DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE Day

Monday **20260713**

DIABETES, HYPERTENSION & OBESITY AFFECTING GROWING NUMBER OF INDIANS

Crunch Time for Lifestyle Diseases as Govt Plans Fitness Push

Subsidised gym memberships, workplace wellness programmes in works; Niti to prepare road map, expected to outline policy interventions

Yogima Seth

New Delhi: The government is weighing incentives ranging from subsidised gym memberships to employer-led wellness programmes, along with wider health screening, to curb lifestyle diseases as diabetes, hypertension and obesity affect a growing number of Indians.

The Niti Aayog has been tasked with the preparation of the proposed road map to manage lifestyle diseases, officials told ET.

The blueprint, which could factor in best global practices, is expected to outline policy interventions and incentives to encourage regular health screening for all above 30 years of age and focus on lifestyle changes needed to prevent these diseases, one of them said.

"The Aayog will hold stakeholder consultations on the proposed plan, (and) emphasis on early screening and consistent behavioural changes," the official added.

According to recent government data, nearly half of the country's population reported non-communicable diseases and metabolic disorders compared to just 31% a decade ago, with a sharp rise in cases of diabetes, hypertension, cardiovascular ailments and obesity among others.

The Household Social Consumption: Health survey (January–December 2025), conducted by the National Statistical Office (NSO) identified the rising number of cardiovascular and endocrine or metabolic issues from age 30 years onward with hypertension and diabetes as the largest contributors.

The Aayog is expected to study international approaches ranging from tax incentives for health and fitness programmes in Sweden to Japan's metabolic health screening programme. Some countries such as the Netherlands have integrated cycling into daily transportation via dedicated bike lanes while Chile banks on stark front-of-package warning labels and school food regulation to combat obesity.

While India already has some provisions in place, including preventive screening and dietary regulations, the Aayog is of the view that incentives to adopt those measures and effective implementation will be the key going forward to prevent the surge in NCDs.

The government conducts widespread screening for hypertension, diabetes, and cancers (oral, breast, and cervical) at the community level and is looking at upgrading primary health centres into wellness hubs to deliver preventive care and early diagnosis. Besides, there are nutritional guidelines by the government, capping cereal consumption and reducing consumption of processed and sugary foods, officials noted.

HELPING FAMILIES BUILD DEDICATED CORPUS FOR SCHOOL EDUCATION

BOOST FOR TRADE AND INVESTMENTS

Pharma Body Renews Push for Data Protection

OPPI seeks RDP framework adoption, says it can drive innovation beyond generics

Vikas Dandekar & Rica Bhattacharyya

Mumbai: A group representing leading multinational pharmaceutical companies renewed its demand for Regulatory Data Protection (RDP), a legal framework that it says will help drive investments from global drug makers into discovery research in the country. The proposal has been opposed by public health advocacy groups, local generic makers and others on the ground that it will serve to extend monopolies and delay the launch of cheaper generics, putting at risk India's key status as the pharmacy of the developing world.

The Organization of Pharmaceutical Producers of India (OPPI) has countered this, arguing that RDP will benefit indigenous drug makers, much like multinational companies as they move up the value chain into newly researched innovative medicines.

Over a defined period of time, RDP blocks generic drug makers from relying on clinical and non-clinical regulatory data generated by innovators to develop their newly researched drugs, said OPPI director general Anil Matai. By accessing such undisclosed data, generic drug makers can launch their copies, which OPPI said is an "unfair reliance" given the significant investments and time it takes to generate the repository of scientific information, he said.

Public health advocacy groups & local drug cos against plan. They say it will serve to extend monopolies, delay launch of cheaper generics

While India has not drawn investments in on-ground research labs from multinational companies yet, China has seen significant interest from top drug makers that include Pfizer, AstraZeneca, Eli Lilly and Roche among several others. The same companies have stepped up investments in India in clinical trials, building global capability centres and support functions in areas such as management of large volumes of clinical research data. OPPI said investments in discovery research can be expected if India's regulatory structure is aligned with global best practices.

Secret Formula

RDP blocks generic firms from using innovators' clinical and non-clinical data for new drugs

OPPI says access to such undisclosed data lets generic cos launch copies, an **'unfair reliance'**

China in May introduced up to **six-year RDP** protection for chemical and biologic drugs, boosting its research edge

New drug out-licensing deals reached **$138 billion** last year, up ten-fold in less than five years

In May, China introduced the RDP clause for up to six years for chemical and biologic drugs, a move that experts say could further establish its strengths in research. Last year, China's out-licensing deals for newly invented drugs yielded $138 billion, a 10-fold increase in value seen over a span of less than five years.

OPPI director general Anil Matai told ET that the actual cost of invention of a drug is estimated at about 25%, which is when the drug is granted a patent. But the bulk of the expense, almost 75%, goes into establishing safety and efficacy, where data is of high importance. "That is what regulatory data protection is because it protects confidential clinical, non-clinical and regulatory data," he said.

Late last year, the Central Drugs Standard Control Organization invited comments from stakeholders "to ensure level playing field in new drug approval." The move triggered strong opposition from civil society groups such as the Working Group on Access to Medicines and Treatments. It said RDP may lead to evergreening or extension of patent monopolies and prevent access to new lifesaving drugs at affordable rates.

AFP

RISING INCOMES, SMARTPHONE PENETRATION AND RETAIL EXPANSION KEY CATALYSTS

After verification, Maharashtra cuts 92 lakh beneficiaries from 'Ladki Bahin'

Why the beneficiaries were removed

e-KYC not completed	62 lakh **(67%)**
Family income above Rs 2.5 lakh	16 lakh **(17%)**
Family member a Govt employee	4.42 lakh **(4.8%)**
Already receiving Sanjay Gandhi Niradhar Yojana benefits	3.6 lakh **(3.9%)**
More than two beneficiaries in a family	2.5 lakh **(2.7%)**
Age above 65 years	1.8 lakh **(2%)**
Flagged during district-level verification	1.7 lakh **(1.8%)**
Male beneficiaries	29,000 **(0.31%)**
Government employees	8,000 **(0.08%)**

SOURCE: RTI

Removals are 38% of scheme's peak beneficiary base of 2.43 cr women

Vallabh Ozarkar
Mumbai, July 12

MORE THAN 92 lakh beneficiaries of the Mukhyamantri Majhi Ladki Bahin Yojana in Maharashtra, accounting for nearly 38 percent of the flagship welfare scheme's peak beneficiary base of around 2.43 crore women, have been removed after the state government's verification exercise — far higher than the around 80 lakh deletions that had been publicly disclosed till now, according to Right To Information (RTI) records reviewed by *The Indian Express*.

YOUR RIGHT to know
AN EXPRESS RTI APPLICATION

The reasons for removal from the state scheme for women include (*see chart*) beneficiaries exceeding the family limit, being government employees, already receiving other benefits, being above the age limit of 65, being flagged during district-level verification — and being male in 29,000 cases.

Officials associated with the exercise estimated that the beneficiaries who were removed received about Rs 14,000 crore in all before payments were stopped. On average, officials estimated, these beneficiaries received assistance for around 10 months.

So far, budget allocations and supplementary provisions for the scheme have crossed Rs 60,000 crore since its launch.

