UN-DOCTORED
HEALTHY BONES MEANS HAPPY OLD AGE

BROSCIENCE
THE NEW-AGE WELLNESS GURUS

MEDTALK
USING PSYCHIATRY TO PUNISH DISSENTERS

THE WEEK
www.theweek.in
JUNE 2, 2024

health

BEAT STROKE

Better public awareness and timely access to affordable treatment are crucial

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COVER STORY

SHUTTERSTOCK

REGULARS

COVER DESIGN: Binesh Sreedharan
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LAYOUT
Rajesh A.S., Sujesh K., Job P.K., Ajeesh Kumar M., Deni Lal, B. Manojkumar, Syam Krishnan, Sumesh C.N.

The Week Supplement: Printed at Malayala Manorama Press, Kottayam, and published from Manorama Buildings, Panampilly Nagar, Kochi-682 036, by **Jacob Mathew**, on behalf of the Malayala Manorama Company Private Ltd., Kottayam-686 001. Editor: **Philip Mathew**. **Focus/In focus features are marketing initiatives**

letters

It brought a smile

I was delighted to go through the cover story on how Mandeep Mann saved Mandeep Singh, an acute leukaemia patient, by donating his stem cells. Such things are never heard of in today's world. It brought a smile on my face ('Mandeeps & a miracle', May 5).

Being nice to others will help us live a relaxed life sans worries. How I wish everyone did what Mann did. We fail to realise that even a simple smile can open our heart. Mann and Singh, I am sure, will be friends for a lifetime. If Mann goes through a crisis, Singh will help him in the same manner.

DEVENDRA TOKAS,
ON EMAIL.

The explanation given by Patrick Paul, CEO, DKMS-BMST Foundation India, is valid. Most young people opt out from donating their organs if their family says no. And, there is definitely some stigma associated with organ donation.

It is not easy to persuade a person to become an organ donor. There are some who feel that organ donation is a scam, and stay away from it. We cannot blame them. The onus is on each of us to find the root cause of such problems and find remedies.

People should understand the importance of organ donation.

PRADEEP SAXENA,
ON EMAIL.

I read recently about two Army personnel being part of life-saving stem cell donation to some strangers. Hats off to them. Extending a chance at life to an unspecified recipient sounds so exciting and should be emulated.

The world needs your kindness and my kindness in ample measure.

RAJEEV UPPALA,
ON EMAIL.

Think before you get angry

Anger should be expressed in healthier ways ('Anger? Just write down your feelings and throw the paper away', May 5). Even though anger is a natural response to negative situations, it can make you do things that you will regret for a long time. When we are angry, we set off a stress response in our body and thereby damage our heart, digestive system and other precious organs. So think before you get angry the next time.

VRINDA SHARMA,
ON EMAIL.

Exercise helps

Your Quickscan items are really interesting. Majority cases of insomnia are related to lack of exercise and anxiety, which can be easily rectified ('Exercise regularly to beat insomnia', May 5). We can improve sleep only through diet and exercise. In my case I ensure that I stop eating about two hours before going to bed. I also go for an oil bath in hot water, as that helps me feel relaxed, and then I nod off fast.

PRANAV BHATIA,
ON EMAIL.

We should always embrace our flaws, and feel comfortable in our skin.

TAPESH NAGPAL,
ON EMAIL.

Sugar kills

I see a number of letters in your magazine on cutting down on sugar, which is good. This means more and more people are aware that excess sugar kills, and are resorting to simple ways to fight sugar cravings. I am so happy to know about it.

RADHIKA GAUTAM,
ON EMAIL.

Set the price

Today, prices of essential drugs are increasing like never before ('Effort vs effect', May 5). This is leading to confusion. The government should set the price of drugs by evaluating its impact.

E.K. SAHAD,
ON EMAIL.

Embrace our flaws

I was surprised to know that between eight and 10 lakh cosmetic surgeries happen in India every year ('The A, B, C of cosmetic surgery', May 5). Like all surgeries, cosmetic procedures also have risks associated with it.

Cosmetic surgery could be a fad, but I do not agree that it can rejuvenate the face and body. The desire to look presentable is welcome, but you should appreciate the extraordinary things your body is capable of.

PHOTOS SHUTTERSTOCK

Find humour

Your writeup on adult diapers was interesting ('A way to let go of fear', May 5). More awareness needs to be created about adult diapers. People, after a particular age, need to get used to adult diapers. There should not be any shame attached to it. Ageing gracefully is all about finding humour in everything around and laughing at oneself.

SURAJ PILLAI,
ON EMAIL.

MEDTALK

BY NIRMAL JOVIAL

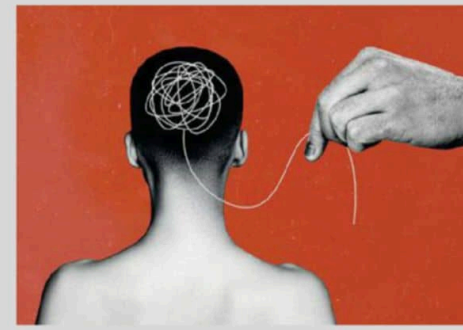
Psychiatry as punishment

Psychiatry has profound potential to heal human minds. Nonetheless, history serves as a stark reminder that, in the wrong hands, it can become a tool of abuse.

The term 'punitive psychiatry' refers to the abuse of psychiatric practices such as diagnosis, detention and treatment to violate human rights. In April, the International Federation for Human Rights in Mental Health and the Andrei Sakharov Research Centre for Democratic Development at Vytautas Magnus University, Lithuania, released data that showed a surge in psychiatric abuse against civilians who "exhibit anti-war behaviours" in Russia. Their study revealed that, as of March 24, at least 35 individuals were subjected to involuntary "treatment" in psychiatric facilities across Russia. Prominent among them were opposition activist Olga Nedvetskaya, medical student Alexey Korelin and teenage protester Yegor Balazeikin.

Another such case is that of Alexander Gabyshev, who embarked on a cross-country trip to Moscow's Red Square to perform a shamanic ritual that he said would peacefully oust President Vladimir Putin. Gabyshev, too, was subjected to punitive psychiatric practices. Dissidents like him have reportedly undergone intrusive surveillance, violent threats, humiliation, compulsory medication, physical restraint and other measures that infringe on their rights.

Psychiatric abuses were a prominent tool of repression in the Soviet Union, particularly in the 1970s and the 1980s. It is estimated that approximately one-third of political prisoners in Russia were confined to psychiatric hospitals, leading to a significant rift within the World Psychiatric Association. The Soviets were compelled to withdraw from the association in 1983, and returned conditionally only in 1989.



SHUTTERSTOCK

According to Robert van Voren, a Dutch human rights activist who led the study on punitive psychiatry at the Andrei Sakharov Centre, most countries that were part of the Soviet Union have made strides in developing mental health care services based on ethical norms. But Russia, under Putin, is backsliding.

Punitive psychiatry has been in practice in other totalitarian regimes as well. Last year, a criminal court in Iran 'diagnosed' three prominent actresses—Azadeh Samadi, Leila Bolukat and Afsaneh Bayegan—as anti-family, antisocial and mentally ill for not wearing the hijab. Top Iranian psychologists condemned the court's decision, and denounced the misuse of psychiatry by the judiciary. China, too, has faced accusations of employing punitive psychiatry against the Uyghurs.

Even liberal democracies have had instances of punitive psychiatry. In 2009, Adrian Schoolcraft of the New York Police Department blew the whistle on his superiors who manipulated crime reports. As a response, he was arrested and held for six days in a psychiatric ward at Jamaica Hospital Medical Center. Subsequently, he filed a lawsuit against the police department, alleging intimidation and retaliation. The case was settled in 2015, with Schoolcraft receiving $6,00,000 in compensation.

Understanding Stroke: A Leading Neurologist's Guide to Prevention, Recognition and Treatment

Dr. Sonia Lal Gupta, a US-trained and board-certified neurologist specializing in Headache Medicine and Vascular Neurology, is a Visiting Professor at New York Medical College. She was awarded the "Neurologist of the Year" at the India Health and Wellness Summit by the Union Health Minister & recently recognized in Times of India's "40 Under 40 Leaders" and LWL's "23 Rising Stars," she continues to make significant strides in neurology and healthcare management.

Dr Sonia Lal Gupta - Senior Neurologist & Stroke Specialist
Director - Metro Group of Hospitals
Managing Director - Metro College of Health Sciences & Research

Every second, 100 billion neurons in our brains send 5-50 signals each, creating the connections that shape our identity and life story. But when a stroke occurs, that story is irrevocably altered.

A stroke, also known as a "brain attack," is a serious condition where blood flow to the brain is blocked. This cuts off oxygen and nutrients, causing brain cells to die quickly. Every second of delay leads to millions of neurons or "brain cells" dying. If not treated right away, the damage can be permanent. In India, over 1.5 million people suffer from strokes each year. The rising number of cases is due to factors like high blood pressure, diabetes, smoking, an aging population and urbanization.

Types of Stroke:

1. **Ischemic Stroke:** About 80% of strokes are ischemic. It happens when a blood clot blocks a vessel supplying blood to the brain.
2. **Hemorrhagic Stroke:** This occurs when a weakened blood vessel bursts and bleeds into the brain.
3. **Transient Ischemic Attack (TIA):** TIAs or "mini strokes" are brief episodes where blood flow to the brain is temporarily blocked and has symptoms similar to stroke. TIA's usually last for a few minutes to upto an hour. They could be a warning sign with 1 in 3 people eventually developing a stroke within an year of a TIA.

Symptoms:

Recognizing stroke symptoms quickly is crucial. Look for sudden weakness or numbness in the face, arm, or leg (especially on one side), difficulty speaking or understanding speech, confusion, dizziness, severe headache with no clear cause, and vision problems in one or both eyes.

The acronym FAST (**F**ace drooping, **A**rm weakness, **S**peech difficulty, **T**ime to call emergency services) can help remember these signs.

Some of the common risk factors for stroke include:

- **High blood pressure**
- **Diabetes**
- **High cholesterol**
- **Smoking**
- **Obesity**
- **Lack of exercise**
- **Heavy alcohol use**
- **Family history of stroke or heart disease**
- **Urban issues like air pollution and stress also increase stroke risk**

Treatment and Rehabilitation:

Immediate medical care is vital. A Computed Tomography (CT) scan helps determine whether the stroke is ischemic or hemorrhagic.

For **Ischemic strokes,** medications given intravenously can help dissolve the clot and restore blood flow. Sometimes, a procedure called mechanical thrombectomy is used to remove the clot. These treatment options are only possible if one gets to the hospital within a couple of hours of onset of symptoms.

Hemorrhagic strokes might need surgery to evacuate the blood and stop the bleeding.

Rehabilitation, including physical, occupational, and speech therapy, is essential for recovery for either of the strokes.

Preventive Strategies:

Many stroke risks can be reduced with lifestyle changes and practicing following preventive measure regularly:

- Eating a healthy diet with fruits, vegetables and whole grains.
- Exercising regularly and maintaining a healthy weight.
- Limiting alcohol, quitting smoking.
- Managing conditions like high blood pressure and diabetes.

Apart from these, increasing awareness of stroke symptoms and the importance of quick medical response can also help in lowering the stroke- related disability and death rates.

Stroke has been a leading cause of disability and death worldwide, but with timely intervention and preventive strategies, many of its devastating consequences can be mitigated. By understanding the risk factors, recognizing the symptoms, and advocating for better access to stroke care, we can work towards reducing the impact of stroke on individuals, families, and communities, both in India and globally.

