



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
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States vs central health scheme (The Indian: 20190114)

<https://indianexpress.com/article/explained/mamata-banerjee-west-bengal-ayushman-bharat-pmjay-scheme-5536668/>

Explained: Why Bengal has withdrawn from Centre's flagship health scheme PMJAY

West Bengal has withdrawn from flagship programme PMJAY, joining 3 other states that have stayed out. What are the reasons behind the states' reluctance; what could this mean for the programme's future?

States vs central health scheme

West Bengal Chief Minister Mamata Banerjee announced that her state is withdrawing from Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (PMJAY)

On Thursday, West Bengal Chief Minister Mamata Banerjee announced that her state is withdrawing from Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (PMJAY). Delhi, Telangana and Odisha have stayed out of the programme, while reports have suggested that Congress-ruled states such as Karnataka may follow suit. A look at why the Centre's flagship health programme is raising political hackles:

Why has West Bengal exited?

The dispute is over branding. The letter sent to beneficiaries has photos of Prime Minister Narendra Modi; the West Bengal government feels that given the 60:40 partnership in the scheme, the state government should get similar space on documents. Then there is the name of the scheme itself. In a letter dated January 10, in which it informed the Centre about its withdrawal, the West Bengal government chose to call the scheme Jan Arogya Yojana rather than Pradhan Mantri Jan Arogya Yojana. Additional Chief Secretary Rajiva Sinha wrote: "... The MoU of JAY signed between Government of West Bengal and Government of India clearly stipulated that since West Bengal already had a well-established scheme Swasthyasathi, the state government would like to retain the name Swasthyasathi in the scheme... To our surprise the entitlement letter/card issued by your Ministry mentions the name of the scheme as PMJAY which is not only a violation of the stipulations of the said MoU but has created confusion at the grassroots level."

Launched in 2016, West Bengal's Swasthyasathi provides a basic health cover for secondary and tertiary care up to Rs 5 lakh per annum per family, the same as PMJAY. So far, around 1 crore people have been enrolled under the central scheme in West Bengal while the state scheme already had 40 lakh beneficiaries. Rs 176.56 crore has been released to the state.

For PMJAY, the pullout is a setback because it affects the national portability of the scheme. Kolkata being the preferred destination for many people from the Northeast and from states such as Bihar, officials fear it could impact more people than just the beneficiaries in West Bengal.

Why have three other states stayed out?

Each has a different reason. In Odisha, Chief Minister Naveen Patnaik stole a march over the Centre when, about 40 days before the launch of PMJAY in September 2018, his government announced the launch of Biju Swasthya Kalyan Yojana (BSKY) named after former Chief Minister Biju Patnaik. BSKY will give an insurance cover up to Rs 5 lakh per eligible family and Rs 7 lakh for treatment of female members. A letter from the CM to every beneficiary family also lists other state schemes such as Niramaya (free medicines), Nidan (free diagnostics), and Sahay (dialysis and chemotherapy in all districts).

Delhi, like West Bengal, has an issue with the name of the scheme. On August 23, Dr R N Das, Additional Director in the Directorate General of Health Services, wrote to implementing agency NHA (National Health Agency) Deputy CEO Dr Dinesh Arora: "Hon'ble Minister of Health, Government of NCT of Delhi has approved the entering of MoU with the National Health Agency. However, he has also minuted that name of the scheme will be Mukhya Mantri Aam Aad(m)ji Swasthya Bima Yojana Ayushman Bharat for implementation in Delhi." Negotiations stumbled when the NHA replied: "Since this is a national scheme with national character, it's critical that the name of the scheme starts with AYUSHMAN BHARAT. This will also help us in operationalising portability and easy identification of beneficiaries. The state government can have any suffix after the AYUSHMAN BHARAT." Neither side has budged from its position and NHA has since started empanelling Delhi hospitals on its own rather than through the State Health Agency as has been done in all other states. Delhi, incidentally, has been mulling its own health insurance programme for some time now.

