time can lead to insulin resistance, when the body stops responding to insulin as it should. Chronic high blood sugar can promote inflammation in the body, which is again linked to atherosclerosis.

The impact on good and bad cholesterol

Triglycerides and high-density lipoprotein (HDL) or good cholesterol are inversely related, so when the former goes up in the body, the latter falls.

Triglycerides also convert the large, buoyant, and not so risky low-density lipoprotein (LDL) or bad cholesterol molecules into small, dense, and sticky ones, which are harmful to the heart.

Carbohydrates with a high glycaemic index, or the rate at which sugary foods break down in the body, like white bread and sugary drinks, are more likely to cause rapid blood sugar spikes and contribute to the formation of “sticky” LDL. This can penetrate the lining of arteries easily, form plaques, harden arteries, and trigger inflammation, even if the overall LDL cholesterol level seems normal in test reports. Soluble fibre blocks the LDL absorption in the body, and that’s why we insist on including fibre in your diet.

Studies have shown that mortality is higher in those who consume excess carbohydrates, beating saturated fats.

What should be your triglyceride limit?

A triglyceride level over 200 mg/dL raises your risk for a heart attack or stroke. You should try to keep your triglycerides below 100 mg/dL to reduce your risk of heart disease.

(Dr Shetty is the lead cardiologist and medical director at Sparsh Hospital, Bengaluru)

Heart attack or anxiety attack? Know the symptoms

– Dr Rajiv B Bhagwat

One day, a 31-year-old woman came to the emergency complaining of a racing heartbeat, sweating, breathlessness, chest pain, extreme fear and a sense of foreboding. She feared she was experiencing a heart attack. The fact is, she was having an anxiety attack born of emotional stress. Considering that some symptoms do mimic each other and that heart attacks among the young are on the rise, alertness is good.

This brings us to the all-important question: how do we know that we are having a heart attack or an anxiety attack? A heart attack is caused by a lack of oxygenated blood to the heart because the artery that supplies it gets

blocked by plaque. An anxiety attack is when emotional triggers lead to extreme emotions and an overwhelming fear or anxiety, triggered by the body's reaction to a crisis and the release of stress hormones.

Is the chest pain different in both cases?

Those experiencing anxiety do not have classical chest pain. The pain is rather vague and non-specific, fleeting from place to place. It is stabbing but milder compared to the acute and squeezing pain of a heart attack. Also, a heart attack-induced pain is concentrated in the centre of the heart, from where it radiates as a shooting pain to the left hand, shoulder, neck and jawline.

The pain from a panic attack will subside in a few minutes and peter out, but the pain from a heart attack won't go away and will worsen over time.

Also, a heart attack is not sudden but builds up over time with signs. Usually, the patient suffers discomfort or breathlessness during any physical activity, even walking. They complain of some sort of uneasiness and a dull chest tightness even before the heart attack takes place. Older people have exertional angina, a pain after any kind of physical activity. A panic attack can occur at rest and is a spontaneous reaction to an emotional trigger.

Sweating, nausea, and near-fainting are overlapping symptoms, though tingling in the hands is mostly associated with an anxiety attack.

Method of diagnosis

Usually, a cardiologist will first rule out certain risk factors if the patient is young. These include family history, blood pressure, sleep pattern, obesity, diabetes and smoking. But if any of the factors are present, the doctor will seek a detailed evaluation.

But if you are close to a facility, then opt for an electrocardiogram (ECG). A clean ECG is itself an anxiety reliever. ECG is recommended because heart attack symptoms may be milder in women and include unusual fatigue and chest discomfort rather than chest pain. Also, since palpitations are common to both scenarios, a test is needed to see if they are being caused by stress or by an underlying heart condition like arrhythmia or irregular heartbeats. The cardiologist could also test your blood for heart muscle enzymes to determine if it's a heart attack.

If symptoms are of a panic attack, then you need to consult a mental health professional for integrated therapies that focus on stress management and relaxation techniques.

(Dr Bhagwat is an interventional cardiologist, Nanavati Max Super Speciality Hospital, Mumbai)

The 'ABCDE' rule to maintain heart health

– Lifestyle Desk

Heart disease continues to be one of the leading causes of mortality worldwide. In an effort to raise awareness about heart health, experts from King George's Medical University (KGMU) have shared a simple yet effective approach to maintain heart health — the "ABCDE" rule.

Dr Akshay Pradhan, head of cardiology at KGMU, said, "Following A, B, C, D, and E will reduce the risk of heart disease by at least 50 per cent."