SHUTTERSTOCK

HOW ANGER CAN HURT YOUR HEART

Getting angry can constrict blood vessels and increase a person's risk of developing heart disease, according to a US study published in the *Journal of the American Heart Association*. Previous observational studies have already shown that negative emotions like anger can increase the risk of heart attacks and strokes. To explore how this happens, the researchers recruited 280 healthy adults aged 18 to 73 years who were free of cardiovascular disease and other risk factors such as hypertension, diabetes, and high cholesterol. All participants were non-smokers and did not have a history of mood disorders.The researchers measured blood flow changes in the blood vessels of each participant's dominant arm. Then, they were randomly assigned to four groups: those in the anger and anxiety groups were asked to talk for eight minutes about personal experiences that had evoked those emotions; the sadness group was asked to read aloud for eight minutes statements that elicited sadness; and the control group just counted numbers for eight minutes to induce an emotionally neutral state.The ability of the blood vessels to dilate was reduced by more than half among those in the angry group compared with those in the control group. And these negative effects lasted up to 40 minutes after the angry episode. However, being anxious and sad did not have any impact on blood vessels."If you are a person who gets angry all the time, you are having chronic injuries to your blood vessels," said the study leader. "It is these chronic injuries over time that may eventually cause irreversible effects on vascular health and eventually increase your heart disease risk."Studies have linked impaired blood vessel dilation to the development of atherosclerosis, or the buildup of fatty deposits inside the vessel walls, which in turn can lead to heart attack and stroke. The study underscores the importance of anger management to reduce the risk of heart disease.

ESKETAMINE INJECTION MAY REDUCE RISK OF POSTPARTUM DEPRESSION

A SINGLE LOW DOSE INJECTION of esketamine given right after childbirth can reduce the risk of major postpartum depression by about three quarters, finds a US study published in *The BMJ*. Up to 26 per cent of women suffer from depression during the perinatal period which is a strong predictor of postpartum depression.

Esketamine is made from a drug called ketamine which is used as an anaesthetic and to treat depression. To find out if a single low dose injection of esketamine given just after childbirth might reduce postpartum depression in mothers, the researchers enrolled 361 mothers, of an average age of 32 years, across five Chinese hospitals. The women did not have a medical history of depression, but had mild prenatal depression as indicated by a depression scale.

Participants were randomly assigned to receive either esketamine or placebo intravenously infused over 40 minutes after childbirth. They were interviewed 18 to 30 hours after childbirth and again at seven and 42 days. None of them took antidepressants or received psychotherapy during the follow-up period. Forty-two days after giving birth, 6.7 per cent of mothers given esketamine experienced a major depressive

Did you know?

Teens who set higher education and career goals tend to have better education, and higher-paying and more prestigious jobs as young adults

Journal of Personality and Social Psychology

episode compared with 25.4 per cent of those given a placebo—a risk reduction of about 75 per cent.

Mothers treated with esketamine experienced more adverse events such as dizziness and double vision, but the symptoms lasted less than a day and did not require treatment. "Low dose esketamine should be considered in mothers with symptoms of prenatal depression," the authors concluded.

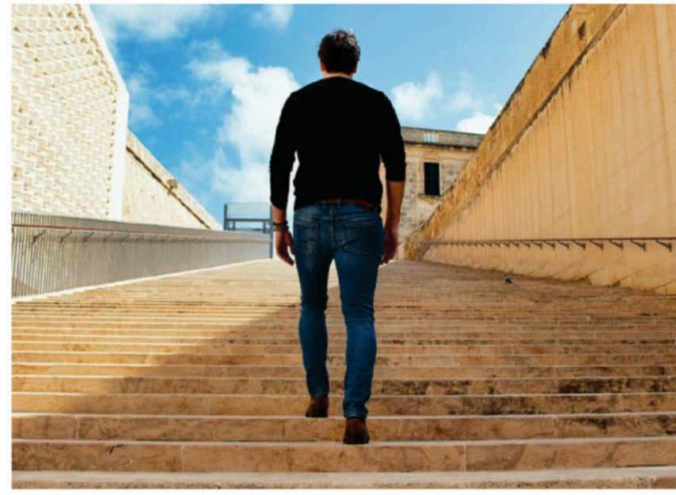
LIFT OR STAIRS? ALWAYS CHOOSE STAIRS

ACCORDING TO A STUDY PRESENTED AT ESC Preventive Cardiology 2024, climbing stairs is associated with a lower risk of cardiovascular disease and death. Even though cardiovascular disease is the leading cause of death in the world, it is largely preventable through regular exercise. However, about one in four adults do not meet the recommended levels of physical activity. Climbing stairs is an easily accessible way to incorporate physical activity into your daily routine.

To find out if climbing stairs could reduce the risks of cardiovascular disease and premature death, UK researchers examined nine studies that included a total of 4,80,479 participants, aged 35 to 84 years, and 53 per cent women.

The research included participants who were healthy as well as those with a previous history of heart attack or peripheral arterial disease. Studies were included regardless of the number of stairs people climbed or the speed at which they climbed. Climbing stairs was associated with a 24 per cent reduced risk of dying from any cause and a 39 per cent lower risk of dying from cardiovascular disease, compared with not climbing stairs.

Stair climbing was also linked with a reduced risk of cardiovascular disease including heart attack, heart failure and stroke. "Based on these results, we would encourage people to incorporate stair climbing into their day-to-day lives. Our study suggested that the more stairs climbed, the greater the benefits—but this needs to be confirmed. So, whether at work, home, or elsewhere, take the stairs," the study author said.



PHOTOS SHUTTERSTOCK

PHOTOS SHUTTERSTOCK

Did you know?

People who take heartburn drugs may have a higher risk of migraine and other severe headaches

Neurology Clinical Practice

TREATING GUM DISEASE CAN HELP PREVENT AFib RECURRENCE

PATIENTS WHO HAD THEIR GUM DISEASE treated following treatment for atrial fibrillation (AFib), or irregular heartbeat, are significantly less likely to suffer AFib recurrence, according to Japanese research published in the Journal of the American Heart Association. AFib can increase the risk of stroke by five-fold. About 20 to 50 per cent of the global population suffer from gum disease.

To examine the potential impact of gum disease treatment on AFib, the researchers compared 97 patients who had received radio-frequency catheter ablation to correct AFib and received treatment for gum disease within three months of correcting the irregular heart rhythm, with 191 ablation patients who did not receive treatment for gum disease.

During an average follow-up period of between 8.5 months to 2 years after the procedure, 24 per cent of the patients had an AFib recurrence. Patients who had their gum inflammation treated after catheter ablation were 61 per cent less likely to have a recurrence of AFib, compared

MAMMOGRAM RECOMMENDED FROM AGE 40

THE US PREVENTIVE SERVICES TASK FORCE (USPSTF) has issued new recommendations for all women to start getting mammograms every other year beginning at age 40 and continuing through age 74. Previously the task force had recommended women to start screening at age 50, and women between the ages of 40 and 50 could choose to have breast cancer screening based on their risk factors and health history.

"More women in their 40s have been getting breast cancer, with rates increasing about two per cent each year, so this recommendation will make a big difference for people," the Task Force chair said. "By starting to screen all women at age 40, we can save nearly 20 per cent more lives from breast cancer overall."

Screening for breast cancer can help with early diagnosis and treatment, and reduce the risk of dying from breast cancer. This guideline, however, does not apply to women who have a BRCA gene variant, a history of chest radiation, or a personal history of breast cancer. These women should talk to their health care provider.

But the USPSTF still differs from other medical organisations like the American College of Radiology that recommends mammograms every year starting at age 40. According to it one in six breast cancers are diagnosed in women in their 40s. About 75 per cent of women diagnosed with breast cancer have no family history of the disease. And according to one study mammography screening can reduce the risk of dying from breast cancer by nearly half.

with ablation patients who did get the dental treatment. Patients who had an AFib recurrence had more severe gum disease than those who did not have recurrences.

"Proper management of gum disease appears to improve the prognosis of AFib, and many people around the world could benefit from it," said the lead study author.

According to the American Heart Association, oral health can be an indicator of overall health. Bacteria from inflamed gums can travel through the bloodstream to the rest of the body, including the heart and brain. Chronic gum inflammation may be associated with other health conditions, including coronary artery disease, stroke, and Type 2 diabetes.

AT WHAT AGES DO PEOPLE FEEL MOST LONELY?

ACCORDING TO A US STUDY PUBLISHED in the journal *Psychological Science*, loneliness follows a U-shaped pattern in adulthood—people are loneliest during younger and older adulthood, and least lonely in middle age. This conclusion was based on a review of data from nine long-term studies including 1,28,118 adults of ages 13 to 103 years from over 20 countries. All the studies showed the U-shaped curve.

Loneliness was more prevalent among women, and in people who were divorced or widowed, more isolated, less educated, had lower income, had more functional limitations, were smokers or had poorer cognitive, physical, or mental health. The researchers think middle-aged adults are the least lonely because they have more opportunities for social interactions, like being married, going to work, and making friends with the parents of their kids' friends. Young adulthood can be lonely because people are often "navigating several important life transitions (like education, careers, friend groups, relationship partners and families)".

"What was striking was how consistent the uptick in loneliness is in older adulthood. We do have evidence that married people tend to be less lonely, so for older adults who are not married, finding ongoing points of meaningful social contact will likely help mitigate the risk of persistent loneliness," the study authors said.

SHUTTERSTOCK

CONTRIBUTOR: SHYLA JOVITHA ABRAHAM

The Secret Suffering of Indian Seniors

Over 5 crore elders in India suffer in silence from urinary incontinence—an often ignored condition.

You are driving back from a dinner party, with your wife dozing on the seat next to you. You miss a speed breaker and worry that the sudden bump may wake her up. But something strange happens—a few drops of urine leak out. You chalk it to a full bladder and write it off.

But then it happens again, say, when you lift your grandchild, bend to take out your favourite screwdrivers' set, laugh at your son's jokes.

Plagued by the fear of another such accident, you stop going for walks, stop going out and even talking to your family. What will they think?

'Baba wets his pants *at this age?*'

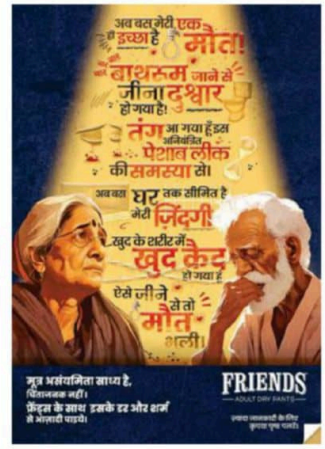
Urinary incontinence or the accidental passing of urine is a common symptom of ageing, diabetes, prostate issues, menopause and several neurological conditions. Ranging from the leaking of a few drops to a complete loss of bladder control, urine leakage can take many forms. But the shame and disgust it brings with it is common across almost all demographics.

Mind Over Matter

Most children are completely toilet-trained by the age of 3, and associate bedwetting or peeing in their pants with 'disgust' or 'shame'. This attitude remains through their life, thereby explaining why the inability to control one's bladder is horrifying to any adult.

Added to this are cultural notions of 'manhood' and 'purity'. 'Did you wet your pants out of fear?' is a common insult across the subcontinent. Urine itself is thought to be impure, or disgusting. To wear a diaper—a product imagined to be voluminous, clunky, and worn only by "old people"—seems like further insult to injury.

As a result, most sufferers of incontinence continue to 'adjust' or 'manage', often taking nearly 18 months to finally begin using adult diapers. It is a long adoption period marked by accidents, depression, and often complete isolation from friends and family.