Gehlotji is 28 years older than me. He can say what he wants. I accept it with humility: Sachin Pilot

Telangana has kept the NHA guessing. Officials have met Chief Minister K Chandrasekhar Rao in Delhi but have not managed to convince him. Sources say another meeting in Hyderabad is possible, but a decision one way or the other may have to wait until after the elections.

Starting from undivided Andhra Pradesh, Telangana has one of the oldest functioning tertiary care health schemes in the country. A community health insurance scheme, Arogyashri provides financial protection to families living below the poverty line up to Rs 2 lakh in a year for the treatment of serious ailments requiring hospitalisation and surgery. Altogether 949 treatments are covered. According to a 2017-18 report, there are 77.19 lakh beneficiary cards with 330 empanelled hospitals.

What's next in West Bengal's case?

In a letter dated January 11, Ayushman Bharat CEO Dr Indu Bhusan has urged the state government to reconsider its position. The letter says: "... Ayushman Bharat family letter is neither a beneficiary card nor an entitlement card. The said letter is only one of the modes of spreading awareness among eligible families... The distribution of the letter is an integral part of the beneficiary identification guidelines (available in the public domain) given that Ayushman Bharat is an entitlement based scheme." The CEO's letter makes it clear that the family letter is non-negotiable.

AIIMS OPD

AIIMS to shift its OPD to more spacious accommodation (The Hindu: 20190114)

<https://www.thehindu.com/news/cities/Delhi/aiims-to-shift-its-opd-to-more-spacious-accommodation/article25988085.ece>

Patients waiting outside the outpatient department (OPD) at the All India Institute of Medical Sciences in New Delhi. Nearly 8,000 patients visit the OPD at the institute daily.

Patients waiting outside the outpatient department (OPD) at the All India Institute of Medical Sciences in New Delhi. Nearly 8,000 patients visit the OPD at the institute daily. | Photo Credit: Prateek Kumar

Besides the new Outpatient Department, located just 500 metres away in the adjacent Masjid Moth area and expected to be functional by March, AIIMS will also get a National Centre for Ageing, and a Burns and Plastic Surgery Block soon, reports Bindu Shajan Perappadan

The All India Institute of Medical Sciences (AIIMS) is all set to shift its existing outpatient department (OPD) and move into a more spacious accommodation 500 metres away to the adjacent Masjid Moth area by the end of March.

Currently catering to a patient load of 8,000 per day, the old OPD, hospital sources said, needs to be "decluttered urgently".

With the new 93,000 sq m OPD, AIIMS will be able to accommodate 10,000 patients in one go.

\The new block will have the standard clinical and operational areas, and procedure rooms.

To make the transition seamless for patients visiting AIIMS, the institute will run free transport services between the main campus and the new OPD block.

Departments which need more space will shift to the old OPD building, noted a senior AIIMS official, adding that "we also need space for research, which is the primary focus of the institute".

“The shift is aimed at streamlining a patient’s AIIMS experience, and to provide better care in the shortest possible time and in the most systematic manner. Some departments will continue here [on the main campus] and we will ensure that the shift is gradual,” he said.

The new OPD has been constructed according to green and energy conservation norms. Figures released by the Union Health Ministry on AIIMS in Delhi show that 8,000 patients come to the OPD daily, with 400 critical patients visiting the casualty department.

The hospital caters to 35 lakh OPD patients each year, has 55 departments, 640 faculty members, 2,000 resident doctors and 5,100 staff nurses.

The maximum number of deaths were reported from its institute’s Gastroenterology Department — 536 (2012-13); 448 (2013-14); 403 (2014-15); and 223 (2015-16). The Jai Prakash Narayan Apex Trauma Centre reported 631, 624, 544 and 472 deaths during the same period.

“AIIMS, Delhi, gets patients from across the country. They are often referred here in a critical condition. The institute caters to a patient load many times over and above its actual capacity. The government has been in the process of allowing growth in terms of additional beds and expansion of the existing institute,” said a Health Ministry official.

Besides expanding its OPD services, the institute is also building a new block specifically to offer treatment to the older population and burn victims.

An official said the institute understood the need for special care for this section of the population, hence the move.

