



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE Day
Monday 20260921

India's Protein Punch: It's All In The Dal

A business-as-usual approach can't meet India's growing demand for proteins. Not only do dairy, meat and fish production, mostly via smallholdings, need investment but plant-based protein extraction is a key alternative

Ritaj Sahu



India is entering a generational shift in its food system. Average protein consumption is projected to more than triple, from 9.5kg per person in 2025 to 30kg by 2070. If that demand is met largely through today's production models, pressure will intensify on animal feed, agricultural resources, and millions of producers, and produce emissions exceeding over 44 gigatonnes of CO₂ equivalent (GtCO₂e) over the same period.

The challenge is not whether India can produce more protein. The challenge is whether the country can build a food economy capable of meeting demand, without multiplying the pressures that come with it.

Rising protein consumption should be welcomed. It reflects higher incomes, changing diets, and better nutrition delivery. But the sheer scale of India's future demand requires decisions to be made now about agriculture, food manufacturing, finance, and procurement, because the consequences of those decisions will last decades.

A new joint report by Asia Research & Engagement (ARE) and FICCI, *Charting India's Protein Transition*, finds that under a business-as-usual pathway, annual emissions associated with protein production could, by 2070, become almost eight times estimated climate-safe threshold (1.9 GtCO₂e from 0.25 GtCO₂e).

Production improvements (addressing methane, feed, manure, deforestation, energy, and food loss & waste emissions) aren't enough. To close that gap, India needs to diversify its protein sources. What can work is a combination of production improvements and greater protein diversification.

This isn't about replacing dairy, poultry, fisheries or other protein industries, all of which remain important to the nutritional and agricultural economy. Opportunity lies in building a broader national protein portfolio that can absorb enormous future demand, without placing additional pressures on existing systems.

India's advantage lies in its embedded food culture – pulses. Protein consumption derived from pulses is projected to rise from 3.5mn tonnes in 2025, to 9.3mn tonnes by 2070. This will make pulses India's

second-largest protein category, after dairy.

Currently, India imports almost 90% of its processed plant-protein isolates – highly concentrated forms of protein-rich extract. While the country has a substantial domestic plant-protein base, much of the potential for higher-value processing remains uncaptured.

Investment in protein extraction, ingredients, processing tech, and food manufacturing could enable India to retain more value domestically, while creating new markets for agricultural production. For businesses and investors, protein diversification should therefore be seen not only through a sustainability lens, but as a channel for value creation through manufacturing and innovation.



India must also confront a less visible vulnerability: feed. The country already faces estimated shortfalls of almost 36% in green fodder, 11% in dry fodder and 44% in concentrate feed ingredients. If animal protein demand grows as fast as predicted, while these shortfalls remain unresolved, pressure on availability and production costs can only intensify. Climate volatility adds further risk.

Feed security and protein security are, therefore, inseparable. So, food businesses need to take greater cognisance of potential supply constraints. Banks and investors that finance agricultural expansion need to consider whether the feed and resource base can support the inevitable growth. If investments in productivity,

infra, and supply-chain resilience don't keep pace with demand, there is a risk of shortages and disruptions.

The other reality that cannot be overlooked is that much of India's protein production depends on smaller producers. Smallholders account for about 72% of milk production, while poultry and fisheries rely extensively on contract growers, fragmented producers, and smaller businesses.

Changing protein production practices requires capital, tech, and technical support. Pace and scale of that change will be severely limited, if the multitude of small producers are expected to absorb those costs alone.

At the very outset, banks can develop appropriate financing, food companies can strengthen procurement incentives and technical assistance, and investors can support infra, processing, and tech improvements that boost productivity, resilience. It is for govts to create an enabling investment and innovation environment.

Naturally, it is critical that producers are given a share in the economic value created during this process. A more efficient food system that transfers additional costs upstream, while concentrating value creation downstream, would miss a fundamental part of the opportunity.

India and Southeast Asia are projected to account for 31% of additional global agricultural and fisheries consumption by 2033. India will, therefore, play an increasingly important role in shaping how food is produced and supplied over the coming decades.

Its strengths are many: vast domestic market, established agricultural supply chains, deep culture of pulse consumption, expanding food-processing capabilities, and millions of experienced producers.

India's protein consumption will not triple overnight, so there is time to prepare but it needs to be done early, and done right. The country does not need three times more of today's protein system; it needs a more productive, diversified and resilient one capable of meeting growing nutritional demand while creating greater value for farmers, Indian businesses, and the wider economy.

The protein surge is coming. The economic opportunity lies in preparing for it before it arrives.

The writer is director, Protein Transition/Sustainable Food Systems (India), ARE.



POLICY MATTERS

BY RAJIV NATH

FORUM COORDINATOR, AIMED (ASSOCIATION OF INDIAN MEDICAL DEVICE INDUSTRY)

Not MRP, we need fair pricing for med devices

A transparent, trade-margin-based pricing system can protect patients while giving manufacturers level playing field

WHEN MAHARASHTRA FDA (Food and Drug Administration) Commissioner Tukaram Mundhe recently flagged the exploitative margins in medical devices, he echoed what patients, policymakers and industry have long known: India urgently needs a distinct regulatory framework for medical devices, separate from drugs. The current pharmacentric approach, under the Drugs (Prices Control) Order (DPCO) stifles competition, paralyses ethical manufacturers and leaves patients at the mercy of inflated Maximum Retail Prices (MRPs).

India's medical device sector has expanded rapidly in recent years but regulations and policies, more than structures, have not evolved at the same pace. The Medical Devices Rules, 2017 brought devices under a dedicated regulatory framework for quality and safety, yet pricing continues to be addressed largely through mechanisms designed for pharmaceuticals. This disconnect becomes particularly important because the device market spans thousands of products with very different technologies, costs, life cycles and supply chains. The policy challenge, therefore, would simply to control prices, but to create a transparent and predictable framework that protects patients from excessive mark-ups without discouraging manufacturers, distributors and hospitals from supplying innovative and essential devices.

Patients cannot bargain or choose devices. Hospitals decide, often guided by profit margins rather than patient welfare. The result is MRPs inflated 10-30 times over real costs. A pacemaker imported at Rs 25,000 is billed to patients at over Rs 2 lakh. Syringes costing Rs 3 at the factory gate are sold to patients for Rs 30. Heart valves imported at Rs 4 lakh have been marked up to Rs 26 lakh. These are not isolated cases but systemic distortions that erode trust in healthcare. Applying drug-style controls to devices has created perverse incentives and a skewed market place that works on competitive fair pricing only at the manufacturers' level or between wholesale

traders. Ethical Indian manufacturers operating on thin margins lose out to importers who exploit loopholes to set artificially inflated MRPs.

In 2017, the National Pharmaceutical Pricing Authority (NPPA) capped street prices, reducing costs by 30 to 35 per cent without any supply shortages. Similarly, prices for knee implants went down by up to 89 per cent, making the procedure affordable. These interventions proved that rational price caps improve access, protect patients and create a level-playing field. Extending this principle to other critical devices is the logical next step.

AIMED (Association of Indian Medical Device Industry) has advocated for a trade margin-based capping mechanism with the GST trigger



MRPs are inflated 10-30 times. A pacemaker imported at Rs 25,000 is billed to patients at over Rs 2 lakh

point — the first point of sale where there is maximum transparency and a level playing field with imports from overseas manufacturers. For imports, this would mean the landing price — cost of goods delivered to a destination port — and for Indian manufacturers the ex-factory price.

Trade margins can then be capped fairly by price band, say:

- 50 percent for devices above Rs 1 lakh (e.g., heart valves)
- 66 per cent for devices between Rs 1,000 - Rs 1 lakh (e.g., pacemakers, catheters)
- 75% for devices below Rs 1,000 (e.g., syringes, IV sets)

This model ensures affordability for patients, viability for distributors and parity between Indian and overseas manufacturers. It moves India from labelled MRPs to labelled fair prices. This will ensure that patients are shielded from irrational markups as the transparent margins will prevent predatory pricing and high MRPs. Domestic manufacturers will gain parity with importers, which will encourage investment and innovation by Indian manufacturers. The GST data at the first point of sale ensures easy monitoring and enforcement of such a fair pricing system. Most importantly, it would increase patients' trust in healthcare systems as they will see value, and not profiteering, in the device pricing.

AIMED calls for a 12-18 month pilot covering six categories of devices: pacemakers, heart valves, cardiac catheters, syringes, IV sets, and intra-ocular lenses. Regular review, stakeholder consultation and calibrated margins will ensure supply continuity and adaptability.





When the brain learns again

Repetition, cognitive training, early assessment and everyday activities can support functionality even as Alzheimer's progresses

GETTY IMAGES

Rinku Ghosh

AT 87, Tara Pal* was losing herself. As Alzheimer's disease chipped away at the memories that shaped her being with names, places, routines and her identity, her words began to slip away while even the simplest tasks became difficult. The woman who had once carried a lifetime of knowledge in her head could no longer find her way back to it.