Fighting Stigma

In its journey of 24 years, Friends Adult Diapers has actively worked to fight this and show how a simple switch to a 'dry pant' can help sufferers live full lives without compromise.

This includes having their team of 800+ salespersons make pitches to retailers and customers while wearing the product themselves; mandating that every new employee wear a diaper for at least 6-hours in the first week with the company; and advertising on local trains, buses and through regional-language newspaper inserts to increase product awareness.

On Facebook, Friends maintains a 1.5 lakh-member community of 40+ adults, where they drive conversations on active ageing through posts on topics such as—'What colour is healthy poop? Is urinary incontinence shameful? What to eat for a healthy sex life post 50? Thousands of comments file in. Indian seniors are eager to talk about living, dying and their bodies.

Time For More

With the second highest number of elders (after China), India is on its way to have 34.7 crore seniors by 2050. Yet, unlike countries such as Japan, India is far from being elder-friendly. Forget wheelchair access or assisted living facilities, India does not yet have any country-level research on its elders and the conditions that ail them.

While brands like Friends shall continue to spread the word, the ultimate goal lies not just in product adoption, but in achieving a level of ease and normalcy with incontinence and diapers akin to wearing spectacles for poor vision; and in each of us acknowledging that our bodies consist of flesh, blood, and yes, urine too.

It is only then that we can move forward with dignity and respect towards ageing gracefully.

Friends Adult Diapers makes tape-style diapers, diaper pants, bed-protectors and microwaveable wet wipes. You can buy their products on friendsdiaper.in

UN-DOCTORED

Where specialists speak your language

Puja Awasthi

BONE SUPREMACY

Taking good care of your bones will take a big load off your old age

Dr Sandeep Kapoor calls himself a docpreneur. The orthopaedic surgeon specialises in trauma and joint replacement surgery. He did his MS from King George's Medical University, Lucknow, and is a DNB, and the recipient of many prestigious fellowships. Dr Kapoor worked in the not-for-profit and the corporate sectors before co-founding the Health City Hospital in Lucknow, and is in the process of setting up another 300-bed hospital. An avid listener of podcasts, he is also a golf enthusiast.

Essentials about bone health: The human body is made up of the musculoskeletal system. The skeletal part is the bone, and the surrounding is the musculature. Bone health encompasses bones and muscles; and the point at which two bones join each other—joints. For an infant on mother's milk, it is a sufficient diet that provides calcium for the growth and nutrition of bones. Adequate diet is important right from childhood. Drinking pasteurised milk (without boiling), using iodised salt are some of the habits we have always followed. It is also important to get adequate sunlight. The other important component is activity. Body movements with pressure stimulate growth.

As we grow: Medicines do not have a large part to play in bone growth and health, but habits, nutrition and lifestyle do. Alcohol will harm you. Red meat eaters could have high uric acid levels, which will in turn lead to joint pain and further harm the joints. Wrong posture can lead to head and neck pain. Till the age of 40, the calcium we intake and the calcium in the bones maintain a kind of equilibrium, but post that, calcium from the bones starts to deplete; and muscles begin to waste.

The start of trouble: Some people will be genetically predisposed to rheumatoid arthritis. This is a long-lasting auto-immune condition in which the body's defence mechanism attacks its own tissues leading to pain, swelling and stiffness. Other kinds of arthritis might manifest in certain people without warning signs and we cannot prevent them.

Three broad challenges: Calcium (and vitamin D) deficiency in children leads to rickets; in adults to osteomalacia; and when bone mass begins to fall it leads to osteoporosis which changes the strength and structure of bones.

What we can control: Every particular height and body structure is made for certain loading. Excess load will lead to both joint and bone pain. Thus having control over one's weight is very important.

Calcium supplements: It is a myth that every fracture needs calcium. If a fracture is caused by say an injury, then it does not. Calcium would be more relevant for weak bones. Thus, underlying pathological causes need identification before prescribing any supplement. Ideally, one's diet should be adequate to provide the body with the essential vitamins and minerals. The challenge is to identify the

SURE SHOT
Dr Sandeep Kapoor

PAWAN KUMAR

deficiency points in one's diet.

Is lactose intolerance a myth? No, it is not, but how many people have been diagnosed as such? On the other hand, take up any (prescribed) diet these days, it will have no milk because milk is calorie dense. We see calcium deficiency more in urban patients because for the rural population which has cattle, milk is still an important part of the diet.

Vitamin D deficiency: This is definitely not because of the lack of sunlight but we have not been able to pin point the reason behind it. Vitamin D is essential for absorption of calcium. How much one requires depends on age and stage (lactating mother versus post-menopausal woman, for instance). When given as a combination with calcium, it is for maintenance. In case of deficiency, it is prescribed separately in pure, heavy quantities according to international standards. But there are various schools of thought among endocrinologists, paediatrics and orthophysicians about how this is to be given—in low doses every day, alternate days or in weekly doses. Expert advice is essential because vitamin D toxicity is real.

The role of genetics: If a mother has osteoarthritis, offspring will have a predisposition to it, but this is not proven. There are certain genetic bone syndromes that are beyond what we are discussing here.

The gender differential: Menopausal women are at risk for osteoporosis and osteoarthritis—two conditions that are often incorrectly understood. Osteoarthritis, which I have seen almost always in women, is age related arthritis of the weight bearing joints. In the west, this mostly affects the hips; while in India it is the hands and knees that bear the brunt. Osteoporosis is a condition where the bones are weak and prone to breaking and fracturing easily. It is common in post-menopausal women because of falling levels of oestrogen. (According to some studies, women lose 10 per cent of their bone mass in the first five years after menopause). Pregnancy, lactation, menopause all contribute. Recovery in male patients is much faster than female patients, probably

because their bones are stronger to start with.

High life expectancy, more fractures: Age-related fractures are like an epidemic with increasing life expectancy. This is not just a health problem but also a socio-economic one as not everyone in the growing elderly population has an insurance. Expensive implants, keeping these patients in critical care and monitoring them while family members are busy—all of these are challenges.

Understand activity right: What we do in our daily life as part of everyday chores or our jobs does not count as activity as the body is used to it. There are two parts to it—activity for the muscoskeletal system and for lung health; or weight training and cardio. Yoga is very good. For the heart, 45 minutes to an hour of walking is essential. This helps the heart to develop more vessels to pump better. Let us say we get a 40-year-old patient who has difficulty climbing the stairs. His cardiologist and his diabetes doctor have asked him to walk. Arthritis patients have no problems in straight-walking, it is elevation they find difficult. Thus, activity should be in tune with orthopaedic condition. Activity becomes a problem when you disregard your orthopaedic reality. If you are turning 60 and have never jumped in your life, and suddenly decide to do high-jumps, remember your body is not tuned for it. On the other hand, one who has been a marathon runner will be able to run till the age of 90 and beyond.

We hear of so many deaths during/post gym workouts. That is possibly because people are pumping huge amounts of weight but the body is not used to the sudden increase in the musculature of the heart. I am also a strong proponent of activities for mental fitness for while people might have healthy bodies, their minds are not healthy.

Balance is the key: As we age we tend to lose muscle strength and put on fat. There are fads such as intermittent fasting where people are accelerating this muscle loss, while the focus should be on losing fat. If you are doing your mandatory 45-60 minutes of brisk walking but following it up with a fat rich breakfast and partying till late in night, you are undoing all the good. Excess of anything is bad. Pain and fatigue are very important deciding factors for what our bodies are meant for.

We hear of so many deaths during/post gym workouts. That is possibly because people are pumping huge amounts of weight but the body is not used to the sudden increase in the musculature of the heart.

Pointers other than pain: Fatigue and lethargy are indicators that something is wrong. Drop in alertness, fall in energy, lack of sleep or too much sleep are also indications that something is wrong. Weak neck muscles, for example, can lead to headaches. So we ask the patient to build neck muscles. Similarly if you were once able to climb steps easily but not anymore, build quad muscles with advice from a trained specialist.

The various stages of problems: Stage one and two might have very mild problems such as occasional pain, which you might notice only if very careful. It will not show up in X ray findings. In the first, mild painkillers will work. In the second these will be supplemented by physiotherapy.

Knee replacement surgery: Come stage three and the symptoms become obvious—walking with a waddle or a duck like gait, having bow legs, knock knees or other deformities. Such patients are in constant pain and might have difficultly even using the washroom. When lifestyle modifications, physiotherapy, medicines, precautions and external support all fail, patients require replacement surgery. Some expensive joint health supplements (collagen peptides, glucosamine, C supplement) are available and might help.

Knee problems are epidemic: Particularly in females (caused by all the factors discussed above and made worse by longer life spans). Replacement surgery is a well-accepted procedure and understood by lay persons. Its success has also been well demonstrated.

The use of AI: In medicine, AI should be used where the human eye cannot see or cannot see very clearly—such as cancer of the

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prostate sitting behind a bone. For knee and hip there will be selective indications for use of AI. We have been using everything from computer navigation to robots. AI has its limitations in a country like India where people are unable to get a knee replacement even in the most conventional form.

Myth that surgery is very expensive: Not really, but big players have jacked up costs. We need the government's support to bring these down. Government hospitals are conducting a high volume of knee replacement surgeries. There is also a government fixed ceiling on the cost of implants.

Rehabilitation period: Results and down time depend on timing of surgery. Hospital stay is generally between three to five days. If a patient comes with functional problems, before the bone on bone stage, the muscles have not deteriorated and recovery is faster. Timing is important. Joint surgery should happen ideally just once in a lifetime. Revision surgery is mutilating and results are unpredictable.

Quality of life: While it does come back to normal, you will not become an athlete. You will not be running, but you will easily be able to walk three to five kilometres a day. Remember, this is tied in with the age of the patient.

The next epidemics: Patients who have had a knee replacement surgery and lived on for 20-25 years will need replacement surgeries. Peri prosthetic fractures—those that happen around joint replacements—will also come in. There is nothing patients can do to prevent these.

An ideal patient: One who is in the 60s. If your quality of life is extremely compromised, do not wait till 60. When everything else has failed, such a patient should ideally come to you walking and not in a wheelchair (which indicates poor muscle strength).

Common risks: If a patient has been not walking for long, there might be deep vein thrombosis (DVT) wherein s/he gets blood clots in the limbs from which they can go to any other part of the body and lead to strokes or cardiac arrest. However, prophylaxis are given for these conditions and it rarely comes up as a challenge in surgery. A bigger concern are infections. That is the reason the patient should find out the number of surgeries being done in that centre and if the infrastructure is designed to minimise infections.

Winner in a wheelchair

Cerebral palsy could not stop Sarika from achieving her dream of becoming a civil servant

By Nirmal Jovial

There is an innate confidence on Sarika A.K.'s face and a warm smile, too. The 24-year-old from Kerala—who ranked 922 in the UPSC exam—not only went through the rigours of preparing for the tough exam, as lakhs do, but she did so while battling cerebral palsy. "I prefer the IAS, but I am not sure whether I will get it. Whatever service I get into, I will do everything in my capacity for the differently abled community," she says, sitting on her electric wheelchair.

Cerebral palsy is a group of disorders that affects muscle movement and coordination, with symptoms varying from person to person and ranging from mild to severe. There are four main types. Spastic cerebral palsy—which affects 80 per cent of those with cerebral palsy—is characterised by increased muscle tone, which leads to stiff

NIRMAL JOVIAL

muscles and awkward movements. Dyskinetic cerebral palsy affects the limbs and involves difficulty in controlling movement, leading to slow or rapid jerky movements. Ataxic cerebral palsy impacts balance and coordination, resulting in unsteady walking and difficulty with precise movements. Mixed cerebral palsy refers to symptoms that are a combination of different types of cerebral palsy.