According to officials, there was no single cut-off date for stopping payments for those found ineligible because beneficiaries were identified at different stages of the verification exercise. "Some received only five or six instalments before they were flagged. Others continued for more than 10 or 12 months, while some received all 15 instalments before payments were stopped," an

•CONTINUED ON PAGE 2

IDEA EXCHANGE

'National records are being broken again and again. This shows we have bench strength'

ADILLE SUMARIWALLA, OLYMPIAN AND WORLD ATHLETICS VICE-PRESIDENT PAGE 11

'Ladki Bahin' beneficiaries

official associated with the exercise said.

Launched ahead of the 2024 Assembly elections, the scheme provides Rs 1,500 every month to women aged 21-65 years from families with an annual income below Rs 2.5 lakh. Government employees, income tax payers and beneficiaries of certain other welfare schemes are excluded.

The scheme currently covers over 1.5 crore beneficiaries, down from its peak of around 2.43 crore women before the verification process, which was started in September 2025 with multiple extensions given for its completion.

The latest findings assume significance against the backdrop of the Comptroller and Auditor General (CAG) questioning the financial management of the scheme.

In its audit of the state's finances for 2024-25, the CAG flagged "significant deficiencies in budget estimation, expenditure control and financial management", citing excess expenditure of about Rs 3,541 crore without specific justification, parking of funds worth Rs 15,586 crore in government deposit accounts despite there being no immediate utilisation requirement, and weak financial controls.

It recommended a more realistic assessment of beneficiary numbers and fund requirements while budgeting for large direct benefit transfer schemes.

The RTI records also show a category-wise break-up of why beneficiaries were removed:

- Of the more than 92 lakh beneficiaries removed, the largest chunk — nearly 62 lakh, or about 67 per cent — were deleted for failing to complete the mandatory electronic Know Your Customer (eKYC) process. This requires beneficiaries to authenticate their Aadhaar details so the government can verify their identity and eligibility.
- The next category comprised 16 lakh beneficiaries (17 per cent) who were found to belong to families with annual incomes exceeding the scheme's eligibility ceiling of Rs 2.5 lakh.
- Among the remaining categories, 4.42 lakh beneficiaries (4.8 per cent) declared during verification that they or a family member were government employees.
- Another 3.6 lakh (3.9 per cent) were already receiving assistance under the Sanjay Gandhi Niradhar Yojana, 2.5 lakh (2.7 per cent) cases involved more than two members of the same family drawing benefits, 1.8 lakh (2 per cent) beneficiaries were above the upper age limit of 65 years, and 1.7 lakh (1.8 per cent) were flagged during district-level scrutiny.

Separately, around 29,000 men and nearly 8,000 government employees were also found to have received benefits despite being ineligible.

Responding to latest findings, Women and Child Development Minister Aditi Tatkare said the mandatory eKYC process, meant to ensure that only eligible beneficiaries received assistance, could not begin immediately after the scheme's launch because of the Assembly election schedule and the Model Code of Conduct.

"The scheme was launched in June 2024 and the first two instalments were released together in August 2024. After that there were Assembly elections in November 2024 and the Model Code of Conduct came into force before October, because of which the eKYC exercise could not be started earlier. We decided on the exercise in August 2025 after the new government came in place and repeatedly announced that payments of beneficiaries who did not complete eKYC would be stopped," Tatkare said.

She said beneficiaries were given repeated opportunities, including extensions till December 31, 2025, to complete the eKYC process before their payments were stopped. "It is not that the government removed them. All those who had registered and were eligible received benefits till the eKYC procedure was completed," she said.

On the recovery of payments availed by ineligible beneficiaries, the Tatkare said, "Even CM sir (Chief Minister Devendra Fadnavis) has announced in the Assembly that except for the male beneficiaries and government staffers, money wouldn't be recovered from any other beneficiaries."

Last month, in a reply to the State Assembly, Tatkare had said that recovery proceedings had been initiated against government employees, male beneficiaries and other ineligible recipients identified during the verification exercise under the Revenue Recovery Receipt mechanism — and that district collectors had been directed to recover the amounts.

The state government also reduced the scheme's allocation from Rs 36,000 crore in 2025-26 to Rs 26,500 crore in the current financial year, a reduction of nearly Rs 9,500 crore. The Mahayuti government's poll promise of increasing the monthly assistance from Rs 1,500 to Rs 2,100 has also not materialised.

On October 21, 2025, *The Indian Express* had first reported that at least 12,431 men and 77,980 ineligible women had received benefits under the scheme despite not meeting eligibility conditions, resulting in wrongful disbursal of nearly Rs 165 crore.

THE INDIAN EXPRESS

The Editorial Page

MONDAY, JULY 13, 2026

• **WORDLY WISE**
Technology is characterised by constant change, rapid innovation, creative destruction, and revolutionary products. — *Marsha Blackburn*

Population spectres do harm. Managing demographic change is the challenge

SONALDE DESAI

VISIONS OF population explosion or implosion seem to provoke strong passions. Three centuries ago, Malthus argued that population growth would outpace the food supply, leading to famine and disease. Today, the focus seems to have shifted to concerns about underpopulation in India and globally. Elon Musk even claims that population collapse poses a much greater risk than global warming.

This is a strange turnaround. In the 1800s, the world population was a billion, and life expectancy was less than 30 years. Despite the population growing to over 8 billion, Malthus's doomsday predictions have not materialised, and life expectancy now exceeds 70. Are fears of a shrinking workforce equally flimsy? Just as improvements in agriculture and the Green Revolution have continued to feed the world, it seems highly likely that AI and other technological advances will cope with a smaller workforce.

However, the harm to the social fabric from these overblown claims may be incalculable. Discussions of population devolve into debates about childbearing and ultimately centre on women's bodies. Malthus advocated chastity for women to reduce fertility. Modern global discourse emphasises a return to traditional ways of life, controlling access to contraception, and sometimes criminalises abortion. The Indian discourse echoes the global disconnect, with some unique twists, leaving fear and dissension in its wake. Hence, it is important to address some of these fears directly.

First, is India on the verge of depopulation, as a recent article suggests? If we accept the United Nations projections using their medium variant, the Indian population will grow to 1.7 billion and then decline by the end of the 21st century, returning to the present level of about 1.4 billion. However, projections from the Seattle-based Institute for Health Metrics (IHME) suggest it will dip below 1 billion. Unfortunately, IHME projections assume that future college graduates will follow the same path to low fertility as current graduates and that increasing education will further reduce fertility. But between 2015-16 and 2019-21, the Total Fertility Rate (TFR) for women with 12 more years of education held steady at 1.7, while that for women with lower levels of education dropped. A narrowing gap between educated and less-educated women has been observed in many countries, undermining confidence in the IHME methodology.

Second, with an ageing population, will India face a worker shortage? Projections from the Population Foundation of India indicate that the share of the population aged 60 and older will rise from 11 per cent to 28 per cent between 2021 and 2051. However, this will be offset by a decline in the child population, and the working-age population will decline only slightly from 66 per cent to 64 per cent. With an AI-led increase in productivity and the potential to recruit women workers who are largely outside the formal labour force, even this slight decline should pose no problem.

> Discussions of population devolve into debates about childbearing and ultimately centre on women's bodies. Modern global discourse emphasises a return to traditional ways of life

Third, is the population in north India growing faster than that in south India, and if so, will it diminish the power of southern states in the Indian Union? South India experienced a fertility decline earlier than the north. For example, in 1971, Tamil Nadu accounted for 7.5 per cent of India's population; by 2011, it had dropped to 6 per cent, and it is likely to have declined further by 2026. Consequently, if electoral seat allocation is based on population share in 2026 rather than 1971, the southern states will lose. But it is also important to remember that higher economic growth, driven by low population growth and increased investment in children, has increased productivity in states like Tamil Nadu. Sanjeev Sanyal estimates that Tamil Nadu's share of GDP grew from 7.1 per cent in the 1990s to 8.9 per cent in 2023-24. Balancing economic and demographic power and ensuring adequate representation of geographic minorities is a challenge that will need to be addressed in the coming years.