What exactly is this rule?

Dr Prateek Chaudhary, senior consultant, cardiology, Asian Hospital, Faridabad, agreed

with Dr Pradhan's statement that following the "ABCDE" rule can significantly reduce the possibility of heart disease. In a conversation with indianexpress.com, Chaudhary explained the rule: "A stands for avoiding alcohol, B for keeping your blood pressure under control, C for managing cholesterol levels and avoiding cigarette smoking, D for controlling diabetes, and E for exercise."

How can people quit smoking and alcohol consumption?

Dr Chaudhary suggested several approaches to quitting smoking and alcohol consumption, but acknowledged the difficulty in quitting addictions. "First and foremost, focus on saving yourself. If possible, avoid handling it alone — those who have overcome addiction can help others quit or guide them to a skilled de-addiction specialist," he said.

"There are various medications that can aid in quitting, but the most crucial factor is having a strong determination to stop. Keeping your mind occupied with recreational activities or distractions in daily life can be very helpful," he said.

How can one monitor and control blood pressure, cholesterol, and diabetes at home?

Dr Chaudhary recommended consulting a medical specialist for managing sugar, cholesterol, and blood pressure, following the medications they prescribed and staying in regular contact.

The doctor said the most important aspect of monitoring these conditions is the diet, and suggested limiting saturated fats like ghee, cheese, and butter, as well as reducing salt intake.

“Nowadays, there are electronic blood pressure monitors, glucometers, and sphygmomanometers one can use to check blood pressure and glucose levels regularly in the morning, evening, or whenever you have any concerns,” he said.

What exercise routine is recommended for heart health?

Dr Chaudhary recommended at least 30 minutes of moderate-intensity exercise each day. Moderate intensity means you should walk at a brisk pace, fast enough to break a sweat. “A 30-minute session of moderate-intensity exercise or walking can increase your lifespan by 10 years,” he said.

The doctor also said that if you want to engage in high-intensity exercise or activities at the gym, make sure you consult your doctor for advice and undergo some basic evaluations before pursuing high-intensity workouts.

Intermittent fasting doubles risk of dying from heart disease, study says

– Anonna Dutt and Rinku Ghosh

Eating for less than eight hours every day — what is called 16 hours of intermittent fasting (IF) — has been linked to a more than two-fold higher risk of cardiovascular mortality, according to a study in the journal *Diabetes and Metabolic Syndrome*.

While IF is often thought to help in weight loss, improve insulin sensitivity, reduce blood pressure, control inflammation, and ensure better lipid profiles, this study hints at a much higher risk of heart disease. There has been some evidence on extreme routines leading to nutrient deficiencies, excessive hunger, irritability, headaches, and reduced adherence over time.

What is time-restricted eating?

There is no specific definition for intermittent fasting. People practice it in different ways — consuming meals either in an eight, 10- or 12-hour window every day and fasting for the rest.

What does the recent study say?

The recent study found that people who ate for less than eight hours a day had a 135 per cent higher risk of cardiovascular mortality — death due to heart and blood vessel diseases such as heart attacks or strokes — as compared to those who ate for 12 to 14 hours a day. The findings are based on the data of 19,000 adults from the US National Health and Nutrition Examination Survey (NHANES).

The study also looked at links of this intermittent fasting to cancer and all-cause mortality. The researchers found that there was no link to cancer or all-cause mortality. The links with cardiovascular diseases, however, remained even when the results were analysed according to eight different sub-groups, such as according to race, ethnicity, or other socioeconomic factors.

“Although (there could be confounding factors), people should be extremely cautious to adopt a short eating window for a long time over years to pursue cardiovascular health or longevity, which has no evidence support from human

studies to date," said Victor Wenze Zhong, a senior author of the study.

What are caveats?

However, the report is also accompanied by an analytical editorial of the pros and cons of the research by Dr Anoop Misra, chairman, endocrinology, Fortis C -DOC. "Intermittent fasting is a promising tool in our dietary arsenal and low cost and simple too, but enthusiasm should be tempered with careful risk assessment. Until more long-term data are available, especially on hard outcomes like cardiovascular events (eg, heart attacks), intermittent fasting should be individualized and ideally supervised, particularly for people with pre-existing health conditions, and applied for short-term only," says Dr Misra.