Diagnosis typically occurs during the first two years of life, with tests to evaluate motor skills and monitor development, growth, muscle tone and more. "In my case, at birth itself, my legs were in a crossed position and doctors performed an immediate surgery," says Sarika. "Six months later, additional difficulties emerged. I did not achieve the development milestones, prompting my parents to consult a doctor who identified movement and musculoskeletal issues. Further surgeries were recommended. At the age of five, I underwent a hip surgery to address the height discrepancy between my legs. Unfortunately, this procedure was unsuccessful and exacerbated my condition. Since then, I have relied on a wheelchair. Doctors suggested further surgeries, but we were unsure of their success and decided not to pursue it."

"I came across a book, *Collector Bro*, written by former Kozhikode collector Prashant Nair. It served as a great inspiration," says Sarika A.K. (in pic)

Sarika is the daughter of Sasi, who is a driver in Qatar, and Ragi, a homemaker. She also has a younger sister. Her mother has been Sarika's biggest support system. "Even now, I require assistance in all my daily routines, and my mother is helping me," she says. "Throughout these years, she has taken care of me. She has dedicated her life to me."

While speaking to THE WEEK, Ragi said that her daughter had to endure a lot of pain over the years, including not being able to be like the other kids at school. "A major issue we faced during those growing years was finding a physiotherapist in our locality," she says. "Now, we have a physiotherapist who visits Sarika thrice weekly at home to ensure that her muscles do not get stiff."

Accessibility also poses a great challenge for the differently abled, says Sarika. In fact, special arrangements had to be made at the centre for her UPSC mains exam in Thiruvananthapuram.

"During my primary school years, I remained in the same classroom for four years because the school had only one ramp. Although I progressed academically, my classroom remained the same," she recalls with a smile, noting the invaluable support of her friends and teachers. "She enjoyed going to school; she never preferred sitting idle at home," says Ragi.

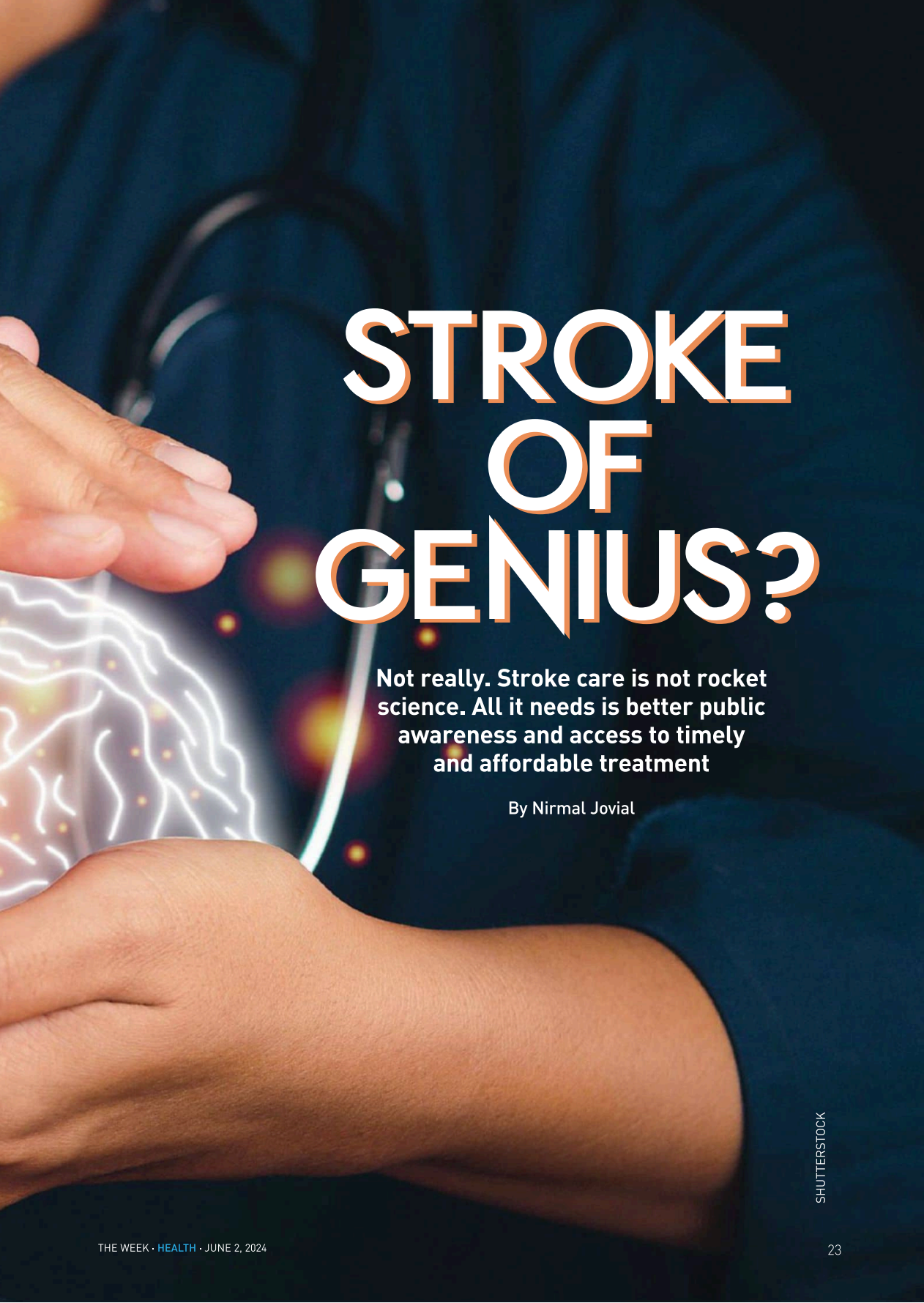
Reading became a habit for Sarika during her upper primary years, and this habit eventually steered her towards the UPSC. "I came across a book, *Collector Bro*, written by former Kozhikode collector Prashant Nair," she says. "It served as a great inspiration."

One of her teachers then sent her information about Project Chitrashalabham (butterfly), a initiative of Absolute IAS Academy that offered scholarships for free civil service coaching for the differently abled. "I applied and was selected for online training," she says. "I mostly studied during the night, as it was the most suitable time for me. I cannot sit for long hours, so I took breaks. Whenever I had back pain, I would lie in bed for 30 minutes to an hour."

During her school years and into her late teens, Sarika had a manual wheelchair. Only last year did she get an automatic one, which significantly enhanced her mobility and made her more independent. It also helps that she is not currently on any medication. "However, my physiotherapist helps me with stretching and movement exercises," she says.

Sarika adds that though she has grown up to see society becoming more inclusive, there is a lot left to be done. "When I was in school, the concept of accessible toilets or classrooms did not exist," she says. "Transportation posed another significant challenge; public transport was inaccessible for someone like me, so I had to rely on auto-rickshaws, which cost a lot."

Sarika will now get an official vehicle as a civil servant. But her ultimate dream is to take along as many differently abled people as she can on this journey.



STROKE OF GENIUS?

Not really. Stroke care is not rocket science. All it needs is better public awareness and access to timely and affordable treatment

By Nirmal Jovial

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On a fateful morning in June 2023, Khairunnisa Jalaluddin (name changed), a 55-year-old homemaker from Gudalur in Tamil Nadu, woke up with a pounding headache. As she tried to sit up, a wave of dizziness engulfed her. "To our horror, we discovered that her one side was paralysed, and her speech was slurred," recalls Shajir, Khairunnisa's son, who rushed her to the nearest primary care centre. "At the hospital, they asked us to get a CT scan, which was not available locally. So we crossed the border and travelled approximately 50km from our village to a hospital in Sulthan Bathery in Wayanad in Kerala." There, Khairunnisa was diagnosed with stroke and promptly administered thrombolytic therapy, wherein clot-busting medications were injected directly into the clot to dissolve it.

In current scientific understanding, an intravenous medicine that can break up a clot has to be given within 4.5 hours of the symptoms showing up. Typically, an expensive and strong clot-busting drug like recombinant-tissue plasminogen activator (r-tPA) is used to dissolve the clot and open the artery to restore flow to the brain. In some cases, particularly when the clot is too big, this drug is not effective. And if the treatment is given after six hours of the onset of stroke, then catheters and clot retrieval devices (stent retriever) are inserted through a 1mm hole in the artery of the groin (femoral artery) to reach and open the blocked segment of the brain artery.

In Khairunnisa's case, a large, proximal cerebral artery was blocked, and the Wayanad hospital referred her to Baby Memorial Hospital (BHM), a tertiary care centre in Kozhikode for an advanced procedure called mechanical thrombectomy. By then, almost 14 hours had passed since the onset of Khairunnisa's symptoms. Sulthan Bathery to Kozhikode is almost 90km, including a 14km-long Thamarassery Ghat, which has nine hairpin bends and is notorious for traffic jams. An ambulance carrying Khairunnisa started from Wayanad around 8pm and reached BHM close to midnight. A team, led by renowned neurointerventional surgeon Dr Shakir Husain, had been waiting.

A pioneer in the neurointerventional arena in India, Husain removed the blood clot inside

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KEY INDICATOR

The workhorse for stroke treatment initiation is a plain CT scan

the artery in a 90-minute procedure, utilising endovascular devices and an advanced image guidance system. "This was a one-of-a-kind case," recalls Husain. "The patient had a stroke in the morning. Normally, the best candidates for a mechanical thrombectomy procedure are those who get it done within three to four hours of the onset of stroke symptoms. But this was done almost 18 hours after the stroke event. We could do it because she had good collaterals and we could open up the artery completely."

Khairunnisa suffered a stroke on the left side of the brain, leading to right side paralysis and a loss of speech. Her recovery process started immediately after the procedure, says Husain. Nearly 10 months post the stroke, Khairunnisa's paralysis has been completely reversed, and she has regained her speech.

Over the past two decades, Husain has successfully treated numerous stroke patients like Khairunnisa. However, he points out that while a limited number are saved, thousands of Indians, particularly those from rural areas, succumb daily owing to the inability to reach hospitals with adequate facilities or trained doctors in time. He cites the case of Khairunnisa, who had to travel over 140km to access treatment.

Strokes are broadly classified into two types: ischemic and haemorrhagic. Ischemic strokes occur due to a blockage of a blood vessel, resulting in inadequate blood flow to a

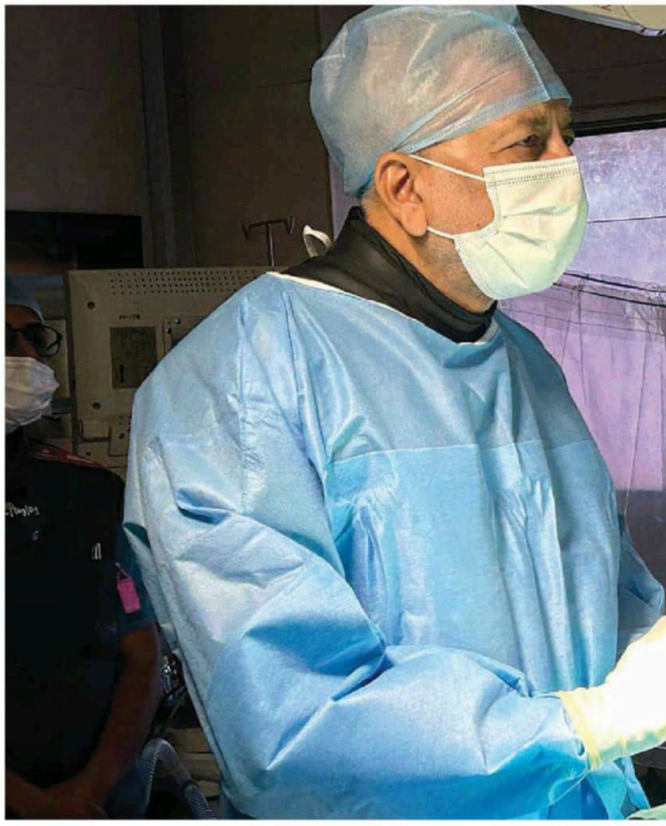
part of the brain, and accounts for about 80 per cent of all strokes. Haemorrhagic strokes are caused by the rupture of a blood vessel in the brain, leading to bleeding into the brain tissue. Ischemic stroke is primarily treated with clot-busting drugs and clot removal procedures, while haemorrhagic stroke requires treatments to stop the bleeding and control intracranial pressure.