Then, almost playfully, she began again. Sitting with her grandchild's alphabet blocks, Tara started forming words with her. At first, the letters made no sense. Then, one afternoon, they came together to spell her own name: TARA. She smiled as she struggled to put the letters in a row, her frail fingers losing grip every time. Then she went on to spell out her daughter's name, pronounce her husband's name, call out to him and, eventually, memorise her own address. Tara had not suddenly "recovered" from advanced Alzheimer's disease. What had changed was her ability to engage with a familiar task, learn through repetition and respond to cues. "With supportive care mechanism, you can improve the quality of life for an Alzheimer's patient," says Dr Prasun Chatterjee, geriatrician and researcher, whose work has explored cognition, ageing and Alzheimer's disease.

Her story points to a less obvious truth about Alzheimer's: the loss of memory is not necessarily the loss of every capacity to learn. "Alzheimer's does not destroy all types of memory and learning at the same rate," explains Dr Chatterjee. "Different memory systems rely on different brain networks. Alzheimer's particularly affects the hippocampus and related medial temporal-lobe networks, which are important for forming new memories. Late-stage Alzheimer's can leave some forms of learning relatively intact, particularly learning based on repetition, habit and emotional familiarity, even when conscious memory and the ability to learn new facts are severely impaired."

Currently toggling roles as the WHO TAG Member for Healthy Ageing, president of the Indian Academy of Geriatrics, and Group Clinical Lead, Geriatric Medicine and Longevity Science, Apollo Hospital, Delhi, he has examined Alzheimer's and cognitive decline from several directions. From interventions that may support cognition before dementia develops, to behavioural changes that may precede Alzheimer's, and biological markers that could eventually help identify the disease earlier. "Alzheimer's disease is a neurodegenerative disorder in which abnormal protein clumps called amyloid (plaques) and tau (twisted tangles) build up in the brain and destroy the patient's memory, thinking skills and the ability to carry out simple daily tasks," he says. It is the most common cause of dementia, but the two terms are not interchangeable. Dementia refers to a decline in memory, thinking, behaviour or other cognitive abilities severe enough to interfere with everyday life. Alzheimer's disease is one specific neurodegenerative disease — and the most common cause of dementia. The distinction matters because the underlying cause can influence investigation, treatment and care. "And India is looking at an old age pandemic," he adds.

How to look for early signs

One of Dr Chatterjee's patients is 78-year-old Kamla Mehra* from Noida. Her warning sign was deceptively ordinary: she began asking her son the same question — "Did you go to the market?" — again and again, sometimes five times within an hour. Soon she struggled to name everyday objects and would repeat questions just minutes after receiving an answer. "The family could have dismissed it as normal ageing. Instead, they sought help. A comprehensive assessment identified mild cognitive impairment (MCI), a stage in which cognitive abilities have begun to decline but substantial independence may still be preserved. Unlike Tara, Kamla came to us much earlier and opened a very different window for intervention," says Dr Chatterjee.

For generations, memory loss in an older person has often been treated as an inevitable consequence of ageing. "India's ageing population means that this casual dismissal is becoming increasingly consequential," he adds. The nationally representative research from the Longitudinal Ageing Study in India estimated that about 74 per cent of Indians aged 60 and above — roughly 8.8 million people — were living with dementia based on data collected during 2017–2020.

The more detailed LASI-DAD research has highlighted an even larger population living with milder forms of cognitive impairment. Researchers estimated the prevalence of major neurocognitive disorder at 7.2 per cent and mild neurocognitive disorder at 17.6 per cent. Among people aged 80 and above, the estimated prevalence of major neurocognitive disorder was 15.2 per cent. And as India's population over 80 grows, dementia will increasingly intersect with another major problem: Who will provide the care? "That's why diagnosing mild cognitive impairment is important," says Dr Chatterjee.

"Some Alzheimer's patients remain stable, others improve when reversible or contributing factors are identified and treated. The signs are many — losing your train of thought, struggling to follow a book or film plot, or getting easily distracted. Some take longer to find the right word during a conversation, find it harder to make decisions, finish multi-step tasks or pay bills on time. Some could feel disoriented even in familiar places. Irritability, anxiety, depression, acting out of character and sudden bouts of frustration are all signs of a person losing control over their familiar self," he explains.



SCAN THE QR CODE
TO READ MORE
HEALTH SPECIAL
STORIES



WORLD
Alzheimer's
Day

CAN ALZHEIMER'S BE SLOWED DOWN?



explored whether cognitive decline could be addressed before dementia developed. It involved 60 older adults with subjective cognitive impairment — people who perceived a decline in memory or thinking but did not meet dementia criteria. Participants received computer-based cognitive

training alone or combined it with a Mediterranean-equivalent diet and exercise, while a control group received health-awareness guidance. After six months, intervention groups showed improvements in attention, concentration, immediate and delayed recall, as well as verbal and visual retention, with the greatest improvement in the multimodal group.

Dr Chatterjee's AIIMS research has also explored behavioural changes and certain biomarkers as potential

The science of neuroplasticity

Kamla's assessment went beyond asking whether she could remember a list of words. "The six core areas used to evaluate cognitive impairment are learning and memory, executive function, language, complex attention, perception-based motor function and following social cues. The brain has multiple domains, so rehabilitation involves activating all of these to keep the brain functional," says Dr Chatterjee. At his geriatric clinic, Kamla took the Addenbrooke's Cognitive Examination-III (ACE-III) test. Her initial score was 67/100. She underwent brain scans and was tested for blood biomarkers.

"The brain is vastly more complex than a muscle. It responds to experience, practice and stimulation throughout your life. It keeps emotions intact. This capacity for adaptation is broadly described as neuroplasticity. So if you work the brain, it can keep going till the very end. I see 100-year-olds with no dementia or Alzheimer's. Cognitive decline should be addressed as a whole-body and whole-person problem, not simply as a memory disorder," says Dr Chatterjee.

Kamla's "brain gym" was an intensive non-pharmacological programme. Her son was particularly clear that he did not want to continue medications that made his mother sleepy and confused. She had computer-based cognitive training for approximately 40–45 minutes per session, with repeated sessions over three months. She thought she was learning a new skill. Exercises targeted attention, memory, executive function, language and processing speed.

But the more important intervention happened outside the clinic. "At home, the family transformed ordinary life into a cognitive training environment. That's why caregiving becomes so important. She maintained a diary. She practised recall. She did backward counting, played word and number games. She started learning music, which she always loved. She was made to participate in financial calculations and household activities. All of these may seem simple but engage the brain's cognitive and functional domains repeatedly and meaningfully," says Dr Chatterjee.

Perhaps the most powerful component of the intervention was not the computer. It was Kamla's son. During their commute from Noida to Delhi, he would point to vehicle number plates and ask his mother to remember and recite the numbers backward. At home, he gave her a diary where

she would write her address and details of what she had done during the day. "A simple activity recruited several abilities at once: attention, language, writing, sequencing, recall and fine-motor coordination. This drill is relevant in India, where families continue to provide a large proportion of dementia care. Depending on specialist appointments will never be sufficient for a country of India's size," says Dr Chatterjee.

How simple interventions help

After three months, Kamla's ACE-III score rose from 67/100 to 87/100. She became more conversational, participated confidently in social gatherings and joined a local NGO. "You can have reasonable functional skills while living with a neurodegenerative disease. And when you intervene earlier, there may be substantially more capacity to preserve independence and build compensatory strategies," says the doctor.

Dr Chatterjee always has counselling sessions with family members and asks them to repeatedly tell the patient how much they are loved and wanted or that they are safe. "The emotional brain can remain deeply responsive even when factual memory has deteriorated. So an Alzheimer's patient senses rejection, alienation and disappointment and spiral down if you say, 'Do you remember me?' Instead say, 'I'm here with you.' That's why the language of dementia care matters," he adds.

How to prevent Alzheimer's

The prevention conversation needs to move much earlier, in midlife. "We only talk about the heart, liver and diabetes. Include brain health in that discussion. Current evidence supports attention to modifiable risk factors, including hypertension, diabetes, obesity, physical inactivity, lack of sleep, smoking, harmful alcohol use, hearing loss, depression, social isolation and other cardiovascular and lifestyle factors. Get a cognitive assessment at 65 instead of 75," he says. Of course, research shows that walking and diet changes help. "For example, the brain's energy metabolism changes in Alzheimer's disease, and a keto diet works because it provides an alternative fuel source to a brain that can no longer efficiently process glucose for energy. But restrictive diets should always be considered alongside other body conditions," says Dr Chatterjee.

Where the new drugs fit

The emergence of anti-amyloid therapies has added an entirely new dimension to Alzheimer's treatment. Their cost and infrastructure requirements raise major questions about equitable access in India. For example, donanemab costs Rs 91,688 per 350 mg vial in India. Introduced by Eisai Lilly under the brand name Lornaldi, this is the first once-monthly amyloid plaque-targeting therapy commercially available in the country. So, Dr Chatterjee overrules the pill dependence.