According to the 2011 census, there are nearly 104 million elderly persons (aged 60 years and above) in India — 53 million women and 51 million men.

A report released by the United Nations Population Fund and HelpAge India suggests that the number of is expected to grow to 173 million by 2026.

It is in this light that AIIMS has started work on building the National Centre for Ageing — a 200-bed block with a dedicated operation theatre. Being constructed at a cost of ₹150 crore, the facility is expected to be open by March next year.

“The facility will have its own OPD, which will ensure that older patients are catered to in the same block,” said an AIIMS official.

AIIMS has also received a nod to build a new Burns and Plastic Surgery Block, which aims to take the pressure off the Trauma Centre, which currently caters to these patients, and shift these patients into a specialised ward.

Coming up next to the Trauma Centre, ₹100 crore has been sanctioned to the institute for this project. “Though staff has not been sanctioned for the facility so far, we should begin recruitment soon,” added the AIIMS official.

The Union Cabinet had earlier this year approved a proposal to establish three new AIIMS — at Vijaynagar in Jammu’s Samba (at a cost of ₹1,661 crore); at Awantipora in Kashmir’s Pulwama (at a cost of ₹1,828 crore); and at Rajkot in Gujarat (at a cost of ₹1,195 crore).

‘Large pool of doctors’

“The three new institutes will not only transform health education and training but also address the shortfall of healthcare professionals in the region. These new institutes will serve the dual purpose of providing super speciality health care to the population closer to their homes and also create a large pool of doctors and other health workers in this region that can be available for primary and secondary-level institutions/ facilities being created under the National Health Mission [NHM]. Construction of the new institutes is fully funded by the Central government. Their operations and maintenance expenses will also be fully borne by the Centre,” Union Health Minister J.P. Nadda had said.

The three new AIIMS will lead to employment opportunities for nearly 3,000 people in various faculty and non-faculty posts.

“Each new AIIMS will add 100 undergraduate [MBBS] seats and 60 BSc [Nursing] seats. They will have 15-20 super speciality departments and also add around 750 hospital beds. Each new AIIMS will cater to around 1,500 OPD patients per day and around 1,000 IPD patients per month ,” he added.



Pancreatitis

Why pancreatitis sets in early in Indians (The Hindu: 20190114)

<https://www.thehindu.com/sci-tech/why-pancreatitis-sets-in-early-in-indians/article8261650.ece>

SPINK1 gene mutation causes pancreatitis in Indians

Holding the potential for developing a predictive marker for Tropical Calcific Pancreatitis (TCP), prevalent in India and other developing countries, scientists have found that the association between two mutated genes — SPINK1 and PRSS1 (cationic trypsinogen) — was responsible for an early onset of the disease among Indians.

Scientists from the Hyderabad-based Centre for Cellular and Molecular Biology (CCMB) and the Asian Institute of Gastroenterology, Hyderabad, analysed various genes linked to

pancreatitis. While one of the mutated genes (SPINK1) was earlier linked to the disease, the second mutated gene (cationic trypsinogen), which plays a key role in digestion of proteins, was for the first time shown to be playing a role in disease pathogenesis in Indians.

Interestingly, the presence of another mutated gene (CLDN2) along with SPINK1 and cationic trypsinogen was found to modify the progress of the disease and delay its onset.

According to Dr. G.R. Chandak, who was earlier with CCMB and currently the Director of Centre for DNA Fingerprinting and Diagnostics (CDFD), previous studies failed to identify PRSS1 or PRSS2 mutations in TCP and any other type of CP among Indians, although it was found to be associated with Europeans. But SPINK1 was found to be causing pancreatitis among Indians as well as Europeans.

Cationic trypsinogen activates enzymes for digestion of proteins and normally this process happens in the intestine. However in case of a mutation, the activation begins in the pancreas itself. But it would be a kind of a double whammy if there was a mutation in this gene as well as SPINK (which normally acts as an inhibitor of activation in pancreas); it leads to early onset of the disease.

It was also found that the onset of the disease was earlier in individuals having only SPINK1 gene as compared to those having only PRSS1. However, it would be even earlier when both the defective genes are present.