In cases like Khairunnisa's, who had an ischemic stroke, timely restoration of cerebral blood flow using reperfusion therapy is the most effective treatment for salvaging brain tissue that is not already dead. But reperfusion therapy needs to be done within the 'golden hours' as its benefits diminish over time.

"However, the biggest impediment we face is the lack of public awareness," says Husain, who insists that the public should be able to detect a person showing symptoms of stroke and act immediately. "Sometimes, you may have a government-run or private hospital with good infrastructure, but community participation is lacking. Community participation entails that the community should assist a stroke case in reaching the appropriate hospital in time. It is a race against time. Another critical factor is the internal condition of the brain's circulation, known as collateral circulation. When there is robust protective collateral circulation, we can still achieve positive outcomes even if the patient arrives after 10 hours." But there have been cases where optimal outcomes could not be achieved despite the patient reaching the hospital within 30 minutes because the collateral circulation, which provides alternative routes for blood flow, was not robust enough, he adds.

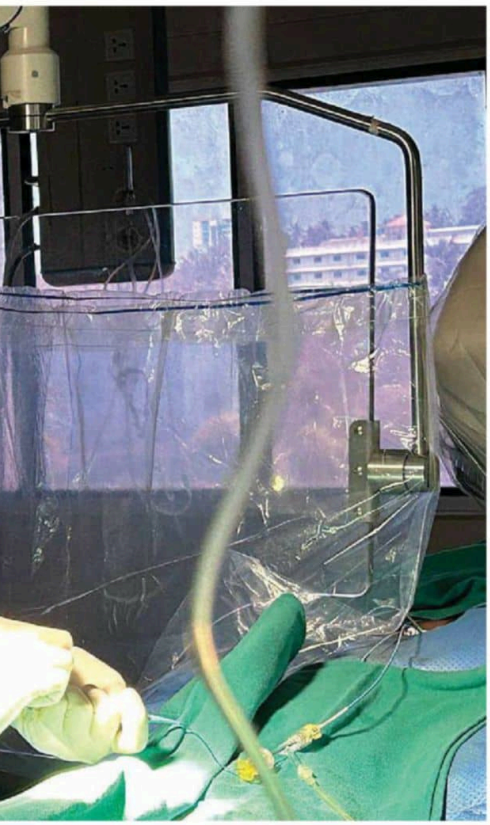
Globally, stroke ranks as the second leading cause of death. The global burden of stroke is more pronounced in the developing world, which accounts for 86 per cent of deaths. However, due to the lack of reliable reporting mechanisms and other factors such as small sample sizes in existing epidemiological studies, accurately estimating the stroke burden in India and other developing countries poses a significant challenge.

According to a study published in the *Indian Journal of Medical Research* in 2017, the cumulative incidence of stroke ranged from 105 to 152 per one lakh people per year, with the crude prevalence ranging from 44.29 to 559 per one lakh people across different regions of the country in the past decade.



"As we speak, a stroke occurs somewhere in the country every 20 seconds, with one stroke-related death occurring every two minutes," says Dr M.V. Padma Srivastava, former head of neurology and chief of the Neurosciences Centre at the All India Institute of Medical Sciences, New Delhi. "These statistics are comparable to those of road traffic accidents or heart attacks." Moreover, with just over 3,500 neurosurgeons and 1,300 neurologists in India, there exists a significant disproportionality in access to stroke care across different regions.

Pioneers like Husain are actively working to address this gap by striving to increase the number of neuro-interventionists through initiatives such as the Stroke & Neurointerven-



KEEN EYE

Dr Shakir Husain at work in Baby Memorial Hospital in Kozhikode

Sometimes, you may have a government-run or private hospital with good infrastructure, but community participation is lacking.

Dr Shakir Husain,
neurointerventional surgeon, Baby Memorial Hospital, Kozhikode

tion Foundation. However, Srivastava emphasises that bridging the substantial "health divide" exceeds the capacity of any single individual or group of doctors.

Srivastava cites a pivotal study published in *The Lancet* in 2017, which identified a significant shift in disease patterns. Between 1990 and 2016, non-communicable diseases such as cancer, heart attacks and strokes have emerged as the leading causes of death, surpassing communicable diseases like malaria and tuberculosis. She further observes that while Covid-19 momentarily diverted attention, non-communicable diseases have regained prominence post pandemic. Additionally, Srivastava highlights a worrying trend: a notable increase in the number of young stroke patients in India.

"The percentage of strokes among young individuals in western countries is 3.3 per cent. However, in India, published data estimates a percentage between 20 and 27. This indicates that one-fourth of all strokes occur in young people, which is a substantial figure," she says.

Experts underscore the economic burden posed by an increasing number of young stroke patients owing to their longer life expectancy post stroke, higher lifetime costs per case and the significant impact on their quality of life and productivity. This necessitates sustained health care and support services. Experts like Husain stress the importance of policymakers analysing and identifying different cost factors associated with stroke and implementing health policies aimed at reducing the disease burden on India.

"An efficient stroke care system is essential for stroke management," says Husain. "India must be prepared to address this catastrophic illness, the incidence of which is predicted to increase significantly in the next 20-30 years. Since stroke is also the leading cause of perma-

nent neurological disability in adults, the reversal of stroke symptoms through thrombolysis and the delivery of organised stroke care becomes paramount nationwide."

HUB-SPOKE AND SCOPE

According to Srivastava, the "workhorse for stroke treatment initiation" is a plain CT scan. "While significant advances in imaging have occurred, often implemented in high-end hospitals accessible to a privileged segment of society, it is essential to recognise that strokes also occur in underserved areas where access to CT scans may be scarce or non-existent," explains the Padma Shri awardee, who spearheaded initiatives like the Smart India app, CARE-DAT and the IMPETUS programme during her tenure at AIIMS. These initiatives aimed to bridge the gap and make low-cost stroke care accessible in distant towns and villages of India.

The intention behind these initiatives was to broaden the scope of stroke care by training physicians in district hospitals to diagnose and manage acute stroke using a low-cost model. "If there is at least a district hospital equipped with CT scan facilities, it can serve as a base in the stroke care system," says Srivastava. "A plain CT scan can detect any bleeding in the brain, along with ensuring optimal blood pressure and sugar levels. We have developed a user-friendly criterion that can be utilised in district hospitals to provide tele-stroke care via platforms like WhatsApp."

Tele-stroke services are widespread globally, but they often come with high costs. Husain highlights successful "hub-and-spoke" models existing in countries like Switzerland. "In Zurich, patients are initially directed to hospitals in their local areas. Only cases requiring advanced treatment are transferred to the University Hospital. This system conserves and effectively utilises resources," he explains.

Srivastava underscores that the effectiveness of such peripheral centres in managing primary care during stroke cases determines the success of such a model. In India, this necessitates a strong partnership between public and private hospitals.

Himachal Pradesh served as the launch pad for such a model in India in 2014, but the southern states have established it better, according to Srivastava. However, issues persist in many other regions, particularly related to public awareness, which undermines the effectiveness of the system. "The public needs to know how to recognise a stroke," she insists. "Without patients seeking help, treatment cannot be administered. Therefore, part of the outreach programme aims to increase awareness of stroke recognition."

Research has shown that simply implementing stroke unit management can increase survival rates by 40 per cent.

Dr M. V. Padma Srivastava,
former head of neurology and chief of the Neurosciences Centre, AIIMS, New Delhi

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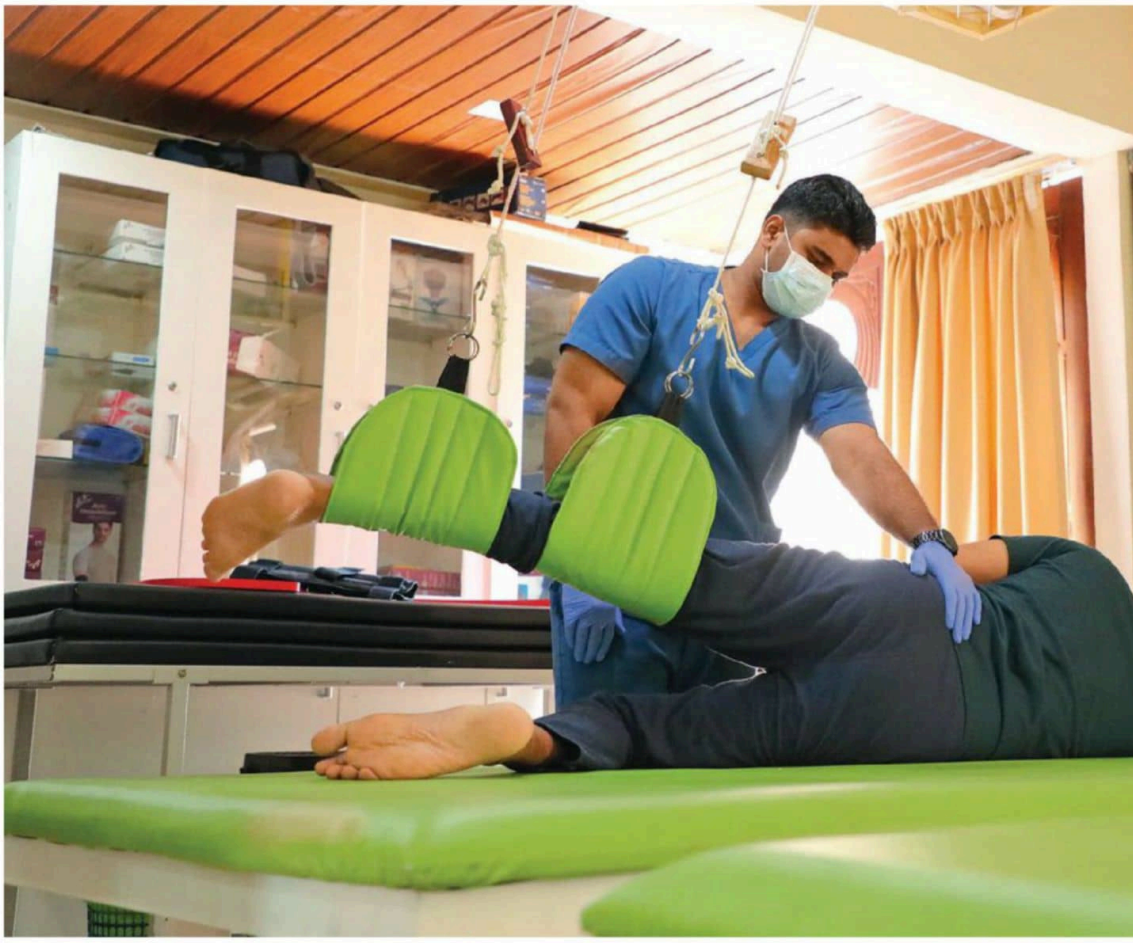
"Indians have a tendency to use mobile phones even while driving two-wheelers, often tilting the neck to one side and supporting the phone with one shoulder," says Husain. "I have witnessed cases where a sudden movement of the neck after a prolonged phone call resulted in a stroke."