"Instead India needs a system that begins before the patient reaches the neurologist. Our questions should be about how early can we identify it, how much function can we preserve, and how can we help the person and family live well with it? The answer will always be something can still be done."

*Names changed to protect privacy

WEEKLY CAPSULE

Why cancer is rising in the young

CANCER RATES are rising in adults under 55, and new research by the Washington University School of Medicine suggests accelerated biological ageing may be one piece of the puzzle. Scientists found that people from more recent generations tended to have bodies that appeared biologically older than those of earlier generations at the same chronological age. Biological age acceleration was linked to a higher risk of early onset cancers, particularly lung, gastrointestinal, uterine and colorectal. Chronological age measures how many years a person has been alive. Biological age reflects how old the body appears.



Whole grains for heart health

EATING FOUR to six servings of whole grains each day may improve several major risk factors for cardiovascular disease, according to new research published in the European Heart Journal. Higher whole grain intake was associated with lower levels of total cholesterol and low-density lipoprotein cholesterol (LDL or 'bad' cholesterol), as well as lower triglycerides, glucose and interleukin-6 (a signal of inflammation) in the blood. Benefits were already apparent among people consuming 30 to 40 grams of whole grains per day. However, the strongest effects were generally observed at 60 to 100 grams per day.



Chips linked to high muscle fat

EATING MORE ultra-processed foods was linked to greater fat buildup inside thigh muscles, according to MRI scans of 815 adults at risk of knee osteoarthritis. Surprisingly, the association remained even after researchers accounted for calorie intake, physical activity and other factors. Fatty changes in these muscles may weaken support around the knee and increase osteoarthritis risk. According to researchers at the University of California, the more ultra-processed foods a person reported eating, the more intramuscular fat researchers detected, regardless of total calorie intake.



Reversing ageing with diet change

OLDER ADULTS may be able to shift important markers of ageing in a surprisingly short amount of time simply by changing what they eat. New research from the University of Sydney found that Australians aged 65 to 75, who reduced their dietary fat or animal-based protein showed signs of a lower biological age after just four weeks. Biological age is an estimate of how old the body appears based on its health and physiological condition, rather than the number of years a person has been alive. Future researchers could explore whether these changes reported can be sustained long-term.



Night light reshapes your heart

A STUDY INVOLVING more than 11,000 people has found that exposure to light at night is associated with potentially harmful changes in both the structure and function of the heart. Researchers at the University of New Orleans found that higher exposure to night light resulted in thickening the wall of the left ventricle (one of the chambers of the heart). The study also revealed signs that the heart muscle was less able to flex normally during each heartbeat. Reduced flexibility can be an early sign that the heart is beginning to function less effectively.



Health trade licences surge as rules eased, but most in unplanned areas

Paras Singh

letters@hindustantimes.com

NEW DELHI: The number of health trade licences issued in Delhi has surged since the Municipal Corporation of Delhi (MCD) eased its norms after the Hauz Rani fire, but a bulk of these have been handed out in areas barred from being issued these licences under the old rules, according to senior municipal officers, a move that experts said turns the onus on establishments to self-regulate and cuts the civic body's burden on enforcement.

NON-CONFORMING AREAS RECEIVED ABOUT 2/3RDS OF THE 2,091 LICENCES ISSUED SINCE JUNE 7, WHEN THE LAWS WERE EASED

About two-thirds of the 2,091 licences issued since June 7, when licensing moved to the new regime – around 1,400 units – went to “non-conforming areas”, said a senior municipal official aware of the matter.

“The total number of licences has almost doubled as compared to the same cycle in the previous year,” the official said, adding that the change would bring more food businesses under the licensing net and increase the corporation's revenue.

Non-conforming areas, which cover unplanned settlements, are zones where existing land uses, such as industrial units, warehouses or commercial activities, violate the land-use zoning laid down in the Master Plan for Delhi. A commercial unit running in a residential zone is one

continued on → 6

Genetically Edited Animal Organ Helps Elderly Patient Stay Off Dialysis

A world first: Man lives with pig kidney for nine months

Umesh.Isalkar@timesofindia.com

A genetically engineered pig kidney kept a 66-year-old man off dialysis for a record 271 days before he successfully received a donor organ, marking a major advancement towards using animal organs to "bridge" the widening gap between organ demand and availability.

The man, a US resident identified as Tim Andrews, received the modified pig kidney on Jan 25, 2025. He lived with it for nine months. This Sept, his case was announced in a Lancet research paper, which described him as the first human patient to receive a human donor kidney after a pig kidney transplant.

Andrews's doctors, from Harvard Medical School, Massachusetts General Hospital and associated hospitals, detailed his experience and how xenotransplantation (animal to human) had moved closer to its promise of closing the gap between end-stage kidney failure and donor transplantation, allowing a patient to forgo dialysis in the meantime.

The case is particularly relevant for India where every year, nearly 2 lakh new patients find themselves in need of a kidney, but only about 14,500 transplants are carried out.

"What is truly significant here is the pig kidney provided nearly nine months of dialysis-free renal function and acted as a bridge until a human kidney was available," said Pune-based senior urologist Dr Sanjay Kulkarni.

Andrews received the pig kidney after a USFDA 'Expanded Access Investigational New Drug' application, often accepted on compassionate grounds to help pa-

FIRST A METAL HEART, NOW AN ANIMAL KIDNEY RECORD

WHY 'BRIDGE TRANSPLANTS' ARE IMPORTANT

They buy time

Bridge transplants keep a patient alive till a donor organ is found. They also keep people off dialysis and life support. A bridge does not immediately solve organ shortage, but prevents an emergency need. Doctors get time too: they can wait for better-matched or higher-quality donor organs for their patients



Titanium heart

Last March, a man walked out of a Sydney hospital with a titanium heart. He lived with it for 3 months. Older artificial hearts supported only one side of the organ, but this device was a "whole heart" with only one moving part. It temporarily replaced an organ that can beat nearly 35 million times in a year

Why pig organs? Pigs can be safely bred for organs as they are easier to keep and monitor for diseases than many other large mammals

Gene-editing: To stop rejection, 3 pig genes that make sugar molecules our bodies see as foreign are typically turned off

“Every day I wake up, I'm like, this is another extra day because I should've been dead a year ago

Tim Andrews | LIVED WITH A PIG KIDNEY FOR NINE MONTHS



Pig experiments

Kidneys are not the only pig organs being assessed for human use — pig hearts, livers, lungs, pancreatic islets and even skin are being explored. In the future, experts say pig organs may become an additional pool to source from, instead of relying on living or dead donors



Pig kidneys are close to human size. They also have similar shape, structure, blood flow and basic filtering

plantation is finally ready to move from just being a temporary bridge to becoming a source for organs with the potential for longer survival," he added.

In the last 30 years, experts have found ways to avoid early xenotransplant rejection, and are slowly understanding ways to avoid late rejection as well, resulting in increasingly longer survivals.

In India, for now, xenokidneys could offer a temporary renal replacement option for patients without a suitable living donor, while awaiting a deceased-donor kidney. "The major hurdles include infection and zoonotic surveillance, immunosuppression, graft survival, regulatory oversight, ethical acceptance, genetically engineered animal sourcing, specialised infrastructure and, critically, affordability and access," Dr Soin said.

Also, before xenotransplants become a reality in India, there will have to be major amendments to the Human Organ Transplant Act. "Later, they can be part of routine clinical practice once the survival of such organs equals those of standard transplants from human donors, and the problems listed above are controlled. This would significantly expand the kidney donor pool," Dr Soin explained.

Andrews' new kidney has been working well. He told reporters in the US that he now spends his time fishing, kayaking and riding his bike.

"Every day I wake up, I'm like, this is another extra day because I should've been dead a year ago," he was quoted as saying.

Our question: On July 20, 1976, Viking 1 became the first spacecraft to safely land on Mars and return surface data. It sent back the first ever detailed photo of Martian surface. Where on Mars

Study attempts to find out how India made diabetes medicines affordable

The Hindu Bureau
CHENNAI

A study by Chennai-based diabetologists has attempted to find out how India has managed to reduce the prices of new and expensive diabetes drugs and what lessons this could possibly hold for other low- and middle-income countries (LMIC). The study, "Making Modern Diabetes Medications Affordable and Accessible: Lessons from India for Other Countries", was led by V. Mohan, chairman, Dr. Mohan's Diabetes Specialities Centre, Chennai, and was published in the journal *Diabetes Care*.

What did the study find?

Of the 589 million adults in the world with diabetes, 80% live in LMICs, the study noted. Modern diabetes therapies such as GLP-1 re-

ceptor agonists as well as SGLT2i (sodium-glucose cotransporter 2 inhibitors) improve cardiovascular and renal outcomes, while analogue insulins help reduce the risk of hypoglycaemia. However, affordability remains a barrier: diabetes requires lifelong care and management of complications.