Dr. Chandak said the mechanism of the disease was different in Indians. While the frequency of SPINK1 variation was about 30-40 per cent in Indians, it was 18-23 per cent in Europeans. The major difference between Indians and Europeans was that SPINK1 was predominantly causing the disease in Indians while PRSS1 was responsible for it among Europeans.

He said once an individual develops pancreatitis, it could progress into an acute form and lead to recurrent attacks. Many a time, those suffering from chronic pancreatitis develop diabetes and cancer with the disease becoming life-threatening.

With the prevalence of TCP estimated to be around 114 per 100,000 in India, he said the new finding would help in developing a predictive marker for screening individuals whose family members suffer from the disease. Further research was continuing to explore the possibility of developing a population marker, he added.

Prescription legibility

The importance of prescription legibility (Hindustan Times: 20190114)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

Do you know what 'b.i.d' means in a doctor's prescription? Or for that matter, 'q.d' or 't.i.d'? Well if your answer is that it's all Greek to you, I would not blame you. These are all abbreviations of a foreign language — Latin — and obviously incomprehensible to most consumers.

The MCI has been trying to promote a standard prescription format for the past few years.

For example, 'q.d' stands for 'quaque die' in Latin, meaning once a day. Meanwhile, 'q.i.d' stands for 'quater in die' or 'four times a day'. Yes, even if you understood the abbreviations, if you got the alphabets wrong because of the poor handwriting of the doctor and mistook 'q.d' for 'q.i.d' and took a tablet four times a day instead of once, it could be well be disastrous. The letters 'b.i.d' stand for 'bis in die' in Latin, meaning 'twice a day'; and 't.i.d' stands for 'ter in die', meaning 'thrice a day'.

As it is, most doctors' prescriptions are difficult to follow, because of bad handwriting. Even pharmacists who are adept at deciphering doctors' recipes, sometimes fail to get it right, leading to serious medication errors. The use of Latin abbreviations makes matters worse. So it's time we stopped clinging to these outmoded, unintelligible acronyms and adopted a simple, easily understood way of conveying the crucial information.

Besides standardising simple English, the Medical Council of India (MCI) should recommend pictorial representations, as a sizeable number of patients in India do not follow English. Some doctors for example, indicate the number of times a medicine has to be taken, with dots or small zeroes. One zero for once a day, two with a space between them for twice a day, etc. This is easily understood by all and it is time such changes are introduced.

In the last couple of years, the MCI and the state medical councils have tried to promote a standard prescription format. There is also an attempt to promote generic drugs and prevent prescription errors by asking doctors to write legibly and in capital letters. The Indian Medical Council (Professional Conduct, Etiquette and Ethics) Regulations, says that: "Every physician should prescribe drugs with generic names legibly and preferably in capital letters and he/she shall ensure that there is a rational prescription and use of drugs." (1.5, Chapter 1, Code of Medical Ethics)

Yet, doctors continue to prescribe brands and most often their prescriptions are difficult to understand. The Allahabad High Court's decision last October to impose a penalty of ₹5,000 on three doctors for their illegible handwriting, is a case in point. What annoyed the judges was that in three separate criminal cases, the poor handwriting of doctors had rendered injury reports of victims unintelligible.

The doctors' defence was the heavy workload — in fact doctors in government hospitals say that the pressure of work is such that it does not allow them to spend more time on the prescription. However, a badly scrawled prescription can be counterproductive, if it is misread and can lead to medication error, with serious consequences on the health of the patient.

In order to overcome the problem of indecipherable prescriptions, many countries around the world are moving to electronic prescriptions and we, too, need to do that, particularly because e-prescriptions also allow use of local languages and one can do away with acronyms. But, the software should be such that the process is less time consuming than writing out a prescription.

And till we move towards that perfect solution, make sure that there is no confusion about what the doctor is prescribing. Cross check the generic name of the drug, its purpose, dosage, how and when it should be taken and the side effects, if any. Remember, the apex consumer court has upheld the patients' right to all vital information about the prescribed drug (*Dr VK Ghodekar vs Sumitra Prahlad Korgaonkar*, RP NO 1727 of 2002).