Another critical juncture is when a patient arrives at the nearest district-level hospital. The AIIMS team developed a set of protocols or checklists for stroke care at these satellite hospitals. These checklists include essential equipment such as thrombolytic drugs, blood pressure monitoring devices and point-of-care systems to check blood sugar. "Additionally, trained personnel are required. Hence, we introduced the Smart India app, which helps physicians understand these protocols efficiently. This process involves not just neurologists but also physicians as the first point of contact," explains Srivastava. This mechanism is currently being implemented nationwide to involve physicians across the country.

The glamorous aspect of stroke management often revolves around procedures like clot removal, clot dissolution and surgery. However, the essential steps that can be implemented in all hospitals involve patient positioning, timing of blood pressure measurements and addressing the requirements for sodium, potassium, fluids, electrolytes and nutrition, while also focusing on infection prevention and complication avoidance. "Research has shown that simply implementing stroke unit management can increase survival rates by 40 per cent," says Srivastava. "This approach requires dedicated personnel who are knowledgeable about potential complications, can anticipate and prevent them, and effectively manage them when they arise."

The medical field has already witnessed robotically performed neurointerventional procedures, encompassing diagnostic cerebral angiography, carotid artery intervention and the treatment of intracranial aneurysms. Experts are optimistic about the future potential of teleoperated robots, which could revolutionise the treatment of neurovascular diseases by providing remote precision and dexterity. These advancements have the potential to eliminate physiological tremors and operator fatigue, ultimately improving patient outcomes. However, experts emphasise that immediate action is imperative to address the current needs of



the population, as waiting for future innovations is not an option.

LOOK FOR EARLY SIGNS

A stroke can strike suddenly, seemingly out of nowhere. However, there are certain types of ischemic events known as transient ischemic attacks (TIAs), also known as mild strokes, that act as warnings. During TIAs, the blockage of blood flow to the brain is temporary, resulting in short-lived symptoms that do not cause permanent brain damage. "During a TIA, you may experience temporary vision problems or numbness on one side of your body, which then resolve on their own. Because these symptoms come and go, they can be easily overlooked," explains Srivastava.

Individuals with unconventional job patterns, especially those that disrupt the sleep cycle, also face a heightened risk of stroke.

"However, if you have risk factors such as high blood pressure, high blood sugar, or a family history of strokes or heart attacks, it is crucial to take these symptoms seriously and seek medical attention. Don't wait for a major event to occur."

RECOVERY IN PROGRESS

A patient undergoing rehabilitation at RAHA CFAAR Ayurveda Hospital in Kochi

VISHNUDAS K.S.

Sedentary lifestyles, unhealthy habits such as smoking and excessive drinking, and lifestyle diseases like hypertension and diabetes are often considered the primary culprits behind many stroke cases. Genetic factors and advanced age can also increase the risk of stroke. Additionally, there are unusual cases where vigorous neck movements, overextension or incorrect positioning of the neck can lead to injury to blood vessels and subsequent stroke.

Terms such as 'barber chair stroke'or 'beauty parlour stroke'have been coined to describe certain unique cases where individuals experience strokes after undergoing activities like hair washing or receiving "customary neck clicks"from their barber. In October 2022, one such case gained attention in India after neurologist Dr Sudhir Kumar from Hyderabad shared a case in which a woman developed stroke symptoms, starting with dizziness, nausea and vomiting while shampooing her hair at a beauty parlour.

There is another concerning scenario related to neck movements that could lead to a stroke. "Indians have a tendency to use mobile phones even while driving two-wheelers, often tilting the neck to one side and supporting the phone with one shoulder," says Husain. "I have witnessed cases where a sudden movement of the neck after a prolonged phone call resulted in a stroke."

Srivastava outlines various factors contributing to the increase in stroke cases, including pollutants and climate change. She also cites sleep disturbances and irregular sleep patterns, particularly prevalent among the younger population due to excessive use of digital devices late at night, as a frequently underestimated yet significant factor leading to strokes. Individuals with unconventional job patterns, especially those that disrupt the sleep cycle, also face a heightened risk of stroke.

TIME FOR INTEGRATION

A patient's rehabilitation journey following a stroke must commence promptly to maximise recovery and regain lost functions. Typically, this process involves a combination of therapies, such as physical, occupational and speech therapies, tailored to meet the individual's unique needs and goals. However, there is a growing consensus on integrating treatment modalities from traditional medical systems like ayurveda into the rehabilitation process to offer holistic healing.

Individuals who have had a stroke are at a heightened risk of another. "Not all strokes are the same," says Srivastava. "Some may involve major blood vessels, such as the internal carotid artery, while others may affect smaller branches within the brain, known as small vessels. Strokes can be caused by various factors, including blood clots in the heart (cardioembolic), infections or vasculitis (inflammation of blood vessels). Treatment and prevention strategies are customised to the specific cause of

the stroke, in addition to employing general management techniques."

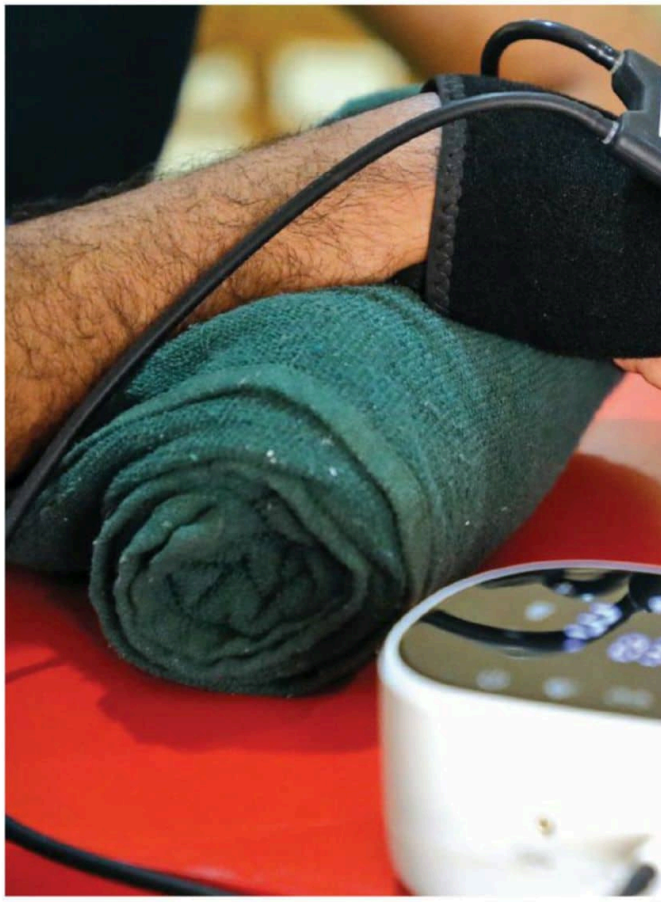
Dr M.R. Vasudevan Namboothiri, former director of Ayurveda Medical Education in Kerala, says that ayurvedic interventions can effectively disrupt the pathogenesis—the process by which a cause develops into a disease or disorder—and significantly reduce the risk of stroke recurrence.

Experts like Srivastava also advocate for integrating interventional approaches from traditional medical systems with physiotherapy to enhance patient recovery. "We need to adopt an inclusive approach," says Srivastava, who, along with Rama Jayasundar, who heads the NMR (nuclear magnetic resonance) and MRI department at AIIMS, has conducted studies on the pathobiology of classical ayurvedic interventions in post-stroke recovery using magnetic resonance and other techniques based on structural, functional and chemical biomarkers.

Dr Anwar A.M., founder of RAHA CFAAR Ayurveda Hospital in Kochi, is a staunch advocate and practitioner of integrating different systems and specialties to enhance the stroke rehabilitation process. At RAHA, a diverse team of professionals, including ayurvedic doctors, physiotherapists, acupuncturists, neurologists, physiatrists, psychologists, speech therapists, respiratory therapists, yoga instructors, naturopathy specialists, masseurs and other support personnel, ensure a comprehensive treatment approach.

"When a person is admitted here, doctors from various specialties assess them," says Anwar. "We review their medical history and ensure continuity of necessary medications. For instance, if someone requires insulin, we ensure they receive it and monitor their blood values. We maintain a chart for this purpose. Every morning, doctors conduct rounds, after which the patient undergoes various therapeutic modalities."

Ajaz (name changed), 46, a former artist who previously managed a famous Kochi-based comedy troupe, is undergoing rehabilitation at RAHA. To better support his family, he had become an Uber driver. "In the last few years, he had been trying to migrate to the US and had been working tirelessly to secure



funds and create a safety net for us," says his wife Shaheen (name changed). "His sleep was irregular due to his nighttime driving. Then, last year, on the evening of April 18, while taking our younger son for football training, he suffered a stroke."

Ajaz had an ischemic stroke on the left side of the brain, resulting in paralysis on his right side. "He initially received thrombolysis, but unfortunately, he later developed a condition called haemorrhagic transformation of ischemic stroke," explains Anwar. Following thrombolysis, a decompression craniotomy—a neurosurgical procedure involving the removal of a part of the skull—was performed to relieve pressure on his brain. Subsequently, due to breathing difficulties, a tracheostomy was performed. To address feeding issues, a

BOT AID

A patient doing robot-assisted arm exercise at RAHA hospital

VISHNUDAS K.S.

nasogastric tube, followed by a gastrostomy, was inserted.

The stroke resulted in speech impairment and short-term memory issues in Ajaz. Psychotherapy was initiated, and by July, he showed significant recovery in terms of movement. However, he continues to have speech and memory issues, with stiffness in his right hand and right leg. During THE WEEK's visit to RAHA, Ajaz underwent a treatment protocol comprising physio-based gait training, followed by a nerve-stimulating and pain-relieving acupuncture session, and then a medicated-oil ayurvedic procedure aimed at reducing stress and nervous tension. Additionally, he participated in a robot-assisted arm exercise designed to provide biofeedback, a mind-body technique wherein the patient receives information about their body through electrical pads.

Experts are optimistic about the future potential of teleoperated robots, which could revolutionise the treatment of neurovascular diseases by providing remote precision and dexterity.