India's ability to maintain low medication prices is closely linked to its role as a major pharmaceutical exporter, the paper stated, noting the strategic legislative history of maintaining critical safeguards to prevent "patent evergreening" and allowing for generic manufacture of drugs. It also found that the country has increasingly focused on strengthening domestic manufacturing capacity. There are concerns over global trade policies affecting prices

and the availability of raw materials. A government incentive scheme has been introduced to promote domestic manufacturing of raw materials, and as of 2025, production has commenced for 26 molecules that were previously imported.

The paper notes that metformin and sulfonylureas continue to form the foundation of type 2 diabetes management in India – both are included in the National List of Essential Medicines (NLEM). While DPP-4 (dipeptidyl peptidase 4) inhibitors, SGLT2i and GLP-1 RA have all been introduced, they are not currently in the NLEM. Initial uptake of these drugs was constrained by pricing. Following the competitive entry by multiple domestic manufacturers, the price of semaglutide, for instance in India, has

dropped considerably, and there has been a huge increase in sales.

Quick availability of generic and biosimilar drugs, deliberate regulatory and distribution strategies such as the government's Jan Aushadhi Kendras, and market competition have allowed for affordable drugs in India, the paper highlighted.

Challenges ahead

Challenges that remain include urban-rural disparities in distribution and availability of medicines; tight regulations potentially affecting chances of drug innovation; differences in quality between generics and difficulties in maintaining strict pharmacovigilance; as well as limited formal evaluation of government schemes to look at their long-term impact on clinical outcomes.

How EU plans to keep children under 15 away from social media

EU is considering age-based rules that would restrict children's access to social media, video-sharing platforms, AI chatbots and online games; the proposal would place new responsibilities on technology companies, including age verification, safer recommendation systems, parental controls

John Xavier

The European Union is considering a major change to the way children access the internet, and it could affect everything from kids using Instagram, TikTok, YouTube, and various AI chatbots.

Under a proposal being prepared by the European Commission, per a report by *Reuters*, children under 15 could face restrictions on creating and using accounts across a wide range of digital services.

The EU's plan is part of the EU Kids Act, which is aimed at making digital services safe for children, and it comes at a time when governments around the world are grappling with growing concerns over how digital platforms affect children's well-being.

Social media platforms have come under increasing scrutiny over how they design their applications to be addictive and serve harmful content that is powered by recommendation algorithms.

Rather than imposing one rule on every child, the EU proposal would create different levels of access based on age.

Children aged 15 and above would be able to create their own accounts.

For children aged 13 and 14, access to social media and video-sharing platforms would require parents to get involved.

Parents could create introductory accounts for their children, with restrictions on contacts and time spent on the platforms.



For children between 3 and 12, accounts would be controlled entirely by parents. Their access would be limited to services considered suitable for children and required to meet stronger safety standards.

The proposal could potentially ban access to digital platforms for children under 3.

The exact rules could still change before the plan is formally presented and negotiated with EU governments and the European Parliament.

One of the more significant aspects of the proposal is its broad scope.

Beyond social platforms

The rules would not stop at platforms like Facebook, Instagram, TikTok and YouTube. They would also cover AI chatbots and online gaming platforms, bringing a much wider part of children's digital lives under the proposed framework.

The proposal is being framed based on the idea that children's internet use is no longer limited to scrolling through social feeds. They text AI chatbots, play games online, watch videos that are

Tech platforms have been arguing that they already have safeguards in place, as major social media applications have set a minimum sign-up age of 13; but critics have complained that age limits on paper are not enough

algorithmically recommended and chat with other users across numerous platforms.

The bloc's views on the overall digital ecosystem could make the path ahead for social platforms and consumer-facing AI applications a bit difficult, as they will have to take up new responsibilities.

More responsibilities for platforms

Platforms could be required to reduce features designed to encourage engagement and limit exposure to harmful recommendation feeds. They would also need to make it easier for children to report inappropriate content.

They will need to provide parents with stronger tools to control what their children see and how long they spend on their services.

Age verification could become an important requirement as social media and video-sharing platforms would need to verify a user's age when a new account is created.

Online gaming platforms would have to check age before allowing children to download games.

Apart from features that control the

use of these applications, tech companies could also be expected to pay for the system, as the bloc could propose a supervisory fee to fund regulatory enforcement and oversight.

Child and the digital ecosystem

The EU's proposal comes amid a growing clamour of voices wanting clear guardrails over a child's relationship with the digital ecosystem.

Tech platforms have been arguing that they already have safeguards in place, as major social media applications have set a minimum sign-up age of 13.

But critics have complained that age limits on paper are not enough if platforms cannot reliably determine how old their users actually are.

The EU's proposed approach would shift more of the responsibility onto technology companies, while giving parents greater control over younger children's online activities. This could mean fewer ways for children to sign up for popular social applications on their own.

Tech firms, on the other hand, will have to operate more carefully in the bloc as rules governing how they verify users, design their platforms and recommend content to younger audiences will structurally change.

This proposal still has a long way to go before becoming law. The European Commission will need to work with EU member states and the European Parliament, and the final rules could look different from the current draft.

FROM THE ARCHIVES

The  Hindu.

FIFTY YEARS AGO SEPTEMBER 21, 1976

Toothpaste quality to be ensured

New Delhi, September 20: Leading manufacturers of toothpastes and other toilet goods agreed to-day to apply for certification by the Indian Standards Institution to ensure the quality of their products.

They also assured the Union Minister of State for Civil Supplies and Co-operation, Mr. A. C. George, that they would within a short time make their suggestions about a machinery which could deal with the pricing of these products.

Mr. George had a meeting here with senior functionaries of the All-India Soap and Toiletries Makers' Association, which represents manufacturers of toothpastes, soaps, cosmetics, perfumes, etc. in the organised sector.

Later, speaking to newsmen, Mr. George said there was a crisis of confidence among consumers over the claims made by manufacturers of toothpastes, etc. about the quality of their products.

The packaging of these products often created an optical illusion about their content. Misleading claims were made in advertisements and their prices were sometimes unduly high.

Campaign to reduce the intake of salt

Salt, as an essential electrolyte, sits at the centre of human well-being, but being most prone to overuse and misuse, the condiment remains at the heart of illness as well. When Tamil Nadu Health Minister K.G. Arunraj took salt to the floor of the Assembly, he dragged it willy-nilly into public discourse. He announced plans to launch a multi-pronged mission to reduce salt intake, turning attention to the right quantities and forms that must be consumed. The Minister's speech made it clear that the government's plans were not merely about a dietary tweak, but instead, a recalibration of how well-being is perceived.

Salt, in the right proportions, facilitates hydration, nerve signalling, muscle function, digestion and also has a role to play in stress physiology. However, in excess, or in ultra processed foods, it can have a deleterious impact on health, increasing the risk of stroke, heart disease and kidney strain over time.

Surveys by the Indian Council of Medical Research show that in India, men consume an average of 8.9 gms daily, while women consume about 7.1 gms. The WHO, which recommends keeping the intake under 5 gms of salt per day, released a set of guidelines in January 2025, recommending the use of lower-sodium salt substitutes.

In Tamil Nadu, hypertension is a major public health concern. A 2024 study by Selvavinayagam T.S. et al showed that adult prevalence of hypertension in Tamil Nadu hovered around 33.9 %, much above



Ramya Kannan

Cutting down salt is a simple change that can make a major difference to cardiovascular health – less salt today can mean lower blood pressure, fewer heart attacks, and fewer strokes tomorrow

the national average of 28.5 %. There is a direct link between consuming excess salt and hypertension – consuming too much salt causes the body to retain extra water, which increases blood volume and puts higher pressure on the artery walls, leading to clinical hypertension.

Action plan

The State government's plan is comprehensive. For the first time, a Statewide survey using urine samples will scientifically measure salt consumption. Salt will be gradually reduced in government-run kitchens, including the Nutritious Meal Programme, ICDS centres, government hospitals and hostels. The feasibility of introducing a low-sodium salt substitute will be examined. This will be backed by a State-wide awareness campaign on how to read labels on packages, tasting before adding salt, and using natural flavour enhancers. Researchers of a randomised, double-blind, controlled trial reported in the *American Journal of Clinical Nutrition* in 2021, wrote that replacing salt with a reduced-sodium, added-potassium salt substitute is an acceptable and effective dietary intervention for lowering systolic blood pressure in persons with hypertension in rural India.

The State also intends to step up its hypertension control activities through its community health outreach programme Makkalai Thedi Maruthuvam and other public health care institutions. People diagnosed with hypertension will receive systematic counselling and anti-hypertension drugs.

There is evidence that such closely-monitored health interventions succeed.

The Sapiens Health Foundation has welcomed the new salt reduction campaign of the Tamil Nadu government. Its founder Rajan Ravichandran says, "This is a wonderful surprise, we have been knocking at many doors to bring in awareness of salt reduction in the public health sector. It can be very powerful in changing the way people consume salt. We just have to go back to 2005, where the campaign initiated by Graham MacGregor of the World Action on Salt, Sugar and Health, resulted in a reported 30% reduction of salt in bread, in the U.K."