Crimes against women

Crimes against women reduced in 2018: Report (The Tribune: 20190114)

<https://www.tribuneindia.com/news/delhi/crimes-against-women-reduced-in-2018-report/713348.html>



In 2019, safety of women is among the most critical priorities for Delhi Police, while 2018 saw a decline in crime against women in Delhi, as per Commissioner Amulya Patnaik. Overall, in 2017, the crime against women was 5,955 that came down to 5,787 in 2018.

In 2018, molestation of women came down by 3.05 percent with 3,175 reported cases as compared to 3,275 in 2017. Matters of insult to the modesty of women (509 IPC) 621 cases were reported in 2017 compared to 569 in 2018.

In 2018, 2,043 rape incidents were reported compared to 2,059 cases in 2017. In 2018, 95 percent cases were solved compared to 91 percent in 2017, as per Special Commissioner of Police Satish Golcha (crime). In most of the rape incidents, victims were known to the accused and involvement of strangers in rape was just 2.5 percent in 2018 compared to 3.36 percent in 2017, he said.

Under 'Sashkti' programme, 1,419 women were trained in self-defence in 2018, which was organised at schools, colleges and other venues. All-Women Patrolling Squad were formed with women police staff deployed in 15 police control room vans and 46 women police personnel trained for this job. The women squad would serve as a force multiplier to ensure safety and security of women while commuting on road and at public places.

The initiative of the squad was conceived with twin objectives. On one hand, it is designed to give a greater sense of security and comfort to the girls and women moving on road and at public places, for their personal and professional pursuits. On the other, it is a step forward in encouraging and motivating female police personnel by making the system more inclusive for them and putting them at the proactive front of field policing.

The squads have been equipped with motorcycle with four riding gear, a gypsy with a women police officer as the driver and incharge to lead the patrol team, wireless sets, protection team and firearms. They were given specialised training in driving and riding and in the maintenance of the squad vehicles. Overcoming odds, the women police officers developed into an effective and forceful unit. The patrol squad has also been trained in weapon handling, firing and unarmed combat, he said.

New sleeping pill

New sleeping pill can help patients wake up in response to threat (The Tribune: 20190114)

<https://www.tribuneindia.com/news/health/new-sleeping-pill-can-help-patients-wake-up-in-response-to-threat/713140.html>

Japanese scientists have shown that a new class of sleeping pill that preserves the ability to wake in response to a threat, unlike the commonly prescribed drugs that muffles a sleeping brain's "intruder alert".

Even during sleep the brain continuously processes sensory information, waking us if it detects a threat. But the most widely prescribed class of sleeping pills, known as benzodiazepines, makes us less likely to rouse in response to sensory input.

The findings showed that millions prescribed on these sleeping pills would sleep through a fire alarm as someone vacuuming next to their bed.

However, the new class of drugs called dual orexin receptor antagonists (DORAs) more selectively targeted the brain's sleep or wake pathways, which gives them safety advantages over benzodiazepines, said researchers from the Kagoshima University.

These include a reduced "hangover effect", with DORAs less likely to affect driving ability the day after use.

"Benzodiazepines stimulate the widespread brain receptor GABA-A, which makes us sleepy but also suppresses off-target brain areas—including the 'gatekeeper' that decides which sensory inputs to process," explained author Tomoyuki Kuwaki, Professor at the varsity.

In the study, published in *Frontiers in Behavioral Neuroscience* journal, mice that were given the new experimental hypnotic drug DORA-22 wake as quickly when threatened as drug-free sleepers—and then fall back asleep as quickly as ones given standard sleeping pills, once the threat is gone.

While DORA-22 allows mice to wake to a threat, it still helps them sleep.

Thus, the selectivity of DORAs could make them a safer alternative during sleep as well—by allowing the brain's sensory gatekeeper to stay vigilant to threats, the researchers said.

However, more studies on humans are needed to confirm DORA safety and efficacy, they noted.