Fourth, is the Muslim population in India likely to overtake the Hindu population? Muslim fertility is slightly higher than Hindu fertility, but across the three waves of the National Family Health Survey between 2005 and 2021, both communities have seen a similar decline in TFR of about 0.7, leaving the Hindu-Muslim fertility gap unchanged. Rudimentary calculations suggest that even after 50 years, this fertility differential, if unchanged, would result in a small increase in the share of the Muslim population in India from about 15 per cent to 19 per cent. It seems more likely that Muslim fertility will follow a path similar to that of Hindus, and the increase will be smaller.

The above discussion suggests the need for a cautious, balanced approach to adapting to population change and for avoiding aggressive rhetoric that does more harm than good. Consider the discourse on declining fertility, which has led to political calls for a return to traditional values and for deprioritising contraception and child bonuses.

India stands in stark contrast to countries like Japan. Faced with an inflexible gender culture and work-family constraints, nearly 30 per cent of Japanese women remain unmarried into their 30s. In contrast, marriage and family remain the linchpin of Indian family life. The NFHS shows that 97 per cent of women are married by age 30. Yet the very importance of family also leads to smaller families. My research with Alaka Basu shows that parents often choose to have a single child so they can invest more in that child's education. Reducing educational costs, improving the quality of education, and easing the burden on parents to supervise homework may do more to increase fertility than a call for higher fertility.

The writer is professor, University of Maryland, and NCAER. Views are personal

THE INDIAN EXPRESS

The Editorial Page

MONDAY, JULY 13, 2026

• **WORDLY WISE**
Technology is characterised by constant change, rapid innovation, creative destruction, and revolutionary products. — *Marsha Blackburn*

Population spectres do harm. Managing demographic change is the challenge

SONALDE DESAI

VISIONS OF population explosion or implosion seem to provoke strong passions. Three centuries ago, Malthus argued that population growth would outpace the food supply, leading to famine and disease. Today, the focus seems to have shifted to concerns about underpopulation in India and globally. Elon Musk even claims that population collapse poses a much greater risk than global warming.

This is a strange turnaround. In the 1800s, the world population was a billion, and life expectancy was less than 30 years. Despite the population growing to over 8 billion, Malthus's doomsday predictions have not materialised, and life expectancy now exceeds 70. Are fears of a shrinking workforce equally flimsy? Just as improvements in agriculture and the Green Revolution have continued to feed the world, it seems highly likely that AI and other technological advances will cope with a smaller workforce.

However, the harm to the social fabric from these overblown claims may be incalculable. Discussions of population devolve into debates about childbearing and ultimately centre on women's bodies. Malthus advocated chastity for women to reduce fertility. Modern global discourse emphasises a return to traditional ways of life, controlling access to contraception, and sometimes criminalises abortion. The Indian discourse echoes the global disconnect, with some unique twists, leaving fear and dissension in its wake. Hence, it is important to address some of these fears directly.

First, is India on the verge of depopulation, as a recent article suggests? If we accept the United Nations projections using their medium variant, the Indian population will grow to 1.7 billion and then decline by the end of the 21st century, returning to the present level of about 1.4 billion. However, projections from the Seattle-based Institute for Health Metrics (IHME) suggest it will dip below 1 billion. Unfortunately, IHME projections assume that future college graduates will follow the same path to low fertility as current graduates and that increasing education will further reduce fertility. But between 2015-16 and 2019-21, the Total Fertility Rate (TFR) for women with 12 more years of education held steady at 1.7, while that for women with lower levels of education dropped. A narrowing gap between educated and less-educated women has been observed in many countries, undermining confidence in the IHME methodology.

Second, with an ageing population, will India face a worker shortage? Projections from the Population Foundation of India indicate that the share of the population aged 60 and older will rise from 11 per cent to 28 per cent between 2021 and 2051. However, this will be offset by a decline in the child population, and the working-age population will decline only slightly from 66 per cent to 64 per cent. With an AI-led increase in productivity and the potential to recruit women workers who are largely outside the formal labour force, even this slight decline should pose no problem.

> Discussions of population devolve into debates about childbearing and ultimately centre on women's bodies. Modern global discourse emphasises a return to traditional ways of life

Third, is the population in north India growing faster than that in south India, and if so, will it diminish the power of southern states in the Indian Union? South India experienced a fertility decline earlier than the north. For example, in 1971, Tamil Nadu accounted for 7.5 per cent of India's population; by 2011, it had dropped to 6 per cent, and it is likely to have declined further by 2026. Consequently, if electoral seat allocation is based on population share in 2026 rather than 1971, the southern states will lose. But it is also important to remember that higher economic growth, driven by low population growth and increased investment in children, has increased productivity in states like Tamil Nadu. Sanjeev Sanyal estimates that Tamil Nadu's share of GDP grew from 7.1 per cent in the 1990s to 8.9 per cent in 2023-24. Balancing economic and demographic power and ensuring adequate representation of geographic minorities is a challenge that will need to be addressed in the coming years.

Fourth, is the Muslim population in India likely to overtake the Hindu population? Muslim fertility is slightly higher than Hindu fertility, but across the three waves of the National Family Health Survey between 2005 and 2021, both communities have seen a similar decline in TFR of about 0.7, leaving the Hindu-Muslim fertility gap unchanged. Rudimentary calculations suggest that even after 50 years, this fertility differential, if unchanged, would result in a small increase in the share of the Muslim population in India from about 15 per cent to 19 per cent. It seems more likely that Muslim fertility will follow a path similar to that of Hindus, and the increase will be smaller.

The above discussion suggests the need for a cautious, balanced approach to adapting to population change and for avoiding aggressive rhetoric that does more harm than good. Consider the discourse on declining fertility, which has led to political calls for a return to traditional values and for deprioritising contraception and child bonuses.

India stands in stark contrast to countries like Japan. Faced with an inflexible gender culture and work-family constraints, nearly 30 per cent of Japanese women remain unmarried into their 30s. In contrast, marriage and family remain the linchpin of Indian family life. The NFHS shows that 97 per cent of women are married by age 30. Yet the very importance of family also leads to smaller families. My research with Alaka Basu shows that parents often choose to have a single child so they can invest more in that child's education. Reducing educational costs, improving the quality of education, and easing the burden on parents to supervise homework may do more to increase fertility than a call for higher fertility.

The writer is professor, University of Maryland, and NCAER. Views are personal

different hormone receptors at once. All

and arms looked smaller. I felt like I was los-

with the widely available GLP-1 drug tirze-

*Name changed to protect privacy

• WATCH YOUR OTC BUY

How skin lightening creams damage kidneys and brain

If the mercury content is very high, kidney damage may begin within 10 to 12 days

Purnima Sah

INDIA'S ENDURING obsession with fair skin has long fuelled a lucrative market for skin-lightening products. That's why unscrupulous manufacturers have ended up using heavy metals in unsafe amounts because these suppress melanin or the dark pigment, producing a lighter complexion. Some product makers have now been booked by the Maharashtra Food and Drug Administration (FDA) for safety violations.