G. Sengottuvelu, senior interventional cardiologist, Apollo Hospitals, explains further, "Excess salt is one of the most important and preventable contributors to high blood pressure, heart attack and stroke." His argument is that Indians' preference for salty food is largely an acquired habit, often beginning in childhood, and the palate can adapt when salt is gradually reduced. Cutting down salt is a simple change that can make a major difference to cardiovascular health – less salt today can mean lower blood pressure, fewer heart attacks, and fewer strokes tomorrow.

As Tamil Nadu rolls out its programme, hopefully with scientific vigour and cultural sensitivity, other States will do well to watch and emulate. If it is possible to cut down hypertension, cardiovascular disease, and kidney disease with adjusting the size of a single pinch, then, why not?

दावा: पहली बार मरीज में आरएनए थेरेपी से दिखा सुधार

स्टीफन हॉकिंग जैसी बीमारी का इलाज संभव

सिडनी, एजेंसी। महान वैज्ञानिकों में शुमार स्टीफन हॉकिंग जिस दुर्लभ आनुवंशिक बीमारी से जूझ रहे थे, उसके इलाज के लिए उम्मीद की नई किरण जगी है। वैज्ञानिकों ने दुनिया में पहली बार एमियोट्रोफिक लेटरल स्क्लेरोसिस जैसी मोटर न्यूरोन बीमारी से जूझ रहे एक व्यक्ति को जीन-आधारित आरएनए थेरेपी दी है। इसके शुरुआती नतीजे सकारात्मक रहे।



निगरानी की जरूरत बताई

शोधकर्ताओं का कहना है कि मरीज को अगले 2 से 3 साल तक निगरानी में रखना जरूरी होगा। इसके अलावा इसी तरह की दवा को दूसरे मरीजों में भी आजमाना होगा। यह इसलिए अहम है क्योंकि भविष्य में आनुवंशिक बदलाव को रोका जा सकेगा।

ऐसे काम करती है आरएनए थेरेपी

हमारे डीएनए में शरीर को प्रोटीन बनाने के निर्देश होते हैं। इन निर्देशों की एक कॉपी आरएनए के रूप में बनती है और कोशिका उसी के आधार पर प्रोटीन बनाती है। वैज्ञानिकों ने ऐसे छोटे अणु बनाए जो बीमारी पैदा करने वाले जीन से बने आरएनए को निशाना बनाते हैं।

के संकेत भी नहीं मिले।

इलाज के एक साल बाद मरीज के खून में मौजूद न्यूरोफिलामेंट लाइट चेन नाम के प्रोटीन का स्तर सामान्य सीमा में आ गया। इसे न्यूरोन कोशिकाओं को होने वाले नुकसान का संकेतक माना जाता है। जब न्यूरोन को नुकसान होता है तो खून में इसका स्तर बढ़ सकता है, इसलिए इसका सामान्य स्तर पर आना शोधकर्ताओं के लिए महत्वपूर्ण संकेत है। सांस लेने का स्कोर भी सुधरा।

ऑस्ट्रेलिया के सिडनी विश्वविद्यालय के न्यूरोलॉजिस्ट स्टीव वुसिक का कहना है कि इस इलाज से मरीज में मौजूद एक खास आनुवंशिक बदलाव को निशाना बनाया गया। इलाज शुरू होने के करीब एक साल बाद मरीज के बीमारी से जुड़े कुछ लक्षणों में सुधार देखा गया है। वह पेशे से डॉक्टर है और अब भी सक्रिय रूप से काम कर रहा है। एमियोट्रोफिक लेटरल स्क्लेरोसिस ऐसी बीमारी है जिसमें दिमाग और रीढ़ की हड्डी की मोटर न्यूरोन कोशिकाएं खराब होकर मरने लगती हैं। ये कोशिकाएं ही दिमाग से शरीर की मांसपेशियों तक हरकत करने के संदेश पहुंचाती हैं। इनके खराब होने पर मरीज को धीरे-धीरे मांसपेशियों में कमजोरी, बोलने में परेशानी और शरीर को हिलाने-डुलाने में दिक्कत होने लगती है। बीमारी बढ़ने पर चलने-फिरने और सांस लेने में भी परेशानी हो सकती है। इसका स्थायी इलाज नहीं मिला है।

एक साल तक छह खुराक दी गई: मरीज को अप्रैल 2024 से अप्रैल 2025 के बीच कुल छह खुराक दी गई। शुरुआत में उसे 50 मिलीग्राम की तीन खुराक दी गई। इसके बाद 75 मिलीग्राम की तीन खुराक दी गई। दवा को रीढ़ की हड्डी के पास इंजेक्शन के जरिए पहुंचाया। इलाज के दौरान मरीज पर इसका कोई गंभीर नकारात्मक असर नहीं हुआ। सोचने-समझने की क्षमता में गिरावट

महिलाओं की सेवा क्षेत्रों में आधी हिस्सेदारी

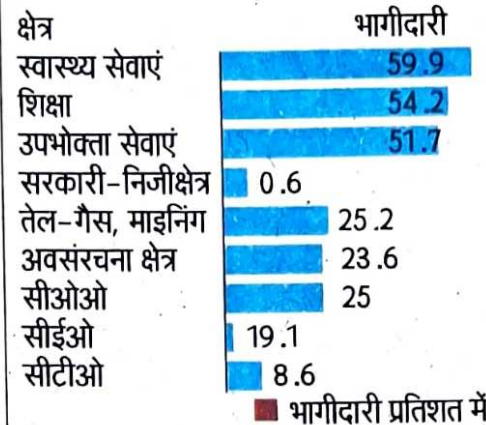
उपलब्धि

नई दिल्ली, एजेंसी। दुनियाभर में पेशेवर और गैर तकनीकी सेवा क्षेत्रों में कार्यरत पेशेवरों में आधी आबादी ने उल्लेखनीय हिस्सेदारी हासिल की है। शिक्षा, स्वास्थ्य समेत चार प्रमुख क्षेत्रों में कार्यरत महिलाओं की संख्या 50 प्रतिशत से अधिक हो चुकी है। हालांकि, तकनीकी उद्योग क्षेत्रों में अब भी उनकी मौजूदगी एक चौथाई या उससे भी कम बनी हुई है।

विश्व आर्थिक मंच (डब्ल्यूईएफ) की 'ग्लोबल जेंडर गैप रिपोर्ट 2026' में यह खुलासा हुआ है। रिपोर्ट के अनुसार, 39 अर्थव्यवस्थाओं के अध्ययन के आधार पर यह रिपोर्ट तैयार की गई है। रिपोर्ट में बताया गया है कि इन अर्थव्यवस्थाओं में महिलाओं की कुल कामकाजी भागीदारी 2015 में 39.9 प्रतिशत से बढ़कर 2025 में 42.0 प्रतिशत हो गई।

जून 2026 तक मामूली गिरावट के साथ यह 41.8 प्रतिशत रह गई। इस अवधि में स्वास्थ्य सेवाएं, शिक्षा, उपभोक्ता सेवाएं और सरकारी तथा निजी सेवा ऐसे क्षेत्र रहे, जहां महिलाओं की मौजूदगी 50 प्रतिशत से 60 प्रतिशत के बीच पहुंच गई है।

प्रमुख क्षेत्रों में महिलाओं की भागीदारी



वरिष्ठ प्रबंधन में अब भी लंबा इंतजार : रिपोर्ट के अनुसार, वरिष्ठ प्रबंधन और नेतृत्व वाले पदों के मामले में महिलाओं को अब भी बेहतर भागीदारी के लिए इंतजार करना होगा। सरकारी और निजी कंपनियों में उपाध्यक्ष, सी-सुइट (वे पदनाम जिनमें चीफ शब्द लगा हो) और बोर्ड के अहम पदों में महिलाओं की हिस्सेदारी अब भी काफी कम है। यह वर्ष 2015 में 26.7 प्रतिशत थी, जो 2023 में बढ़कर 29.4 फीसदी हुई। लेकिन इसके बाद से यह इसी स्तर पर बनी हुई है।

फॉर्च्यून ग्लोबल 500 में से 32 सीईओ नारी शक्ति



फॉर्च्यून ग्लोबल 500 कंपनियों में महिला सीईओ की संख्या 2015 में 14 थी जो 2025 में बढ़कर 32 हो गई है। इससे

इस पद पर उनकी हिस्सेदारी 2.8 प्रतिशत से बढ़कर 6.4 प्रतिशत हुई है। विशेष सेक्टरों की बात करें तो यूटिलिटीज में महिला सीईओ 17 प्रतिशत, टेलीकम्युनिकेशन और मीडिया में 11 प्रतिशत और रिटेल, एनर्जी और कंस्ट्रक्शन में नौ प्रतिशत हैं।

पदों के हिसाब से देखें तो सी-सुइट पदों में 19.1 प्रतिशत ही महिलाएं सीईओ हैं, जबकि सीओओ के पदों पर लगभग 25 प्रतिशत ही महिलाएं हैं।