How severe IF affects the heart

According to Dr Ranjan Shetty, lead cardiologist at Sparsh Hospital, Bengaluru, this is not the first such study. A retrospective study by the American Heart Association conference in March 2024 had also claimed that a 16-hour intermittent fasting was linked to a 91 per cent higher risk of death from heart disease. "The problem with the latest study is that it is not a randomised trial. We do not know the base health condition of the participants, their weight and other underlying risk factors," he says.

However, he cautions that the less than eight-hour eating window or the16-hour fasting format is not suitable for those with arrhythmia. “Severely restricting calories can lower blood sugar levels, which can cause heart palpitations and elevate the heart rate, triggering a heart attack. If you’re not eating enough but go about your regular activities, then your body has to work harder to pump the blood,” he says.

Dr Shetty also feels that the degree of weight loss required needs to be assessed. “If a person is obese, then the weight drop will still settle at an acceptable limit. It may not be the same for another person who is not that overweight. What you have to watch out for is loss of lean muscle mass. Intermuscular fat is bad news for the heart,” he adds.

In fact, he further points out, the study nowhere says the kind of food that the subjects have. “Your cholesterol and fat profile will still go awry if you have high-fat, high-sugar, and high-sodium food or junk food even in a time-restricted window,” says Dr Shetty. He doesn’t recommend intermittent fasting for the elderly, children, people with diabetes, those with chronic conditions impacting their heart, kidney, and liver, those with heart disease, and those suffering from an eating disorder. “Above all, everybody’s body needs bespoke attention, and you need to consult your doctor before going through a fasting regime.”

Can burnouts affect the heart?

– Dr Ranjan Shetty

A 38-year-old man walked into my clinic with high blood pressure and heart failure, a condition in which the heart does not pump blood as well as it should. He had no history of risk factors, but the problem lay in his lifestyle. His work life consumed him to the point that he didn't sleep, rest, exercise, or take out time to relax and have fun. In fact, he told me that he could not wind down at all, was fatigued, irritable towards others and was robotic at work.

He was displaying classic signs of a work-related burnout. In fact, the sustained chronic stress of years had taken a toll on his heart in such a way that his heartbeats had become irregular (arrhythmia), which in turn had affected the functioning of the

heart's lower chambers or ventricles. And though we assisted him with medication, it was only after lifestyle management, diet, sleep routines, and a change of job that his parameters came under control, and his heart function improved.

Now I am not saying give up your job but understand a sick body will not give you the next promotion. So put your body first and plan your work life around it rather than the other way around. In 2019, the World Health Organization (WHO) defined burnout as an occupational phenomenon "resulting from chronic workplace stress that has not been successfully managed."

Burnout and stress hormones

So how does burnout affect the heart? Let me clarify that one cannot link a heart episode directly to it, but it certainly builds up stress over time. What does chronic stress do?

The body produces more cortisol, a stress hormone that can raise blood pressure, oxidise lipids that elevate cholesterol, which sticks to the walls of the heart. All of this puts strain on the heart.

Studies have linked burnout to an increased risk of developing atrial fibrillation, a condition where the heart beats irregularly, beginning with the upper chambers of the heart (atria). This can lead to blood pooling and clotting, triggering strokes. Chronic stress can trigger systemic inflammation, which damages the lining

of heart walls, allowing fat deposits to build up and become unstable. When these loosen, they form blockages, triggering a heart attack.

Why you must address chronic stress

Unchecked, chronic stress can result in severe heart failure or serious arrhythmias. Then, apart from medication, you might need interventionist options like implantable cardioverter defibrillators, or ICDs. These devices are surgically placed and detect life-threatening arrhythmias. When they do, they deliver a shock to the heart to reset its rhythm so it can resume normally. Or you may need a special pacemaker, which makes the ventricles contract at the same time. This helps the lower heart chambers pump and relax together.

How to prevent burnouts

I would say take regular mini breaks from work, over weekends, to counterbalance the hectic schedules you have on other days. Set aside time for yoga or meditation. Develop a hobby. Seek therapy. Look for positive coping strategies, delegate tasks at work, or break down your time slots. Take short walking breaks and periodic breathing exercises when the going gets tough.

(Dr Shetty is an interventional cardiologist, Manipal Hospital, Bengaluru)

Does the side you sleep on really matter for your heart?

– Lifestyle Desk

A comfortable position does make a difference to your sleep quality. As such, when we came across a Quora query on whether sleeping on the right side is bad for your heart, we decided to get expert insights. According to Dr B C Kalmath, director and HOD, Department of Cardiac Sciences, KIMS Hospitals, Thane, the sleeping position can make a difference, especially if you already have heart concerns. “For most healthy people, sleeping on the right side is not harmful at all. However, if you sometimes feel breathless, notice palpitations, or have other heart issues, your sleeping side might impact how comfortable you feel,” said Dr Kalmath.