The regulator has flagged five cosmetic products for containing mercury and lead beyond permissible limits and warned consumers against their use.

Although they can cause irreversible damage to the kidneys, brain and skin, questionable skin-lightening products continue to find millions of buyers through social media, influencers and online marketplaces.

Why is mercury added to fairness creams?

The answer lies in the chemistry of skin colour. Melanin, the pigment responsible for skin colour, also protects the skin from ultraviolet radiation. Mercury salts inhibit the enzyme involved in melanin production, reducing pigmentation and creating the appearance of lighter skin within days. "Mercury is added illegally because it blocks melanin production and gives a quick fairness effect, often within 10 to 15 days," says Dr Tushar Palve, medical superintendent of the government-run Cama and Albless Hospital, Mumbai. It is precisely this rapid effect that makes mercury attractive to illegal cosmetic manufacturers.

According to a senior Maharashtra FDA official, the permissible mercury limit in cosmetics is one part per million (ppm). Laboratory analysis of the products seized by the FDA found mercury concentrations 18 to 20 times higher, raising serious concerns about long-term exposure.

How does mercury affect your health?

Mercury accumulates in kidney tissue, gradually damaging its filtering units. What makes the problem particularly dangerous is that early kidney disease often produces few or no symptoms.

"If the mercury content is extremely high, kidney damage may begin within 10 to 12 days. Even if the quantity is lower, using such creams every day for a few months can gradually damage the kidneys and other organs. Sometimes symptoms do not appear for years, so patients continue using the toxic cream. They may show signs only when they have reached the stage of requiring dialysis," says Dr Palve. He referred to a case in Nagpur where 18 women reportedly developed kidney disease linked to prolonged use of a cream. Mercury is a potent neurotoxin capable of affecting the brain and nervous system. So prolonged exposure may lead to tremors, memory loss, irritability, anxiety, depression, insomnia and poor concentration. In severe cases, it may also affect hearing and vision.

The goal should be healthier skin rather than lighter skin, say doctors

How does lead induce toxicity?

Unlike mercury, which has been deliberately used in some skin-lightening creams to inhibit melanin production, lead has no recognised skin-lightening function. Its presence in fairness creams is usually the result of contaminated raw materials, poor manufacturing practices or illegal production, making it a marker of unsafe cosmetics rather than an active ingredient.

"There is no safe level of lead exposure," Dr Palve says, noting that the combined exposure to mercury and lead increases the overall health risk. Lead accumulates in the body and can damage the brain and nervous system, kidneys, blood-forming organs (causing anaemia) and the reproductive system.

So, the damage begins with the skin?

Ironically, products marketed to improve appearance may first damage the skin they are meant to beautify. Mercury-containing creams may cause persistent rashes, acne, abnormal pigmentation, skin discoloration and increased sensitivity. Prolonged exposure may thin the skin and make it more vulnerable to injury. "Persistent pigmentation should be evaluated by a dermatologist because different pigmentary disorders require different treatments. Daily sunscreen use, a proper diagnosis and evidence-based therapy are far safer than unsupervised use of potent depigmenting creams. The goal should always be healthy skin rather than lighter skin," says Dr Usha N. Khemani, associate professor in the Department of Dermatology at Grant Government Medical College and Sir JJ Group of Hospitals.

Her department OPD is seeing increasing numbers of young patients who have experimented with multiple cosmetic products before seeking medical care. "Teenagers, brides-to-be and regular social media users are among those most influenced by online beauty trends. By the time they come to us, their skin is damaged," she says.

What should consumers look for?

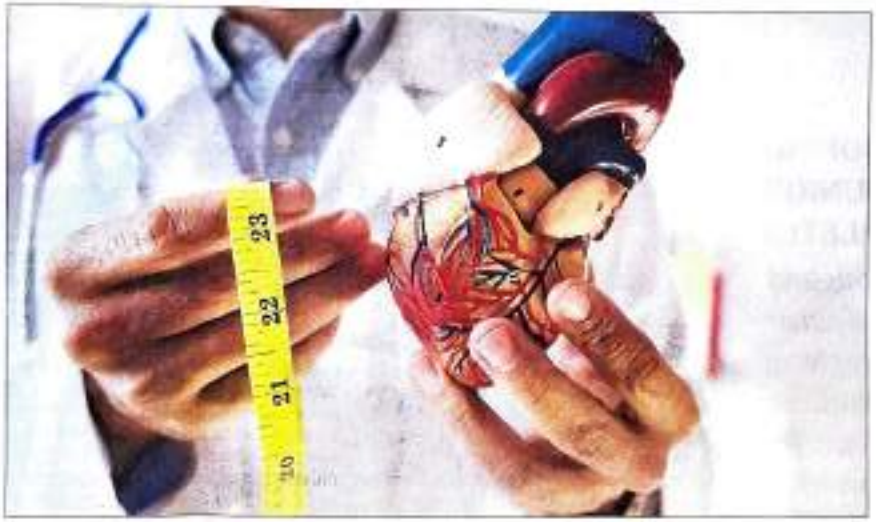
Consumers should ensure that the label carries complete manufacturer details, manufacturing and expiry dates, batch number and a full list of ingredients.

New Delhi

A next-generation obesity drug is raising hope, and questions

A doctor went from 120 kg to 89 kg during a clinical trial for retatrutide. His experience tells of the promise and trade-offs in such a treatment

Anonna Dutt



In 80 weeks, patients on retatrutide 12mg dose lost 28.3 per cent of their body weight but it wasn't without side effect

THIRTY-NINE-YEAR-OLD Kerala physician Dr Zubair Nabin K* had been a chubby child who grew up to be an obese adult. Happiness for him was eating an extra portion of biryani or a pastry afterwards. Eating was never about nourishing the body; rather it was meant to turn a bad day around. Trapped in the cycle of dieting and overeating, his weight climbed to 120 kg. Being a doctor, he knew exactly what obesity could do to his health. He counselled patients about lifestyle diseases every day, yet found *himself* unable to break free from *his own emotional relationship with food.* "I had to turn *myself* around, there was *no* option," he says.

While he lost a good 10 kg by dieting and exercising, he needed something more to reach closer to the recommended weight for his height, given his family history of obesity. He decided to enrol himself in the trial for a new GLP-1 drug called retatrutide two years ago. The drug is not yet approved for use in patients.

"The weight-loss was phenomenal. While I did not reach the ideal weight of around 70 kg, it was the first time in more than a decade that I saw two digits on the weighing scale," says Dr Nabin. He had dropped to 89 kg. Before taking the drug, he would eat twice what a normal person his age did, predisposed as he was to a stronger appetite and a body that resisted weight loss. Afterwards, he could only nibble on his meals. He started choosing healthier options over fried snacks. "Giving up the biryani did not feel difficult," he says. The changes in his physique — all clothes started fitting him better, his waist size dropped from 44 inches to 36 inches — came with a change in personality as well. "I was bullied as a child, but post-trial, I felt confident. I was not overthinking."

What is retatrutide?

Retatrutide is an experimental weight-loss and diabetes drug. It belongs to a new generation of medications that targets three different hormone receptors at once. All GLP-1 drugs are incretin mimetics — they mimic the action of certain gut hormones by activating the receptors, helping control blood sugar and suppress appetite. They improve secretion of insulin, inhibit secretion of glucagon that stimulates glucose production in the liver, and reduce appetite by slowing down digestion. While semaglutide targets GLP-1 receptors, tirzepatide goes for GLP-1 along with GIP. Retatrutide has three targets — GLP-1, GIP, and glucagon.