रिपोर्ट के अनुसार, सी-सुइट के ऐसे पदों में महिलाएं आगे हैं, जिनमें पद से अधिक लोगों से सीधा संपर्क, व्यवहार और क्रियात्मक नेतृत्व महत्व रखते हैं। ऐसे पदों में चीफ एचआर ऑफिसर और चीफ पीपल्स ऑफिसर के पदों पर महिलाओं की भागीदारी दो तिहाई यानी 75 प्रतिशत के करीब मिली।

चिंताजनक | बदलते मानसून से संख्या पर पड़ा असर, राजधानी के बायो डायवर्सिटी पार्कों में हुआ सर्वे

मच्छरों की शिकारी ड्रैगनफ्लाई कम हुईं

नई दिल्ली, प्रस। राजधानी व आसपास के क्षेत्रों में मानसून के बिगड़े मिजाज का असर मच्छरों के शिकारी ड्रैगनफ्लाई की संख्या पर भी देखने को मिला है। डीडीए के सात जैव विविधता पार्कों में तीन दिनों तक आयोजित ड्रैगनफ्लाई व डेम्सेलफ्लाई की गणना में पिछले साल की तुलना में इस बार कम प्रजातियों को दर्ज किया गया है। मानसून के बदलते ट्रेंड को इस बदलाव का कारण माना जा रहा है।

दिल्ली-एनसीआर जैसे तमाम क्षेत्रों में पिछले कुछ दशकों में मच्छरों और उससे होने वाली बीमारियों की संख्या बढ़ी है। इसके पीछे गर्म मौसम, मच्छरों के पनपने की पहले से ज्यादा जगहों की मौजूदगी के साथ-साथ इस



बात को भी कारण माना जाता है कि मच्छरों के प्राकृतिक दुश्मन भी पहले से कम होते जा रहे हैं। ऐसे में ड्रैगनफ्लाई और डेम्सेलफ्लाई की मौजूदगी किसी भी पारिस्थितिक तंत्र के लिए बेहद महत्वपूर्ण मानी जाती है।

कहां पर कितनी रही संख्या

जैव विविधता पार्क	2025	2026
यमुना	21	23
अरावली	16	16
कमला नेहरु रिज	26	22
तुगलकाबाद	14	12
नीला हौज	15	13
तिलपथ वैली	06	04
कालिंदी	20	15

ये कीट मच्छरों के लार्वे और वयस्क मच्छर दोनों को ही खाते हैं और इस प्रकार से उनकी संख्या को नियंत्रित करते हैं। ड्रैगनफ्लाई साफ पानी में अंडे देते हैं, इसलिए इन्हें साफ-सुथरे पर्यावास व पर्यावरण का संकेतक भी

कैसे पड़ता है असर



विशेषज्ञों के मुताबिक इस बार तालाब सूख गए। जिससे ड्रैगनफ्लाई की संख्या में कमी आई है। जैव विविधता पार्क कार्यक्रम के प्रमुख वैज्ञानिक डॉ. फैयाज खुदसर ने कहा कि केवल स्वच्छ और कार्यशील आर्द्रभूमि इनकी आबादी को बनाए रख सकते हैं, जो बदले में मच्छर नियंत्रण में मदद करते हैं।

माना जाता है। लेकिन, दिल्ली के लिए चिंता की बात यह है कि इनकी संख्या में पिछले साल की तुलना में कमी आई है। यमुना, अरावली, नीला हौज, तिलपथ वैली, तुगलकाबाद और कालिंदी में गणना की गई है।

मस्तिष्क में सूजन आना भी अल्जाइमर का एक संकेत

नई दिल्ली, प्र. सं.। अल्जाइमर को सिर्फ भूलने की बीमारी मानना सही नहीं है। इहबास के शोध में अल्जाइमर और वैस्कुलर डिमेंशिया के मरीजों में इन्फ्लेमेटरी मार्कर इंटरल्यूकिन-6 (आईएल-6) का स्तर स्वस्थ लोगों से अधिक मिला।

110 लोगों पर हुए अध्ययन में अल्जाइमर मरीजों में बीमारी की गंभीरता बढ़ने के साथ आईएल-6 का स्तर भी बढ़ता पाया गया। वरिष्ठ

मनोचिकित्सक डॉ. ओम प्रकाश के मुताबिक, अल्जाइमर में मस्तिष्क में प्रोटीन जमा होने के साथ इन्फ्लेमेशन (सूजन) भी अहम भूमिका निभा सकता है। हालांकि, आईएल-6 का बढ़ा स्तर बीमारी का कारण या अकेले निदान का आधार नहीं है।

विशेषज्ञों के अनुसार, यह बाहरी सूजन नहीं, बल्कि कोशिकाओं की रासायनिक और प्रतिरक्षा प्रक्रिया है। दवाओं से इसे कम किया जा सकता है।

एनपीएस स्वास्थ्य में 30 लाख तक का बीमा मिलेगा

नई दिल्ली, हिन्दुस्तान ब्यूरो। पेंशन के साथ इलाज का इंतजाम करने वाली एनपीएस स्वास्थ्य योजना अक्टूबर में शुरू करने की तैयारी है। यह सामान्य एनपीएस खाते से अलग योजना होगी, इसमें स्वास्थ्य बीमा लेना अनिवार्य होगा। पेंशन खाते से 25% तक रकम इलाज के लिए निकाल सकेंगे।

योजना के दो हिस्से होंगे। एक निवेश खाता, दूसरा सुपर टॉप-अप स्वास्थ्य बीमा जो अनिवार्य होगा। कानूनी स्तर पर एनपीएस स्वास्थ्य खाता और बीमा पॉलिसी अलग रहेंगे। जिनके पास पहले से सामान्य एनपीएस खाता है, वे अलग से स्वास्थ्य खाता खुलवा सकते हैं। उन्हें प्रीमियम की राशि खाते में भेजनी

प्रीमियम और बीमा कवर

बीमा कवर	प्रीमियम
1 लाख	10,000
5 लाख	50,000
10 लाख	1 लाख
30 लाख	3 लाख

(निवेश खाते में प्रीमियम राशि रखनी अनिवार्य होगी, आंकड़े रुपये में)

होगी। जिनके पास एनपीएस खाता नहीं है, वह सीधे एनपीएस स्वास्थ्य खाता खुलवा सकते हैं। उन्हें न्यूनतम निवेश राशि और सालाना प्रीमियम दोनों जमा करवाने होंगे।

➤ कैशलेस इलाज होगा P11

तनाव घटाने के लिए करें 30 सेकंड के छोटे अभ्यास

लंदन। तनाव और मानसिक थकान कम करने के लिए हमेशा लंबा मेडिटेशन या घंटों की एक्सरसाइज जरूरी नहीं है। कुछ छोटे-छोटे अभ्यास 20 से 30 सेकंड में भी किए जा सकते हैं।

इन्हें माइक्रोप्रेक्टिस कहा जा रहा है। विशेषज्ञों और हालिया शोधों के मुताबिक ऐसे छोटे ब्रेक तनाव कम करने, ध्यान केंद्रित करने और मन को शांत करने में मदद कर सकते हैं। बीबीसी की रिपोर्ट में ऐसे कई अभ्यासों और उनके वैज्ञानिक आधार को बताया गया है। विशेषज्ञों का कहना है कि हर व्यक्ति के लिए इन अभ्यासों का असर अलग हो सकता है। इन्हें तनाव कम करने के छोटे उपाय के रूप में देखा जाना चाहिए, मानसिक स्वास्थ्य समस्याओं का इलाज नहीं। नेटवर्क



30 सेकंड की हंसी

हंसी योग में किसी चुटकुले की जरूरत नहीं होती। शुरु में यह कृत्रिम लग सकती है, लेकिन कुछ देर बाद वास्तविक हंसी में बदल सकती है। नीदरलैंड्स की शोधकर्ता नताली वान डर वाल के मेटा-एनालिसिस में हंसी को अवसाद के लक्षणों में कमी से जोड़ा गया।

दांतों के निशानों ने खोले प्राचीन मानव के राज

■ एडम ब्रम

दुनिया भर में मनुष्य उत्तेजक व मादक पदार्थों से लेकर मनोदशा को प्रभावित करने वाले पदार्थों का इस्तेमाल करते आए हैं। हाल ही में साइंस एडवांसेज में प्रकाशित एक अध्ययन से पता चला है कि एशिया-प्रशांत क्षेत्र में बहुप्रचलित सुपारी का सेवन लगभग 25,000 वर्ष पहले शुरू हुआ था। सुपारी एक लत लगाने वाला उत्तेजक पदार्थ है, जो इसका सेवन करने वालों में हल्का उत्साह, अधिक सतर्कता और अन्य प्रभाव पैदा करता है। नियमित रूप से सुपारी का सेवन करने वालों में मुंह के कैंसर की दर अधिक पाई जाती है। शराब, कैफीन व निकोटीन के बाद सुपारी दुनिया में सबसे अधिक सेवन किए जाने वाले मनो-सक्रिय पदार्थों में चौथे स्थान पर है। भारत व चीन में सुपारी चबाने के लिखित विवरण कम से कम 2,000 वर्ष पुराने हैं। इसका सबसे पुराना पुरातात्विक प्रमाण लगभग 3,500 वर्ष पुराना है।