What happens when you sleep on your right side?

When you lie on your right side, your heart sits slightly higher in your chest, which can make it feel like there is less pressure on your heart and, in turn, make breathing easier. “This is why many people with heart-related discomfort say they feel calmer on the right side,” said Dr Kalmath.

Are there any downsides?

For most people, there are no downsides. “For healthy individuals, sleeping on either side (left or right) is safe. For most people, sleeping on the right side is not harmful to the heart. In fact, for those with heart failure, right-side sleeping may be more comfortable and hemodynamically favourable,” said Dr Sudhir Kumar, consultant neurologist, Apollo Hospitals, Hyderabad.

The left side can sometimes make you more aware of your heartbeat since your heart is closer to the chest wall. This isn’t harmful but can make some people anxious or restless at night, noted Dr Kalmath.

So which side is better?

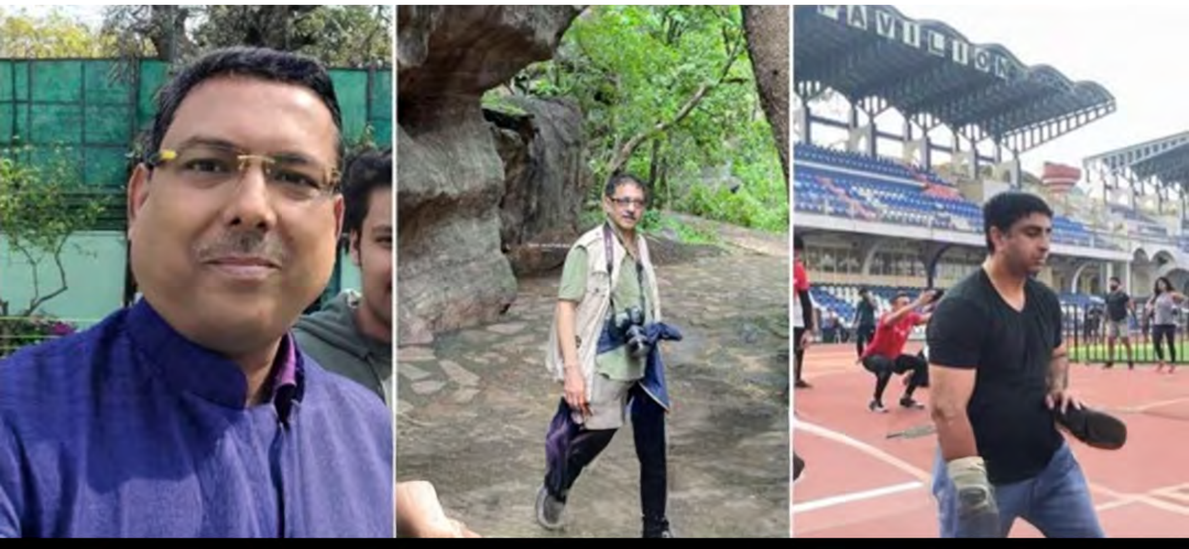
The best side is the one that helps you sleep peacefully through the night. “If the right side

feels comfortable and you wake up without heaviness or breathlessness, stick to it. If the left side feels better for your body, that works too. The goal is to get deep, restful sleep because that is what truly helps your heart stay healthy," said Dr Kalmath.

What if you have heart problems or trouble sleeping?

Try experimenting with both sides to see which one feels lighter on your chest and helps you relax. You can also use extra pillows for support to make your position more comfortable.

Sleeping on the right side is not bad for your heart. Focus on sleeping in a position that feels natural and restful. Good-quality sleep matters more than which side you choose. It keeps your heart, mind, and body healthy.



Top cardiologists share secrets of their heart health

– Rinku Ghosh and Anonna Dutt

Running between critical surgeries and OPDs, given the burden of heart disease in the country, cardiologists are under a lot of stress themselves. Not too long ago, a cardiologist in Ahmedabad had succumbed to a heart attack at 41. These three experts share their mantra of keeping it together.

Dr Rakesh Yadav, 55, Professor of Cardiology, AIIMS, Delhi

Dealing with hundreds of heart patients in clinics during the day and attending to emergencies at night, Dr Rakesh Yadav hardly has the time to exercise regularly. But he wakes up at 6 am regardless of the time he turns in for the night. On the days it is possible, he sleeps by 11 pm.