In a Phase 3 clinical trial, at the 80-week mark, participants on the lowest 4 mg dose, lost 19 per cent of their body weight. Those on 9 mg lost 25.9 per cent, and those on the highest 12mg dose lost 28.3 per cent of their body weight. This is among the largest weight reductions seen with an obesity medication so far. Some participants continued to lose weight beyond the end of the study, suggesting even greater reductions might be possible with longer treatment.

For comparison, semaglutide produces around 15 per cent average weight loss over about 68 weeks and tirzepatide around 20–21 per cent over 72 weeks.

Coming to terms with body image

This sudden, significant weight-loss, however, has had some undesirable social outcomes as well. While the weight loss boosted the doctor's confidence, looking into the mirror was still a challenge. "I could see that I had lost muscles. My shoulders and arms looked smaller. I felt like I was losing strength," says Dr Nabin, who was a part of the retatrutide trial at Jothydev's Diabetes and Research Centre in Kochi.

SCAN THE QR CODE TO READ MORE HEALTH SPECIAL STORIES

from the **OPD**

Dr Jothydev Kesavadev, chairman and managing director of the Centre, found that the sudden weight loss impacted the body image of all his trial patients in the initial days. He even presented a study at the recent American Diabetes Association, showing that people stopped using GLP-1 drugs not just because of side effects but also negative comments about their bodies. The study, though small involving 167 participants, reported how they received comments such as, "you have become too thin, this does not look healthy"; "are you not eating properly"; "you look so old"; or "you looked better before." The study recommended that people must look at actual health parameters rather than perceptions. They should track their blood glucose levels, blood pressure, cholesterol levels and inflammation levels.

"I know several people from my trial who started avoiding social events because people kept asking them whether they were okay, whether they were in good health. They understood that the people were asking them politely whether they had cancer. Most of them were obese at the start of the trial, so the weight-loss was very visible," says Dr Nabin.

While he did not do any strength training before starting on the drug, he started going to the gym to gain back lost muscle mass. Another patient lost more than 25 kg with the widely available GLP-1 drug tirzepatide. He used to weigh 160 kg and was almost bed-bound. The weight loss has helped him move around. Now, the challenge is the extra skin on his abdomen that hangs like a flap and needs fixing through surgery.

Dr Kesavadev believes that with powerful drugs such as retatrutide, bariatric surgeries would be a thing of the past. "The other weight-loss drugs from this class can already replace nearly 70 per cent of bariatric procedures. With this drug, this proportion can increase to 95 per cent. Only those who cannot tolerate the drug or are unable to take it because of contra-indications would need surgeries," he says.

The battle with side-effects

Throughout Dr Nabin's two-year weight-loss journey, every shot of the drug was followed by a bout of diarrhoea. "Every week, after I took my shot, I knew what was about to come. A bad taste in my mouth was the indicator. While it has never been severe enough to warrant hospitalisation — some patients do need to be hospitalised to prevent dehydration with severe diarrhoea — it affected my work, compelling me to take leaves once or twice every month," he says.

Another side effect that Dr Nabin has learnt to live with is dysesthesia — an unpleasant or abnormal sense of touch. "I have a tingling sensation whenever I wrap my muscle tightly around my waist. There is a sensitivity around my thighs, when I touch too," he says.

While most of the side-effects of retatrutide are similar to that of other GLP-1 drugs, including diarrhoea, the phase III trial of the drug showed dysesthesia occurred in 5.1 per cent to 12.5 per cent of the participants.

Dr Kesavadev says several trial participants also reported this unpleasant sensation when there was some pressure on their skin. The theory is that this sensation is a result of the fat loss at the end of the nerves. "This usually happens in those on higher doses but we have seen it even in people on the lower dose. Gastrointestinal side effects like vomiting, diarrhoea and nausea happen with early dosing. dysesthesia can happen at any time," he adds.

Now that the trial is over, Dr Nabin is on other GLP-1 drugs. "I have started gaining weight. Given my family history, I need medication for a longer period perhaps," he says. As newer drugs such as tirzepatide and experimental agents like retatrutide become available, long-term treatment options are likely to expand. "But none of them will work without the supportive pillars of diet, exercise, sleep and a lifestyle overhaul," adds Dr Kesavadev.

*Name changed to protect privacy

MAXIMS OF METABOLISM

BY DR ANOOP MISRA

CHAIRMAN, FORTIS C-DOC FOR DIABETES AND ALLIED SCIENCES

Weight-loss drugs: The promise, price and pitfalls

Latest evidence raises questions about quality of life and weight regain

THE ARRIVAL of modern anti-obesity medicines has transformed obesity treatment. For the first time, drugs such as semaglutide and tirzepatide can produce weight loss approaching 15–20 per cent in many patients — results previously achievable mainly with bariatric surgery. Millions of people living with obesity, Type 2 diabetes and related metabolic disorders now have genuine hope.

Two major systematic reviews, published recently in *The BMJ*, together provide, perhaps, the most balanced assessment yet of these medicines. One, published only a few days ago, involving nearly 1,00,000 participants across 262 clinical trials, confirms their impressive efficacy and cardiovascular benefits. The second, analysing 37 studies involving more than 9,000 participants, examines what happens after treatment is stopped. Together, they remind us that while these medicines represent a major therapeutic advance, obesity treatment cannot be judged by kilograms lost alone. For India, where obesity coexists with relatively low muscle mass and limited healthcare resources, the lessons are especially important.

One of the more surprising observations in *The BMJ* review is that despite substantial weight loss, improvements in quality of life were relatively modest. Across more than 45,000 participants, none of the available medicines produced improvements that met accepted thresholds for clinical significance on standard quality-of-life scales. This does not mean patients fail to benefit. It is just that losing weight does not automatically translate into proportional improvements in overall well-being for every patient.

An issue of crucial importance is muscle loss. The medicines producing the greatest fat loss also result in measurable reductions in lean body mass. Tirzepatide appears to produce greater reductions in lean mass than most other therapies, while semaglutide also results in significant muscle loss. However, preserving muscle is essential because it determines strength, mobility, metabolic health and healthy ageing.

This concern assumes particular importance in India, where people possess lower skeletal muscle mass and strength than many Western populations, even at similar body weights. Loss of muscle mass and strength can operate in increasingly recognised among older adults and people with diabetes.

> ***The true measure of weight-loss success is whether healthier weight, muscle strength and metabolic health can be maintained***

Reducing body weight without simultaneously protecting muscle may increase frailty, falls, disability and hospitalisation, particularly among older patients.

The answer is not to avoid these medicines but to prescribe them more intelligently. Every prescription should be accompanied by advice on adequate protein intake, regular resistance exercise and periodic assessment of muscle strength — not merely body weight.

Perhaps, the greatest challenge starts after successful weight loss. The second *BMJ* meta-analysis provides sobering evidence on what happens when treatment stops. Across 37 studies involving more than 9,300 participants, patients regained weight at an average rate of approximately 0.4 kg every month after discontinuing medications. Interestingly, those receiving semaglutide and tirzepatide regained weight even faster, with cancelling indicating that most patients returned to their baseline body weight within 1.5–1.7 years. At the same time, improvements in blood sugar, blood pressure and cholesterol gradually disappeared, with most cardiometabolic benefits returning close to baseline within about 1.4 years.

This means obesity behaves much like hypertension or diabetes, a chronic, relapsing disease requiring long-term management rather than a short therapeutic course.