भारत व चीन में सुपारी चबाने के लिखित विवरण कम से कम 2,000 वर्ष पुराने हैं। इसका सबसे पुराना पुरातात्विक प्रमाण लगभग 3,500 वर्ष पुराना है।



वैज्ञानिक परीक्षणों से प्रमाणित हुआ कि केवल सुपारी को मुंह में रखकर चूसने से उत्तेजक रसायन एरेकोलीन बाहर निकलता है, जो मस्तिष्क को प्रभावित करता है। शोध यह भी दर्शाता है कि इस आदत के पीछे दर्द से राहत पाने की मजबूरी रही होगी।

इंडोनेशिया के दक्षिण सुलावेसी में पुरातात्विक खोदाई के दौरान हमें दो वयस्क शिकारी-संग्रहकर्ताओं के कंकाल मिले। इनमें से एक की उम्र 25,000 से 16,000 वर्ष के बीच और दूसरे की उम्र 7,600 से 6,300 वर्ष के बीच निर्धारित की गई। ये शिकारी-संग्रहकर्ता सुपारी को दांतों के बीच दबाकर घंटों चूसते रहते थे। वैज्ञानिक परीक्षणों और लैब प्रयोगों से यह प्रमाणित हुआ कि केवल सुपारी को मुंह में रखकर चूसने से भी इसका मुख्य उत्तेजक रसायन एरेकोलीन बाहर निकलता है, जो मस्तिष्क को प्रभावित करता है।

शोध यह भी दर्शाता है कि इस आदत के पीछे दर्द से राहत पाने की मजबूरी रही होगी। एरेकोलीन में दर्द कम करने वाले गुण होते हैं। सुपारी के क्विड को चबाने की प्रथा आज भी व्यापक रूप से प्रचलित है। महत्वपूर्ण बात यह है कि शुरुआती शिकारी-संग्रहकर्ता भी लंबे समय तक इन पदार्थों के इस्तेमाल से होने वाले स्वास्थ्य संबंधी परिणामों का सामना कर रहे थे।

- साथ में कार्नी डी. मैथेसन, फाखरी, मेलांद्री ब्लॉक व रोजर पाप्के (द कन्वर्सेशन)

पेट के कैंसर की सर्जरी में लिवर के पीछे का 'रेज ट्रायंगल' हाई रिस्क एरिया

अमर उजाला ब्यूरो

एम्स ने 205 मरीजों का किया अध्ययन

नई दिल्ली। पेट के अंदर फैले कैंसर की जटिल सर्जरी के दौरान लिवर के पीछे और उसके आसपास के हिस्सों की सावधानी से जांच बेहद जरूरी है। अखिल भारतीय आयुर्विज्ञान संस्थान (एम्स), नई दिल्ली के विशेषज्ञों के हालिया शोध में ऐसे ही एक छोटे लेकिन महत्वपूर्ण क्षेत्र को हाई रिस्क एरिया बताया गया है।

शोधकर्ताओं ने इसे 'रेज ट्रायंगल' नाम दिया है। हालांकि, यह शरीर की कोई आधिकारिक रूप से मान्यता प्राप्त अलग संरचना नहीं है, बल्कि सर्जरी के दौरान विशेष सावधानी बरतने वाले क्षेत्र के तौर

पर इसे परिभाषित किया गया है।

एम्स के डॉ. बीआरए-इर्च के सर्जिकल ऑन्कोलॉजी विभाग के डॉ. एमडी रे और उनके एमसीएच छात्र डॉ. अनिक राठी के इस शोध में बताया गया है कि पेट के एडवांस कैंसर की सर्जरी में सिर्फ दिखाई देने वाले कैंसर को हटाना पर्याप्त नहीं है।

लिवर के पीछे, उसके नीचे और डायफ्राम के पास कैंसर के छोटे हिस्से छिपे हो सकते हैं। इन्हें स्कैन में भी आसानी से पहचानना संभव नहीं होता। ऐसे में सर्जरी के दौरान इन हिस्सों की व्यवस्थित जांच महत्वपूर्ण हो जाती है।

कैंसर के इलाज के लिए मजबूत रेफरल नेटवर्क जरूरी : संधू

नई दिल्ली। कैंसर के इलाज को बड़े शहरों तक सीमित रखने के बजाय जिला स्तर तक स्वास्थ्य सुविधाओं को मजबूत करने और मरीजों को समय पर विशेषज्ञ केंद्रों तक पहुंचाने के लिए मजबूत रेफरल व्यवस्था जरूरी है। यह बात इंडिया इंटरनेशनल सेंटर में रविवार को दिल्ली के उपराज्यपाल तरणजीत सिंह संधू ने रविवार को इंडियन कैंसर सोसायटी (आईसीएस) के वार्षिक सेमिनार और 75 वें स्थापना वर्ष समारोह में कहीं। उन्होंने कैंसर की जल्द पहचान और शुरुआती इलाज को बीमारी से निपटने में अहम बताया। संधू ने कहा कि स्वास्थ्य सेवाएं सभी के लिए सुलभ, उपलब्ध व किफायती होनी चाहिए।

आईसीएस की चेयरपर्सन ज्योत्सना गोविल के मुताबिक देश के करीब पांच फीसदी जिला अस्पतालों में ही कैंसर उपचार की सुविधा उपलब्ध है। जबकि करीब 70 फीसदी कैंसर मरीज ग्रामीण क्षेत्रों में रहते हैं। ऐसे में

पुनर्वास और नर्सों के स्वास्थ्य पर हुई चर्चा

नई दिल्ली। राजीव गांधी कैंसर संस्थान एवं अनुसंधान केंद्र आरजीसीआईआरसी की ओर से दो दिवसीय शैक्षणिक सम्मेलन नर्सिकॉन 2026 का आयोजन किया गया। सम्मेलन का विषय थ्रेड्स ऑफ होप: ऑन्कोलॉजी नर्सिंग केयर बियॉन्ड क्योर रहा। इसमें नर्सिंग पेशेवरों, डॉक्टरों, शिक्षकों और स्वास्थ्य विशेषज्ञों ने हिस्सा लिया। विशेषज्ञों ने कहा कि कैंसर उपचार में मरीजों की सुरक्षा, भावनात्मक सहयोग, पुनर्वास और परिवारों से समन्वय में भी महत्वपूर्ण भूमिका निभाती हैं। ब्यूरो

जिला अस्पतालों में कैंसर की जांच, शुरुआती निदान व प्रारंभिक उपचार की व्यवस्था विकसित कर जरूरतमंद मरीजों को विशेषज्ञ केंद्रों से जोड़ने पर जोर दिया गया। सेमिनार में विशेषज्ञों ने हब-एंड-स्पोक मॉडल को भी उपयोगी बताया। ब्यूरो

Study attempts to find out how India made diabetes medicines affordable

The Hindu Bureau
CHENNAI

A study by Chennai-based diabetologists has attempted to find out how India has managed to reduce the prices of new and expensive diabetes drugs and what lessons this could possibly hold for other low- and middle-income countries (LMIC). The study, "Making Modern Diabetes Medications Affordable and Accessible: Lessons from India for Other Countries", was led by V. Mohan, chairman, Dr. Mohan's Diabetes Specialities Centre, Chennai, and was published in the journal *Diabetes Care*.

What did the study find?

Of the 589 million adults in the world with diabetes, 80% live in LMICs, the study noted. Modern diabetes therapies such as GLP-1 re-

ceptor agonists as well as SGLT2i (sodium-glucose cotransporter 2 inhibitors) improve cardiovascular and renal outcomes, while analogue insulins help reduce the risk of hypoglycaemia. However, affordability remains a barrier: diabetes requires lifelong care and management of complications.

India's ability to maintain low medication prices is closely linked to its role as a major pharmaceutical exporter, the paper stated, noting the strategic legislative history of maintaining critical safeguards to prevent "patent evergreening" and allowing for generic manufacture of drugs. It also found that the country has increasingly focused on strengthening domestic manufacturing capacity. There are concerns over global trade policies affecting prices

and the availability of raw materials. A government incentive scheme has been introduced to promote domestic manufacturing of raw materials, and as of 2025, production has commenced for 26 molecules that were previously imported.

The paper notes that metformin and sulfonylureas continue to form the foundation of type 2 diabetes management in India – both are included in the National List of Essential Medicines (NLEM). While DPP-4 (dipeptidyl peptidase 4) inhibitors, SGLT2i and GLP-1 RA have all been introduced, they are not currently in the NLEM. Initial uptake of these drugs was constrained by pricing. Following the competitive entry by multiple domestic manufacturers, the price of semaglutide, for instance in India, has

dropped considerably, and there has been a huge increase in sales.