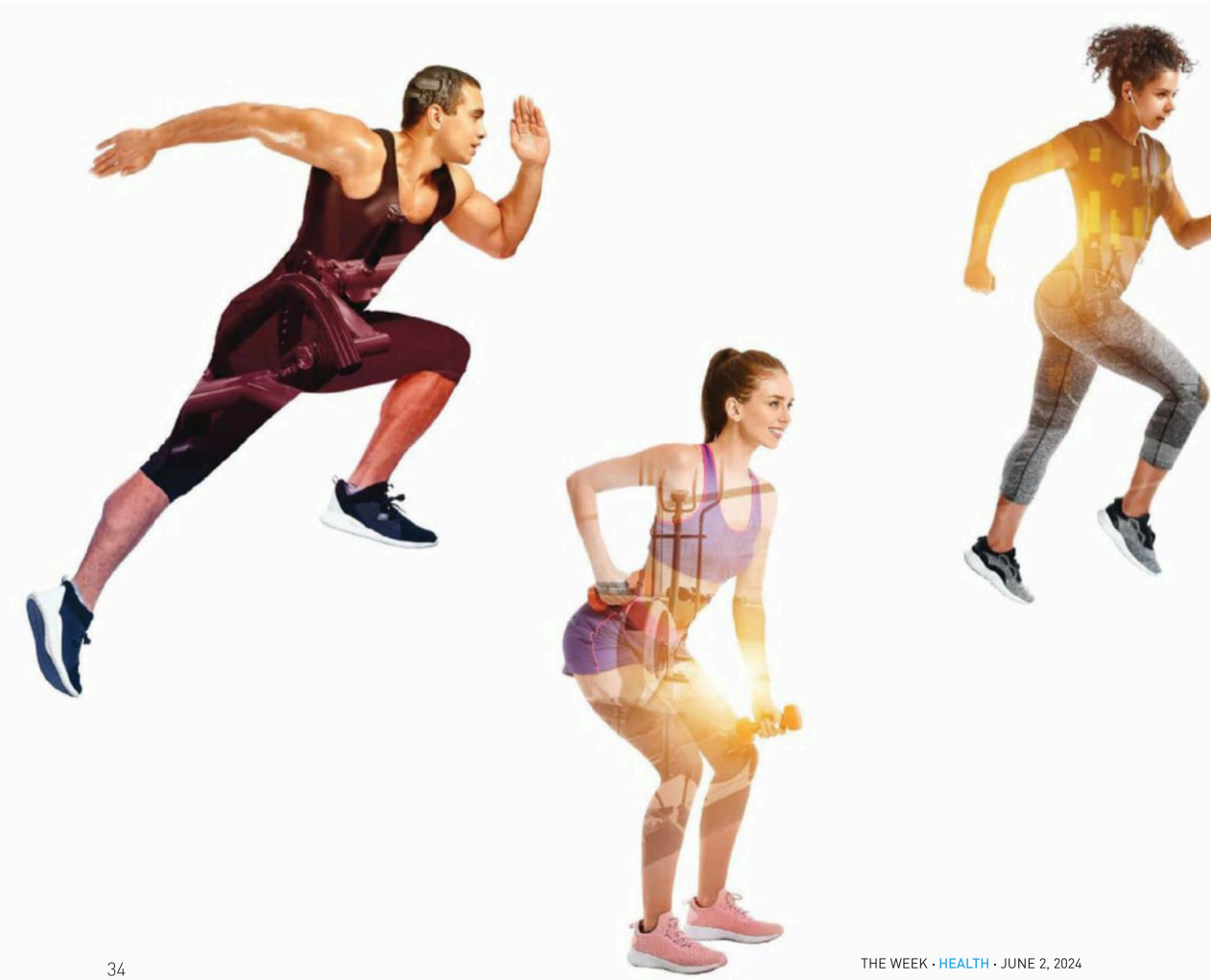
The development of such robotic solutions and making them affordable for the Indian population is the major mission for Centre for Advanced Research and Excellence in Disability & Assistive Technology (CARE-DAT), which is a Centre of Excellence created under the aegis of the Indian Council of Medical Research. Srivastava spearheaded this initiative when it commenced as a collaboration between IIT Delhi and AIIMS. "While there have been significant advancements in assistive devices globally, many of these technologies are either unavailable or prohibitively expensive in India," she says. "Therefore, we partnered with the biomedical engineering department of IIT Delhi to develop affordable robotic and assistive devices."

Meanwhile, Husain underscores the significance of lowering the cost of stroke intervention in the country. He advocates for a substantial emphasis on research and development to decrease the cost of consumable materials—such as medical supplies, equipment and materials utilised during stroke intervention—that are currently priced high. "Without compromising on quality, if we can develop something that offers cost benefits to patients, it will be impactful in India," he says, expressing hope that governments and the public will take crucial steps to support research efforts toward this goal.

AGEING BACKWARDS

THE NEW BREED OF 'WELLNESS' GURUS—FROM FITNESS EXPERTS TO BIOHACKERS

By Ben Machell



Wade Warren works as a product manager for a financial technology company. He is 28-years-old, bearded, bespectacled and lives in a small apartment in Brooklyn, New York. Every evening he puts on a special pair of goggles designed to block the short-wavelength, high-energy blue light that is emitted by his smartphone and laptop screens and, in so doing, he enhances his ability to fall asleep later. He sleeps on a more than Rs 2 lakh temperature-controlled mattress, which helps keep his core cool, which in turn stimulates melatonin, and, thus, ensures a better night's rest. When he wakes, he will flick on the large 800W floodlight he keeps in a corner. By doing this, Warren suppresses his melatonin production and signals to his body that it is time to be awake. It also, he believes, improves his gut microbiome.

He adheres to a diet that is high in protein, low in carbohydrates. He also does a lot of other specific things to improve his "efficiency and effectiveness". But you get the gist.

Warren had not thought to do any of this until one evening when he stumbled across a podcast hosted by Dr Andrew Huberman, a neuroscientist and professor at Stanford School of Medicine. He was drawn in by Huberman's ability first to present complex scientific or biochemical concepts in a way that made sense, and then to provide listeners with advice about how to use this information, whether to do with fitness,

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mental health or behavioural change.

It was, essentially, self-help with science, and this pleased Warren. He became a devotee of Huberman, whose appeal is only enhanced by his incongruous appearance. With his beard, broad chest, meaty hands and piercing dark eyes, the 48-year-old Californian appears more like an Iron Age warlord than a neuroscientist. Today, the Huberman Lab advertises itself as the world's most popular health podcast. He has more than six million Instagram followers, another five million on YouTube and several million across other platforms. Recent allegations made by a number of former partners that he is guilty of serial infidelity and controlling behaviour, which he denies, are unlikely to dent these numbers much.

Huberman is one of a number of popular online male personalities who are offering us the chance to become healthier, more efficient, better optimised human beings. If one of the dominant trends of the 2010s was "wellness"—think Gwyneth Paltrow, Goop, crystals, healing energies, vague spiritualism and an endless list of alternative health practices made commodifiable and Instagrammable—then what we are seeing now is the emergence of something quite different. It is, ostensibly, a rationalist alternative—a Wellness 2.0—in which "science bros" offer advice founded, they insist, on research and data.

So there is Dr Cal Newport, a boyish 41-year-old computer science professor who writes popular books about focus and productivity and whose YouTube channel attracts millions of views via videos with titles such as 'How to Reinvent Your Life in 4 Months and The Productivity System to Win at Anything'. There is Dr Mark Hyman, a 64-year-old silver fox who has developed "peganism" (a hybrid of the paleo and vegan diets), writes bestselling books called things like *Young Forever: The Secrets to Living Your Longest, Healthiest Life*, and who has three million Instagram followers. Dr Peter Attia, 51, who specialises in the medical science of longevity, counts Elon Musk as a fan and hosts his own podcast, which delves into questions such as the

INSTAGRAM@BRYANJOHNSON

Bryan Johnson, 46

"Don't die" is this tech mogul's goal. He made headlines around the world last year when he said he was trying to reverse his biological age to 18. He has had some success—he claims his heart is 37 years old. Johnson made his fortune when he sold his company, Braintree Venmo, to PayPal in 2013. Since then, he has spent more than ₹16 crore a year on cutting-edge "age-slowing" techniques developed by his team of doctors. His routine includes getting up at 4.30am, taking more than 100 pills, bathing in LED light and sitting on a high-intensity electromagnetic device to strengthen his pelvic floor, before going to bed at 8.30pm. Johnson calls himself "the world's most measured human".

metabolic effects of fructose or the dangers of poor sleep. Dr David Sinclair, a professor of genetics at Harvard Medical School, also operates in the field of longevity. He advocates resveratrol, a natural supplement with antioxidant properties, and claims he has "reclaimed" his 20-year-old brain despite being 54.

These men, and others, all exist in the same online ecosystem. They cross-promote, appearing on each other's podcasts and YouTube channels. If Wellness 1.0 was fundamentally feminine in tone, then Wellness 2.0 is distinctly masculine. It co-opts the stern, didactic language of the gym or boardroom. Science bros regularly use the word "protocols" rather than "routines" or "exercises" when telling their audiences what to do. Similarly, they will describe certain mindful practices as "tools" as if they were cordless drills or angle grinders. The name of a popular online radio show dedicated to fitness and wellbeing is, simply, 'Mind Pump'.

Brad Stulberg writes bestselling books about performance and psychology and has a background in public health. He could pass for a science bro—he is trim, shaven-headed and bespectacled—but instead it was he who coined the term "broscience" five years ago, and he regards this world with a thoughtful curiosity as well as scepticism. "This is the more masculine version of the Paltrow self-care crystal stuff," he says. And there's no reason why the same psychological triggers that led wellness to become such an all-consuming thing for women can't also apply to men. "We ultimately have the same human frailties and insecurities as women. Perhaps men were just an untapped market."

DR DAVID SINCLAIR (IN PIC), A PROFESSOR OF GENETICS AT HARVARD MEDICAL SCHOOL, ALSO OPERATES IN THE FIELD OF LONGEVITY. HE ADVOCATES RESVERATROL, A NATURAL SUPPLEMENT WITH ANTIOXIDANT PROPERTIES, AND CLAIMS HE HAS "RECLAIMED" HIS 20-YEAR-OLD BRAIN DESPITE BEING 54.

INSTAGRAM@DAVIDSINCLAIRPHD

The language of "efficiency" and "performance" permeates so much science bro rhetoric, and listening to these podcasts you're often left with the sense that the main advantage of sleeping well and feeling energised, etc, is so that you can be a better employee. There is a reason you now see men posting their impressive daily routines on LinkedIn—their gym sessions, their moments of mindfulness, their healthy lunch recipes—and it's because they believe it shows them to be better professionals.

Like Wade Warren, Michael Fields is another fan of Huberman. He is 27 and, having worked as a technical recruiter, he made the switch to become a fitness coach as well as an online trainer. Fields says that the vast majority of his clients are young professional men and that this simply reflects the kind of people who are most drawn to Wellness 2.0.

"I definitely feel like it's way more targeted towards young men," he says. "I think it's because of that constant striving for status and purpose in life."

And it is young men stuck in sedentary office jobs, Fields continues, who most often need the tools that science bros are selling. Looking at a screen for hours will make sleeping hard. Sitting down for hours will drain your vitality. What makes it worse is that the very fact of having a career that demands all this of you makes it all the more difficult to do something about it. "They have a hard time figuring out how to incorporate habits into their daily lives while working in a corporate job." Fields says that his

male, corporate clients often insist on knowing precisely why they should, say, take cold showers in the morning. So being able to tell them what someone like Huberman has said on the subject—stuff about dopamine and boosted alertness levels, etc,—is helpful. "He provides the scientific backing."

Many of the men within this world trade on their scientific or medical qualifications. Others have achieved their profile via a willingness to go to extremes. Dave Asprey is a multimillionaire who made his money in Silicon Valley and as founder of the Bulletproof coffee and nutrition brand. He is 50 but has regularly made the claim that he will live to 180. Today, he says he wishes to revise that claim. "I think I've been shockingly conservative," he says, frowning, before breaking into a bright white smile. "I think 180 is a boring, easily achievable goal."