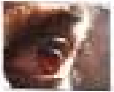
This raises uncomfortable questions. Can patients remain on these medicines for years? Will they continue injections indefinitely? Can health care systems afford lifelong treatment? More importantly, can individual patients?

Those questions become even more relevant in India. Generic semaglutide is expected to substantially reduce treatment costs and improve access. Even then, long-term therapy is likely to remain a expensive for large sections of the population. Cost-effectiveness, therefore, cannot be ignored while framing India's obesity strategy. India's obesity epidemic will not be solved by injections alone. It will require food environments, greater physical activity and prevention beginning in childhood and better public awareness. Much is impossible. And obesity medicines should complement — not replace — these measures.

The true measure of success is not the maximum weight lost during treatment, but whether healthier weight, muscle strength and metabolic health can be maintained years later. For Indians, who face the dual burden of excess body fat and relatively low muscle mass, this balanced perspective may prove even more important.

WEEKLY CAPSULE

Vitamin A link to vision



A SURPRISING discovery is reshaping scientists' understanding of how humans develop sharp central vision before birth. Instead of blue cone cells migrating away from the retina's centre, a study by Johns Hopkins University found they transform into red and green cones under the influence of vitamin A-related signals and thyroid hormones. The findings could improve lab-grown retinal tissue and lay the groundwork for future cell therapies to restore vision lost to age-related eye diseases. The centre of the retina is the first to fail in people with macular degeneration.

Nature's secret for cancer drugs

FOR YEARS, scientists have harnessed bacterial enzymes to create new drug variants through a process known as combinatorial biosynthesis. However, progress has been limited because researchers did not fully understand how the enzymes coordinate their work. Now scientists at the University of Warwick have identified how they do with one another to assemble a family of closely related anti-cancer compounds. That family includes Romidepsin (Istodax), an FDA-approved treatment for certain blood cancers. This finding can also help develop a new strategy for designing future cancer therapies.

Deep sleep and growth hormone

RESEARCHERS AT University of California, Berkeley, have identified the brain circuitry that links deep sleep with the release of growth hormone, revealing how the two regulate each other. This feedback loop explains why poor sleep can interfere with growth, muscle repair, fat metabolism and brain function. This could pave the way for new therapies for sleep disorders and diseases, including Alzheimer's and Parkinson's. Since the growth hormone helps regulate glucose and fat metabolism, consistent poor sleep may increase the risk of obesity, diabetes and cardiovascular disease.

Creatine may help fight cancer

CREATINE is widely known as a supplement used by athletes and bodybuilders to improve strength and performance. Now, new research from UCLA suggests it may have another surprising role, helping the immune system mount a stronger attack against cancer. Creatine boosts the activity of dendritic cells, specialised immune cells that detect tumours and activate the killer T cells responsible for destroying cancer. Many of today's cancer immunotherapies are designed to activate killer T cells, but only about 20 to 40 per cent of patients experience meaningful benefits.

A new weight-loss pill

A NEW, once-daily weight-loss pill called orforglipron delivered better weight loss and blood sugar improvements for people with Type 2 diabetes than the leading oral semaglutide in a major clinical trial. The tablet could offer a more convenient alternative to injectable drugs such as Ozempic and Wegovy because it doesn't require refrigeration or special timing with meals. It's also cheaper to manufacture, which could expand access globally. The participants who took orforglipron also lost more weight —an average of 8.1 kg-9.2 kg, compared with 5.3 kg in those taking semaglutide.

रास्ते से हटाने की साजिश रची और दोनों वारदात को अंजाम दिया। ब्यूरो

वाले उदय कुमार राजौरी गार्डन की

एक तेज रफ्तार स्कार्पियो कार ने

डाक्टरों ने उन्हें मृत घोषित कर दिया।

अध्ययन

नशीले इंजेक्शन लेने वालों में नहीं होती जागरूकता, सर्वेक्षण में सामने आए तथ्य

एचआईवी से बचाव की दवा की जानकारी कम

विमरन

नई दिल्ली। इंजेक्शन के जरिए नशीले पदार्थों का सेवन करने वाले अधिकांश लोगों को एचआईवी से बचाव में इस्तेमाल होने वाली प्री-एक्सपोजर प्रोफिलैक्सिस (पीआरईपी) दवा के बारे में जानकारी नहीं है। अखिल भारतीय आयुर्विज्ञान संस्थान (एम्स), नई दिल्ली के शोध में यह खुलासा हुआ है। इसके अनुसार, जागरूकता की कमी के कारण बड़ी संख्या में लोग इस बचाव उपाय का लाभ नहीं उठा पा रहे हैं। यह अध्ययन मार्च 2024 से मार्च 2025 के बीच किया गया। इसमें 389 लोगों को शामिल किया गया और उनके साथ समूह चर्चा (फोकस ग्रुप डिस्कशन) भी की गई।

अध्ययन का उद्देश्य यह जानना था कि नशे के इंजेक्शन लेने वाले लोगों में पीआरईपी को लेकर कितनी जानकारी है, वे इसे अपनाने के लिए कितने तैयार हैं।

करीब 20 प्रतिशत प्रतिभागियों की लंबे समय तक असर करने वाले इंजेक्शन पहली पंसद

अध्ययन में यह भी सामने आया कि यदि पीआरईपी उपलब्ध कराया जाए, तो लोग रोजाना गोली खाने के बजाय लंबे समय तक असर करने वाले इंजेक्शन को अधिक पसंद करेंगे। करीब 20 प्रतिशत प्रतिभागियों ने लंबे समय तक असर करने वाले इंजेक्शन को अपनी पहली पसंद बताया, जबकि केवल पांच प्रतिशत ने सप्ताह में एक बार ली जाने वाली गोली को चुना। किसी भी प्रतिभागी ने रोजाना ली जाने वाली पीआरईपी गोली को पहली पसंद नहीं माना। समूह चर्चा के दौरान कई प्रतिभागियों ने दवा के संभावित दुष्प्रभावों और इसके असर को लेकर चिंता भी जताई। कुछ लोगों का मानना था कि उन्हें एचआईवी होने का खतरा कम है।

कुछ आर्थिक सहायता भी मिले तो इसे अपनाना आसान

शोधकर्ता अभीश कुमार सेठी के अनुसार, जिन लोगों ने लंबे समय तक असर करने वाले इंजेक्शन में रुचि दिखाई, उनका कहना था कि बार-बार दवा लेने की जरूरत नहीं पड़ती, स्वास्थ्य केंद्रों पर आसानी से सुविधा मिल सकती है। यदि कुछ आर्थिक सहायता भी मिले तो इसे अपनाना आसान होगा।

वहीं, शोधकर्ता पार्थ हलदर ने बताया कि निष्कर्ष निकाला कि नशे के इंजेक्शन लेने वाले लोगों में एचआईवी संक्रमण को रोकने के लिए केवल दवा उपलब्ध कराना पर्याप्त नहीं होगा।

स्वास्थ्य सेवाओं के मूल्यांकन का पैमाना बदले

यूपी को स्वास्थ्य क्षेत्र में अग्रणी बनने के लिए गुणवत्ता, जवाबदेही, पारदर्शिता व मरीजों की सुरक्षा को सर्वोच्च प्राथमिकता देनी होगी।