Quick availability of generic and biosimilar drugs, deliberate regulatory and distribution strategies such as the government's Jan Aushadhi Kendras, and market competition have allowed for affordable drugs in India, the paper highlighted.

Challenges ahead

Challenges that remain include urban-rural disparities in distribution and availability of medicines; tight regulations potentially affecting chances of drug innovation; differences in quality between generics and difficulties in maintaining strict pharmacovigilance; as well as limited formal evaluation of government schemes to look at their long-term impact on clinical outcomes.

How EU plans to keep children under 15 away from social media

EU is considering age-based rules that would restrict children's access to social media, video-sharing platforms, AI chatbots and online games; the proposal would place new responsibilities on technology companies, including age verification, safer recommendation systems, parental controls

John Xavier

The European Union is considering a major change to the way children access the internet, and it could affect everything from kids using Instagram, TikTok, YouTube, and various AI chatbots.

Under a proposal being prepared by the European Commission, per a report by *Reuters*, children under 15 could face restrictions on creating and using accounts across a wide range of digital services.

The EU's plan is part of the EU Kids Act, which is aimed at making digital services safe for children, and it comes at a time when governments around the world are grappling with growing concerns over how digital platforms affect children's well-being.

Social media platforms have come under increasing scrutiny over how they design their applications to be addictive and serve harmful content that is powered by recommendation algorithms.

Rather than imposing one rule on every child, the EU proposal would create different levels of access based on age.

Children aged 15 and above would be able to create their own accounts.

For children aged 13 and 14, access to social media and video-sharing platforms would require parents to get involved.

Parents could create introductory accounts for their children, with restrictions on contacts and time spent on the platforms.



For children between 3 and 12, accounts would be controlled entirely by parents. Their access would be limited to services considered suitable for children and required to meet stronger safety standards.

The proposal could potentially ban access to digital platforms for children under 3.

The exact rules could still change before the plan is formally presented and negotiated with EU governments and the European Parliament.

One of the more significant aspects of the proposal is its broad scope.

Beyond social platforms

The rules would not stop at platforms like Facebook, Instagram, TikTok and YouTube. They would also cover AI chatbots and online gaming platforms, bringing a much wider part of children's digital lives under the proposed framework.

The proposal is being framed based on the idea that children's internet use is no longer limited to scrolling through social feeds. They text AI chatbots, play games online, watch videos that are

Tech platforms have been arguing that they already have safeguards in place, as major social media applications have set a minimum sign-up age of 13; but critics have complained that age limits on paper are not enough

algorithmically recommended and chat with other users across numerous platforms.

The bloc's views on the overall digital ecosystem could make the path ahead for social platforms and consumer-facing AI applications a bit difficult, as they will have to take up new responsibilities.

More responsibilities for platforms

Platforms could be required to reduce features designed to encourage engagement and limit exposure to harmful recommendation feeds. They would also need to make it easier for children to report inappropriate content.

They will need to provide parents with stronger tools to control what their children see and how long they spend on their services.

Age verification could become an important requirement as social media and video-sharing platforms would need to verify a user's age when a new account is created.

Online gaming platforms would have to check age before allowing children to download games.

Apart from features that control the

use of these applications, tech companies could also be expected to pay for the system, as the bloc could propose a supervisory fee to fund regulatory enforcement and oversight.

Child and the digital ecosystem

The EU's proposal comes amid a growing clamour of voices wanting clear guardrails over a child's relationship with the digital ecosystem.

Tech platforms have been arguing that they already have safeguards in place, as major social media applications have set a minimum sign-up age of 13.

But critics have complained that age limits on paper are not enough if platforms cannot reliably determine how old their users actually are.

The EU's proposed approach would shift more of the responsibility onto technology companies, while giving parents greater control over younger children's online activities. This could mean fewer ways for children to sign up for popular social applications on their own.

Tech firms, on the other hand, will have to operate more carefully in the bloc as rules governing how they verify users, design their platforms and recommend content to younger audiences will structurally change.

This proposal still has a long way to go before becoming law. The European Commission will need to work with EU member states and the European Parliament, and the final rules could look different from the current draft.

FROM THE ARCHIVES

The **Hindu.**

FIFTY YEARS AGO SEPTEMBER 21, 1976

Toothpaste quality to be ensured

New Delhi, September 20: Leading manufacturers of toothpastes and other toilet goods agreed to-day to apply for certification by the Indian Standards Institution to ensure the quality of their products.

They also assured the Union Minister of State for Civil Supplies and Co-operation, Mr. A. C. George, that they would within a short time make their suggestions about a machinery which could deal with the pricing of these products.

Mr. George had a meeting here with senior functionaries of the All-India Soap and Toiletries Makers' Association, which represents manufacturers of toothpastes, soaps, cosmetics, perfumes, etc. in the organised sector.

Later, speaking to newsmen, Mr. George said there was a crisis of confidence among consumers over the claims made by manufacturers of toothpastes, etc. about the quality of their products.

The packaging of these products often created an optical illusion about their content. Misleading claims were made in advertisements and their prices were sometimes unduly high.

Campaign to reduce the intake of salt

Salt, as an essential electrolyte, sits at the centre of human well-being, but being most prone to overuse and misuse, the condiment remains at the heart of illness as well. When Tamil Nadu Health Minister K.G. Arunraj took salt to the floor of the Assembly, he dragged it willy-nilly into public discourse. He announced plans to launch a multi-pronged mission to reduce salt intake, turning attention to the right quantities and forms that must be consumed. The Minister's speech made it clear that the government's plans were not merely about a dietary tweak, but instead, a recalibration of how well-being is perceived.

Salt, in the right proportions, facilitates hydration, nerve signalling, muscle function, digestion and also has a role to play in stress physiology. However, in excess, or in ultra processed foods, it can have a deleterious impact on health, increasing the risk of stroke, heart disease and kidney strain over time.

Surveys by the Indian Council of Medical Research show that in India, men consume an average of 8.9 gms daily, while women consume about 7.1 gms. The WHO, which recommends keeping the intake under 5 gms of salt per day, released a set of guidelines in January 2025, recommending the use of lower-sodium salt substitutes.

In Tamil Nadu, hypertension is a major public health concern. A 2024 study by Selvavinayagam T.S. et al showed that adult prevalence of hypertension in Tamil Nadu hovered around 33.9 %, much above



Ramya Kannan

Cutting down salt is a simple change that can make a major difference to cardiovascular health – less salt today can mean lower blood pressure, fewer heart attacks, and fewer strokes tomorrow

the national average of 28.5 %. There is a direct link between consuming excess salt and hypertension – consuming too much salt causes the body to retain extra water, which increases blood volume and puts higher pressure on the artery walls, leading to clinical hypertension.

Action plan

The State government's plan is comprehensive. For the first time, a Statewide survey using urine samples will scientifically measure salt consumption. Salt will be gradually reduced in government-run kitchens, including the Nutritious Meal Programme, ICDS centres, government hospitals and hostels. The feasibility of introducing a low-sodium salt substitute will be examined. This will be backed by a State-wide awareness campaign on how to read labels on packages, tasting before adding salt, and using natural flavour enhancers. Researchers of a randomised, double-blind, controlled trial reported in the *American Journal of Clinical Nutrition* in 2021, wrote that replacing salt with a reduced-sodium, added-potassium salt substitute is an acceptable and effective dietary intervention for lowering systolic blood pressure in persons with hypertension in rural India.

The State also intends to step up its hypertension control activities through its community health outreach programme Makkalai Thedi Maruthuvam and other public health care institutions. People diagnosed with hypertension will receive systematic counselling and anti-hypertension drugs.

There is evidence that such closely-monitored health interventions succeed.

The Sapiens Health Foundation has welcomed the new salt reduction campaign of the Tamil Nadu government. Its founder Rajan Ravichandran says, "This is a wonderful surprise, we have been knocking at many doors to bring in awareness of salt reduction in the public health sector. It can be very powerful in changing the way people consume salt. We just have to go back to 2005, where the campaign initiated by Graham MacGregor of the World Action on Salt, Sugar and Health, resulted in a reported 30% reduction of salt in bread, in the U.K."

G. Sengottuvelu, senior interventional cardiologist, Apollo Hospitals, explains further, "Excess salt is one of the most important and preventable contributors to high blood pressure, heart attack and stroke." His argument is that Indians' preference for salty food is largely an acquired habit, often beginning in childhood, and the palate can adapt when salt is gradually reduced. Cutting down salt is a simple change that can make a major difference to cardiovascular health – less salt today can mean lower blood pressure, fewer heart attacks, and fewer strokes tomorrow.

As Tamil Nadu rolls out its programme, hopefully with scientific vigour and cultural sensitivity, other States will do well to watch and emulate. If it is possible to cut down hypertension, cardiovascular disease, and kidney disease with adjusting the size of a single pinch, then, why not?