THESE MEN, AND OTHERS, ALL EXIST IN THE SAME ONLINE ECOSYSTEM. THEY CROSS-PROMOTE, APPEARING ON EACH OTHER'S PODCASTS AND YOUTUBE CHANNELS. IF WELLNESS 1.0 WAS FUNDAMENTALLY FEMININE IN TONE, THEN WELLNESS 2.0 IS DISTINCTLY MASCULINE.

Asprey has built his platform as a podcaster and self-help author around claims like these. He believes that with the proper application of cutting-edge science it should be possible for all of us to live much, much longer. I'm 42, I tell him, and in decent health. How long does he think I can expect to live? "There is no reason you shouldn't be able to live to at least 120 and be healthy the entire time," he assures me.

Hang on, I say. How come you get to live to at least 180 but I only get 120? He smiles again and says that it's only because he's been "actively managing" his age for the past 25 years.

Asprey identifies as a "biohacker". Having spent much of his twenties overweight, arthritic and struggling with "brain fog", he has turned his life around via a slew of different treatments and protocols, from intermittent fasting to cryotherapy and various medical interventions. He has had more stem cell injections, he believes, "than anyone out there at this point". He recently travelled to Mexico to undergo a form of gene therapy not permitted in the US and which "takes nine years off your measured age". He takes 84 supplements a day and says he has had his "immune system taken out, amplified by thousands of times, and then reinjected to give myself a younger immune system". He has, he continues, done a lot of neurofeedback therapy, which, in conjunction with taking a smart drug called modafinil, has provided him with what he describes as an "upgraded brain".

Bryan Johnson is another tech millionaire. The 46-year-old is attempting to drive down his biological age through "Project Blueprint", which, among many other things not dissimilar to what Asprey does, involves receiving blood transfusions from his teenage son. Johnson sleeps attached to a machine that measures the number of nocturnal erections.

Asprey approaches the question of longevity with a Silicon Valley mindset. "I take control of systems for a living," he explains in a recent appearance on the Finding Mastery podcast. And human beings are, he continues brightly, simply "meat operating systems".

There are, however, people within medicine who find this approach more than troubling. Last year, the British cardiologist and video blogger Rohin Francis wrote in the *British Medical Journal* about "the problem with Silicon Valley medicine". He points out that the "move fast and break things" mindset that underpins so much of the tech world has the potential to cause much more harm than good. The human body, he writes, cannot be compared to a machine, while the demand for profitability sees claims become ever more spurious. "Waiting for evidence gained from clinical trials is often deemed too slow a process for venture capitalists hoping to see a return on their investments, so therapies are endorsed and sold based on theoretical or mechanistic evidence," Francis writes. "These

'breakthroughs' are enthusiastically promoted at events more similar to the launch of a new Apple product than a medical innovation."

Although not everybody wants or can afford to go as far as Asprey or Johnson, the desire for control drives so much of the science bros' present success. "I think the story of wanting to live for ever, wanting to control the controllables and wanting to 'science' our way out of mortality is as old as time," Brad Stulberg says. And many of the podcasts out there today are "preying on people's desire for control and certainty in an inherently uncontrollable and uncertain world".

What he means is, when you find yourself listening to a podcast that delves into the minutiae of exposing your body to cold water, avoiding particular types of cooking oils or the critical importance of tracking your sleep patterns, it can become easy to convince yourself that these things are all really important. In fact, you want them to be important because these are all things you can do and thus take control of. Thanks to health-tracking smartwatches and continuous glucose monitors, it is now possible to collate and crunch huge amounts of data about our bodies. "But just because something is measurable doesn't mean it's important," Stulberg says. "Like, how did we get from 'move your body for 30 minutes a day' to 'measure your erections for longevity'?"

He's not saying that all science bros are manipulative or providing misinformation. But the truth is, we already have a pretty good sense of what people need to do to lead healthy, happy lives. "We have decades of good epidemiological data," he says, and it shows that it's important to avoid tobacco products, not to drink much alcohol, to exercise regularly, avoid becoming obese, maintain healthy social connections and, ideally, find meaningful work.

Stulberg points out that a lot of the podcasts are sponsored by supplement companies, and one YouTube video I watched, which featured Asprey comparing his deep-breathing techniques with the host's, featured ads for dietary supplements as well as for a "personal analysis and data-driven wellness guide". Also, people will always want to see content they perceive as comforting. If there is somebody telling you that if you buy the right medical treatments you can live to 120, then there's a good chance a lot of us are going to click on it.

"I don't necessarily think there's always malintent," Stulberg says. "Motivated reasoning is a very powerful drug, and we can convince ourselves of anything. If you can make a lot of money from a comforting belief and create a whole business model from it, then you can start to believe it yourself." ⦿⦿⦿

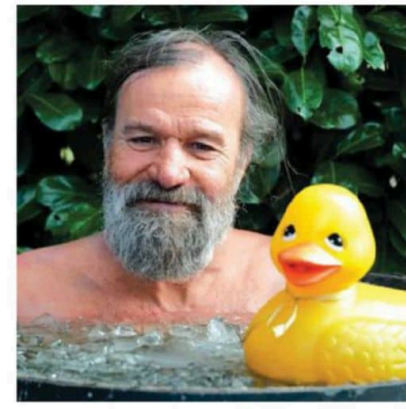
POWER LIST

By Georgina Roberts

Prof Valter Longo, 56

He wants to live to 120 and thinks the secret to longevity lies in a diet that tricks your body into thinking it's fasting. Having spent 30 years researching ageing as professor of gerontology and biological sciences and director of the Longevity Institute at the University of Southern California, he used this experience to create the Fasting Mimicking Diet or FMD. It is a low-protein, plant-based diet that includes periods of fasting, which he says will make our cells regenerate and slow down ageing.

Wim Hof, 64



INSTAGRAM@ICEMAN_HOF

Once tried to scale Everest topless to demonstrate the health benefits of being extremely cold. The Dutch extreme athlete known as the Iceman has also broken records for climbing Mount Kilimanjaro wearing only shorts, swimming 66 metres beneath ice and running a half marathon above the Arctic Circle. He has built a business empire on his cold-water method and claims that it stimu-

lates the autonomic nervous and immune systems, which strengthens physical and mental health.

Prof Andrew Huberman, 48

Fans of this Stanford academic call themselves "Huberman Husbands" and post videos on TikTok following the elaborate daily routine he recommends. #Huberman has 78.9 million views on the platform. He dishes out this advice on his hit podcast, Huberman Lab, which often ranks as the number one health podcast in the world, and on his Instagram page (6.2 million followers) and YouTube channel (5.2 million subscribers). He is associate professor of neurobiology and ophthalmology at Stanford University, which is said to have hung up an "Authorised Personnel Only" sign to deter fans from searching for his lab.

David Goggins, 49

More than 11 million people follow the endurance athlete and former Navy Seal on Instagram, where he shares fitness and motivational tips alongside shirtless selfies. He has completed more than 70 ultra-distance races and once held the Guinness World Record for the most pull-ups completed in under 24 hours (4,030 in 17 hours). In 2020 he invented the 4x4x48 fitness challenge, where you run four miles every four hours for 48 hours as if training for an ultra-marathon.

INSTAGRAM@DAVIDGOGGINS

Ben Greenfield, 43

A former bodybuilder turned "biohacker", Greenfield went on to develop an elaborate biohacking regime to strengthen the pelvic floor, ice baths, fasting, infrared light therapy, LSD microdosing and a ₹34 lakh machine that heals cells, he says. When he was 40, Greenfield said he had a biological age of nine.

Dr Peter Attia, 51

This cancer surgeon turned longevity expert says that in our later years we often live with ill-health and pain, crippled by diabetes, cancer, heart disease and dementia—he calls these the "four horsemen of chronic disease". To change that, he says we need to focus on our healthspan (the number of years we live in good health) rather than just our lifespan (the number of years we're alive). Celebrity fans of his 2023 bestselling book, *Outlive: The Science & Art of Longevity*, include Gwyneth Paltrow, Arnold Schwarzenegger and Oprah Winfrey, and he hosts a podcast about longevity called The Drive.

Tim Ferriss, 46

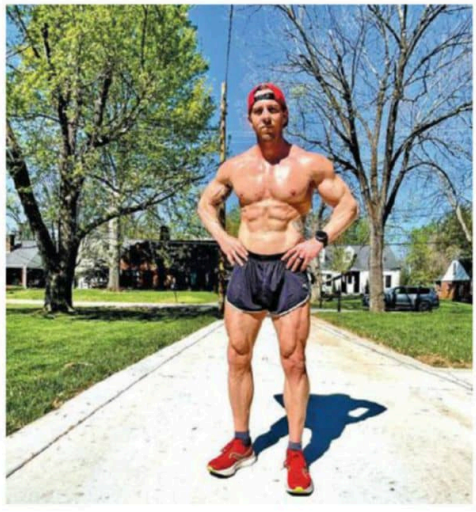
INSTAGRAM@TIMFERRISS

Ferriss had a nutritional supplement business before he struck it big when he published *The 4-Hour Work Week*, which presented a working structure that subverted the idea of long hours as a path to success. It was followed by *The 4-Hour Body: An Uncommon Guide to Rapid Fat-Loss, Incredible Sex and Becoming Superhuman* and then *The 4-Hour Chef*. He has a long-term chart-topping podcast called The Tim Ferriss Show, for which he interviews leaders in psychology, fitness and business as well as Hollywood stars about their optimisation techniques. Ferriss has invested heavily in research into therapeutic psychedelics at Imperial College London.

WWW.PAULSALADINOMD.CO

Nick Bare, 33

A fitness guru who is often shirtless when he films his intense training regimes for marathons, Ironman triathlons or ultra-marathons and posts them on YouTube for his 1.1 million subscribers to watch. He started building his supplement brand, Bare Performance Nutrition, as a side project while he was serving in the US army. It sells pre and post-workout supplements and protein powders. After he left the army he created a spin-off fitness training app, which costs ₹8,000 a year. On The Nick Bare Podcast he gives tips on longevity, nutrition, fitness and "human optimisation".



INSTAGRAM@NICKBAREFITNESS

Dr Paul Saladino, 46

Graduated from medical school but lost faith in western medicine and became a "meatfluencer" known as Carnivore MD, eating meat exclusively. He claimed his carnivorous diet, which excluded all dairy, carbohydrates, vegetables or fruit, was the way to achieve "optimal health". He published *The Carnivore Code* followed by a cookbook. Then, in a podcast interview last year, he revealed that after five years on the carnivore diet his testosterone levels had decreased, plus he had sleep issues and joint and muscle pain. Now he promotes an "animal-based" diet, which includes fruit, honey and unpasteurised milk.

YOGA

MADE EASY

By Dr S.N. Omkar

yogaomkar@yahoo.com

FIX YOUR NECK AND SHOULDER

The neck and the shoulder are anatomically complex and prone to injuries, besides conditions such as strain, sprain, and nerve compression. Maintaining a proper posture and engaging in regular exercise can help preserve their health and function. Here is a simple posture that can help alleviate excessive strain in the neck and the shoulder:

METHOD:

- Sit cross-legged on a mat with an upright posture.
- Place a yoga wheel, approximately 40cm in diameter and 15cm in width, behind your back.
- Sit with knee flexed, and feet about six inches apart.
- Hold the wheel with your hands and pull it close to the lower back.
- Slowly raise your hips and lean back, resting the base of your neck on top of the wheel.
- Extend your neck backward over the wheel and stretch your arms to the sides, opening your chest.
- Maintain the posture for around 40 seconds, breathing slowly and steadily.
- Slowly lower your hips and return to an upright position.
- Repeat the posture, and relax.

MODEL: YUKTHA RAJGOPAL