विजय त्रिपाठी

गुरुवार

राजधानी लखनऊ के लोकबंधु अस्पताल में जब इलाज पीड़ा से छटपटाती एक महिला पहुंची, तो पहले उसे टरकाने की कोशिश की गई, फिर काफी चिरौरी करने के बाद खाली बिस्तर भी नया, तो उसे अपने हाल पर छोड़ दिया गया। लंबर रूम पहुंचने से पहले ही लापरवाही के चलते प्रसव के दौरान ही बच्चा जमीन पर गिरकर मर गया। दूसरा मामला प्रयागराज के मोतीलाल नेहरू मेडिकल कॉलेज में अधिवक्ता जागृति शुक्ला की मौत का है, जिसमें जूनियर डॉक्टरों और वकीलों के बीच हुई हिंसक झड़प ने एक बार फिर चिकित्सकीय लापरवाही के मुद्दे को राष्ट्रीय खास के केंद्र में ला दिया है। इससे पहले लखनऊ के किंग जॉर्ज चिकित्सा विश्वविद्यालय (केजीएमयू) में अनदेखी के कारण एक मरीज का हाथ काटना पड़ा था। तिकापुर के जूट मॉल्यिट पर कार्यरत एक स्टाफ नर्स को हटाकर कार्रवाई का संदेश देने की कोशिश की गई। लेकिन सवाल यह है कि क्या ऐसी कार्रवाई से समस्या खत्म हो जाती है या यह सिर्फ व्यवस्था की खामियों पर पर्दा डालने का एक आसान तरीका है।

सच यह है कि चिकित्सकीय लापरवाही अब इक्का-दुक्का घटनाओं तक सीमित नहीं रह गई है। राष्ट्रीय अपराध रिकॉर्ड ब्यूरो (एनसीआरबी) की हाल ही में जारी रिपोर्ट के अनुसार वर्ष 2022 में चिकित्सकीय लापरवाही के 118 मामले दर्ज हुए थे, जबकि 2024 में यह संख्या बढ़कर 869 हो गई। सबसे चिंताजनक तथ्य यह है कि इनमें 458 मामले अकेले उत्तर प्रदेश से दर्ज हुए, जो कुल मामलों का लगभग 52.70 प्रतिशत है। उत्तर प्रदेश में आज 81 मेडिकल कॉलेज सूचीबद्ध हैं। वर्ष 2017 की तुलना में एमबीबीएस सीटों की संख्या लगभग 4,500 से बढ़कर 12,500 हो चुकी है। सुपर स्पेशियलिटी सेवाओं का विस्तार हुआ है और चिकित्सा ढांचे पर हजारों करोड़ रुपये खर्च किए गए हैं। लेकिन स्वास्थ्य व्यवस्था की सफलता केवल अस्पतालों की संख्या, भवनों की भव्यता से नहीं मापी जाती। उसकी सबसे बड़ी कसौटी मरीज की सुरक्षा, उपचार की गुणवत्ता और जनता का भरोसा है। यदि चिकित्सकीय लापरवाही के सर्वाधिक मामले अकेले उत्तर प्रदेश से सामने आ रहे हैं, तो यह पूरी स्वास्थ्य व्यवस्था की कार्यप्रणाली पर प्रश्नचिह्न है।

विशेषज्ञों के अनुसार, अधिकांश मामलों में ऑपरेशन के दौरान हुई तकनीकी चूक‌ियां, शरीर के भीतर मेडिकल उपकरण छूट जाना, गलत दवा या गलत मात्रा देना, संक्रमण नियंत्रण में लापरवाही, आईसीयू प्रबंधन की कमजोरियां, प्रशिक्षित नर्सिंग स्टाफ की कमी, पैरामेडिकल कर्मियों का अपर्याप्त प्रशिक्षण तथा समन्वय का अभाव इसके प्रमुख कारण हैं। कई अस्पतालों में डॉक्टरों व कर्मचारियों पर अत्यधिक कार्यभार भी रहता है, जिससे गलतियों की संभावना बढ़ जाती है। इसलिए, प्रत्येक गंभीर घटना की स्वतंत्र, निष्पक्ष व वैज्ञानिक जांच हो। यह तय किया जाए कि दोषी व्यक्तियों को या संस्थागत। यदि अस्पताल में पर्याप्त प्रशिक्षित स्टाफ नहीं था, आवश्यक उपकरण समय पर नहीं मिले, तो इसकी जिम्मेदारी भी तय होनी चाहिए। इस संदर्भ में सर्वोच्च न्यायालय ने जैकब मैथ्यू बनाम पंजाब राज्य (5 अगस्त, 2005) मामले में स्पष्ट किया था कि चिकित्सकीय लापरवाही के मामलों में किसी डॉक्टर को गिरफ्तारी विशेषज्ञ मेडिकल बोर्ड की जांच के बिना नहीं होनी चाहिए। सवाल यह है कि उत्तर प्रदेश में ये मेडिकल बोर्ड कितनी सक्रियता व पारदर्शिता से काम कर रहे हैं? क्या प्रत्येक संदिग्ध चिकित्सकीय मृत्यु का स्वतंत्र मेडिकल ऑडिट होता है?

यदि नहीं, तो यह व्यवस्था तत्काल विकसित की जानी चाहिए। इसी प्रकार क्लिनिकल एस्टैब्लिशमेंट एक्ट अस्पतालों के लिए बुनियादी ढांचे, प्रशिक्षित स्टाफ, संक्रमण नियंत्रण और आपातकालीन सेवाओं के न्यूनतम मानक निर्धारित करता है। इन मानकों का ईमानदारी से पालन कराया जाए। अब समय आ गया है कि उत्तर प्रदेश स्वास्थ्य सेवाओं के मूल्यांकन का पैमाना बदले। उपलब्धियों का आकलन इस आधार पर होना चाहिए कि कितने मरीज सुरक्षित उपचार प्राप्त कर घर लौटे, कितनी शिकायतों का निष्पक्ष निस्तारण हुआ और कितनी संस्थाओं ने गुणवत्ता के निर्धारित मानकों का पालन किया। उत्तर प्रदेश यदि वास्तव में स्वास्थ्य सेवाओं के क्षेत्र में देश का अग्रणी राज्य बनना चाहता है, तो उसे आधारभूत ढांचे के विस्तार के साथ-साथ गुणवत्ता, जवाबदेही, पारदर्शिता और मरीजों की सुरक्षा को सर्वोच्च प्राथमिकता देनी होगी। चिकित्सकीय लापरवाही को प्रत्येक घटना को केवल कानूनी विवाद नहीं, बल्कि व्यवस्था सुधार का अवसर माना जाना चाहिए।

editor@amarujala.com

कोरोना के नए वैरिएंट से बढ़ी चिंता वैक्सीन को कर सकती है बेअसर

नई दिल्ली। दुनिया में कोरोना वायरस के एक नए वैरिएंट बीए 3.2 ने वैज्ञानिकों की चिंता बढ़ा दी है। शोधकर्ताओं का कहना है कि इस वैरिएंट में इतने अधिक आनुवंशिक बदलाव (म्यूटेशन) हैं कि यह पहले संक्रमण या वैक्सीन से बनी प्रतिरक्षा (इम्युनिटी) को आंशिक रूप से चकमा देने की क्षमता रखता है। हालांकि, अभी तक ऐसा कोई प्रमाण नहीं मिला है कि यह अन्य वैरिएंट की तुलना में अधिक गंभीर है। अभी तक भारत में इसका कोई मामला देखने को नहीं मिला है।