The first thing he does after waking up is make himself a cup of tea with very little milk, light and refreshing. Then it's time for stretches and some yoga.

Dr Rakesh Yadav

By 8 am, he is at the breakfast table, eating his usual eggs and oats. "I like to have a heavy breakfast of around 500 calories. I eat light the rest of the day," he says. He may not have time for a morning walk but that does not stop him from walking 10,000 steps a day, a number he tracks on his smartwatch. "AIIMS has an expansive campus. I walk from the outpatient clinics to my chambers to the emergency department. I try to get in the steps whenever I can, and make the most of my in-between time," Dr Yadav adds.

For lunch, he has fibre-rich fruits and very light food to keep sleepiness at bay. And he does what he tells his patients: practice portion control. "I have parathas and whole eggs too. I do not

overeat, howsoever delicious the meal might be," he says.

His de-stress mantra: Research and developing modules for patient welfare.

His other mission: He is currently encouraging young cardiologists to give up smoking. "We all know the harms of tobacco now. Such awareness was not there when we were in college," he says.

Dr Rajiv Bhagwat, 59, Interventional Cardiologist, Nanavati Max Super Speciality Hospital, Mumbai

Dr Rajiv Bhagwat

Dr Rajiv Bhagwat believes that daily exercises condition our heart muscles and tissues in such a manner that they can expand and withstand the stress of less oxygen in the blood, even during a heart attack.

Despite the challenges of emergencies, complicated surgeries, and late nights, Dr Bhagwat wakes up at 7.30 am. With a palmful of nuts, bananas and black coffee at 8 am, he checks on his patients' status on the phone. By 9 am, he is on the beach for a 30-minute jog. He skips the morning jog when he hasn't slept well the night before. "Overworking a worn out body puts stress on the heart," he says.

He doesn't have breakfast but packs a brunch and snack pack to work. Just before OPD or surgery hour, he has a cup of tea or coffee, his caffeine shot to take on the day. "On OPD days, I have my brunch at 11 am, which comprises mixed atta chapati, a vegetable, and dal. On surgery days or emergencies, I can't eat on time. But whatever I eat or drink, I carry home food," adds Dr Bhagwat.

On days he misses his morning exercise, he makes up for it in the hospital premises, choosing to walk up and down the stairs and not taking a lift. He munches on nuts or has a fruit around 5.30 pm. Dinner is very light with chapatis, dal, vegetables, and occasional lean chicken or fish. He may unwind by reading the news or watching sports, but sleeps by 11.30 pm at all costs.

His de-stress mantra: Travelled to national parks, Kanha being his favourite. Wildlife photography is his passion.

His other mission: He has his own ‘save the tiger’ project.

Dr Mohammed Rehan Sayeed, 50, Senior Consultant, Cardiovascular and Thoracic Surgery, Manipal Hospital, Bengaluru

Dr Mohammed Rehan Sayeed

As pre-surgery preps take time, Dr Mohammed Rehan Sayeed, who is known for valve replacement surgeries, starts his day early, at 5.30 am, as he sleeps most days by 10.30 pm. He cannot think of going through the day without his workout on the rower machine. “I do a one-hour workout that comprises 20 minutes of rowing cardio, 15 minutes of strength training and 15 minutes of

mobility exercises. On rushed days, I condense this routine into 30 minutes," he says.

An exercise junkie, he works out four to five days a week and sticks to intermittent fasting. He has his last meal at 8 pm and breakfast at 8 am, which comprises idli vada or roti with vegetables, eggs occasionally. A 50 ml gulp of coffee, and he is ready to begin his surgeries at 9 am. Depending on the kind of surgeries or complicated cases, he gets to eat a meal sometime between 2 pm and 4 pm. "I never miss out on this meal of rice/chapati, vegetables, dal/chicken/fish as I need all the energy I can for the next round of surgeries, which may last beyond 7.30 pm at times. At 8 pm, regardless of whether I am at home or the hospital, I begin with a yogurt and have an extremely light meal of either salads or dosa. No rice, no carbs," says he.

His de-stress mantra: Spending time with dogs, a Labrador and a German Shepherd, family, listening to retro pop, Mohammad Rafi, Kishore Kumar, and latest Hindi songs.

His other mission: Works on innovations in surgery. Dr Sayeed has already patented his own line of protein and pre-workout drinks.