रिपोर्ट के मुताबिक, बीए 3.2 में मौजूदा कोविड वैक्सीन की आधारशिला माने जाने वाले जेएन.1 वैरिएंट की तुलना में स्पाइक प्रोटीन में करीब 70 से 75 म्यूटेशन और डिलीशन पाए गए हैं। नवंबर 2025 से जनवरी 2026 के बीच डेनमार्क, जर्मनी और नीदरलैंड में सीक्वेंस किए गए करीब 30 फीसदी मामलों में यही वैरिएंट मिला। ब्यूरो

आंध्र प्रदेश में कोरोना से दो मौतों के बाद बढ़ी निगरानी

विजयवाड़ा। आंध्र प्रदेश के कडप्पा जिले में कोरोना वायरस से दो लोगों की मौत हो गई और 8 अन्य लोग पॉजिटिव पाए गए हैं। स्वास्थ्य अधिकारियों ने निगरानी और तैयारी के उपाय तेज कर दिए हैं। सूत्रों ने बताया कि कडप्पा वायरोलॉजी लैब में आरटी-पीसीआर जांच के दौरान 4 लोग कोविड पॉजिटिव पाए गए। ये चारों मामले कडप्पा के अलग-अलग इलाकों से हैं।

उम्मीद

प्रयोगशाला में मानव शुक्राणु बनाने की दिशा में बड़ी प्रगति, प्रजनन विज्ञान को मिली नई दिशा

अब मानव स्टेम सेल से बनेंगे शुक्राणु, बांझपन से निजात

अमर उजाला नेटवर्क

वॉशिंगटन। प्रयोगशाला में कृत्रिम तरीके से मानव शुक्राणु तैयार करने की दिशा में वैज्ञानिकों ने एक महत्वपूर्ण उपलब्धि हासिल की है। शोधकर्ताओं ने मानव स्टेम सेल से ऐसी अपरिपक्व शुक्राणु कोशिकाएं विकसित की हैं, जो आगे चलकर परिपक्व शुक्राणु बनने की क्षमता रखती हैं। यह उपलब्धि पुरुष बांझपन के कारणों को समझने और भविष्य की प्रजनन चिकित्सा के लिए एक महत्वपूर्ण आधार तैयार करती है।

नेचर की रिपोर्ट के अनुसार यूनिवर्सिटी ऑफ पेनसिल्वेनिया का यह शोध वैज्ञानिक पत्रिका सेल स्टेम सेल में प्रकाशित हुए हैं। शोधकर्ताओं ने पहली बार मानव स्टेम सेल से विकसित शुरुआती शुक्राणु कोशिकाओं को जीवित चूहे के शरीर में विशेष रूप से तैयार किए गए वातावरण में विकसित किया। वैज्ञानिकों का उद्देश्य फिलहाल प्रयोगशाला में परिपक्व शुक्राणु बनाना नहीं, बल्कि मानव शुक्राणु बनने की शुरुआती जैविक प्रक्रिया को बेहतर ढंग से समझना है। इस शोध में वैज्ञानिकों ने पहले मानव कोशिकाओं को पुनः प्रोग्राम कर उन्हें प्रेरित बहु-क्षमता स्टेम सेल में बदला।

पुरुष बांझपन के रहस्यों को समझने में मदद

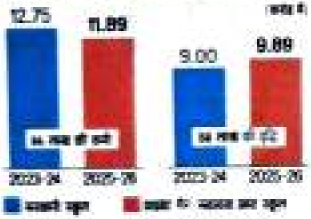
इस तकनीक का सबसे बड़ा लाभ फिलहाल पुरुष बांझपन पर शोध में होगा। वर्तमान में पुरुष बांझपन के लगभग 40% मामलों में वास्तविक कारण का पता नहीं चल पाता। यदि वैज्ञानिक शुरुआती शुक्राणु विकास की प्रक्रिया को विस्तार से समझ पाए, तो कई आनुवंशिक और जैविक कारणों की पहचान संभव हो सकेगी। इससे भविष्य में नई उपचार पद्धतियों और दवाओं के विकास का रास्ता भी खुल सकता है। हालांकि, शोधकर्ताओं का कहना है कि अगले चरण में यह साबित करना होगा कि प्रयोगशाला में तैयार हुई स्पर्मेटोगोनिया कोशिकाएं वास्तव में कार्यक्षम हैं या नहीं।

शरीर की किसी भी कोशिका में बदल सकती हैं कोशिकाएं : ये ऐसी कोशिकाएं होती हैं जो शरीर की लगभग किसी भी प्रकार की कोशिका में बदल सकती हैं। इसके बाद इन्हें विशेष जैविक संकेतों की मदद से उन प्रारंभिक जनन कोशिकाओं में परिवर्तित किया गया। इसके बाद इन कोशिकाओं को विकसित हो रहे चूहे के वृषण (टेस्टिस) की सहायक कोशिकाओं के साथ मिलाया गया। इस मिश्रण को चूहे की किडनी पर बनाई गई एक छोटी जैविक थैली में प्रत्यारोपित किया गया, जहां कोशिकाओं को बढ़ने और विकसित होने के लिए अनुकूल वातावरण मिला।

चूहे की जैविक थैली में बनीं वृषण जैसी नलिकानुमा संरचनाएं : चूहे की जैविक थैली में कोशिकाएं स्वयं व्यवस्थित होकर वृषण जैसी नलिकानुमा संरचनाएं बनाने लगीं। शोधकर्ताओं ने पाया कि प्रत्यारोपण के लगभग छह महीने बाद मानव कोशिकाएं विकसित होकर स्पर्मेटोगोनिया नामक अवस्था तक पहुंच गईं। यही वे शुरुआती कोशिकाएं होती हैं जिनसे आगे चलकर परिपक्व शुक्राणु बनते हैं। इन कोशिकाओं में सक्रिय जीन सामान्य मानव स्पर्मेटोगोनिया से काफी हद तक मेल खाते पाए गए।

सरकारी स्कूल गायब होते बच्चे

देश में सरकारें सरकारी स्कूलों में सुविधाएं और शिक्षा की गुणवत्ता बढ़ाने के लिए काम कर रही हैं। सरकारी स्कूलों में शिक्षकों की संख्या बढ़ी है और छात्र शिक्षक अनुपात बेहतर हुआ है। इसके बावजूद यही विडंबना है कि पिछले दो वर्षों में सरकारी स्कूलों से 86 लाख छात्र गायब हो गए हैं और निजी स्कूलों में 88 लाख छात्र बढ़ गए हैं। इसका मतलब है कि सरकारी स्कूलों की कीमत पर निजी स्कूलों में छात्रों की संख्या बढ़ रही है। नीति निर्माताओं के लिए यह सोचने का समय है कि बड़े पैमाने पर संसाधन खर्च करने के बावजूद सरकारी स्कूल छात्रों और अभिभावकों की अपेक्षाओं पर खरे क्यों नहीं उतर रहे हैं। निजी स्कूलों में भी शिक्षा और शिक्षकों की गुणवत्ता पर सवाल है और वे स्कूल तय मानकों का पालन भी नहीं करते हैं। इसके बावजूद निजी स्कूलों में छात्रों की संख्या बढ़ना और सरकारी स्कूलों में संख्या कम होने के कारणों की पड़ताल आज मुद्दा है...



एक दशक में बंद हुए 94,000 सरकारी स्कूल

ग्रामीण भारत की स्थिति

प्राइवेट स्कूलों में छात्रों की संख्या बढ़ने के प्रमुख कारण