"Although it remains to be seen whether DORAs have the same properties when used in humans, our study provides important and promising insight into the safety of these hypnotics,"
Kuwaki sa



Child abuse

Child abuse ups suicide risk in later life (The Tribune: 20190114)

<https://www.tribuneindia.com/news/health/child-abuse-ups-suicide-risk-in-later-life/712721.html>

Children who experience physical, sexual, and emotional abuse are significantly more likely to attempt suicide in later life, a study has found.

The analysis of 68 studies by psychologists at the University of Manchester and University of South Wales in the UK showed that suicide attempts were three times more likely for people who experienced sexual abuse as a child.

People who experienced physical abuse as a child were two and a half times more likely to attempt suicide.

The research, published in the journal *Psychological Medicine*, also showed that children who experienced multiple abuses are as much as five times higher to attempt suicide.

As the people who experienced abuse as children get older, the risk of suicide attempts increases, researchers said.

People not in contact with mental health clinicians were found to be at the highest level of risk.

The sixty-eight studies were carried out across the world, producing about 262 thousand adults aged 18 years or older, who were exposed to childhood abuse and neglect.

"Around one adult in every three has experienced abuse as a child," said Maria Panagioti, from The University of Manchester, who led the research team.

"This study conclusively gives us solid evidence that childhood abuse and neglect is associated with increased likelihood that they will be at risk of suicide as adults," said Panagioti.

"And that has important implications on healthcare. Other studies have shown that in the US, for example, the economic burden of childhood maltreatment is estimated to be around USD 124 billion," she said.

"These findings not only provided a clear picture of the connection between abuse or neglect in childhood and suicide attempts later on in life, but also recognised that efficient interventions should take a broader community-based approach," said Ioannis Angelakis from the University of South Wales. — PTI

Common physical health

Common physical health drugs may help treat mental illness (The Tribune: 20190114)

<https://www.tribuneindia.com/news/health/common-physical-health-drugs-may-help-treat-mental-illness/712719.html>

Medications commonly used to combat physical health diseases, such as high blood pressure, could bring significant benefits to people with serious mental illnesses such as schizophrenia and bipolar disorder, a study claims.

The study, published in the journal *JAMA Psychiatry*, assessed the health data records of 142,691 patients with serious mental illness (SMI) in Sweden.

It focused on those patients who had either been prescribed Hydroxymethyl glutaryl coenzyme A reductase inhibitors (HMG-CoA RIs), more commonly known as statins -- which are used to reduce cholesterol, L-type calcium channel antagonists (LTCC), used to reduce high blood pressure, or biguanides (such as metformin), used to treat diabetes.

Researchers from Karolinska Institute in Sweden and University College London (UCL) in the UK analysed patients' health records relating to self-harm and psychiatric hospitalisation.

They assessed whether these episodes occurred during a period when patients were taking the prescribed medication or in periods when they were not.

The study found that exposure to any of the study drugs was associated with reduced rates of psychiatric hospitalisation compared with unexposed periods.

Self-harm was reduced in patients with bipolar disorder and schizophrenia during exposure to all study drugs and in patients with non-affective psychosis taking L-type calcium channel antagonists.

"Serious mental illnesses, including bipolar disorder, are associated with high levels of morbidity and are challenging to treat," said Joseph Hayes from UCL.

"Many widely used drugs, such as statins, have long been identified as having the potential for repurposing to benefit these disorders," said Hayes.

"This study is the first to use large population data sets to compare patient's exposure to these commonly used drugs and the potential effects on people with serious mental illnesses," he said.

All the studied drugs are known to have an effect on the central nervous system; however, the mechanism of action is not well understood and researchers believe a clearer understanding of this may lead to new drug development to benefit those with SMI.

"All three studied drugs are globally licensed, commonly used, cheap, and relatively safe medications. They are therefore ideal candidates for repurposing," Hayes said. — PTI

Higher calcium levels

Higher calcium levels may predict heart disease (The Tribune: 20190114)

<https://www.tribuneindia.com/news/health/higher-calcium-levels-may-predict-heart-disease/712703.html>

Specks of calcium in the heart's artery walls could signal early risk of cardiovascular disease, particularly in men from South Asian countries, including India, and may help develop treatment methods, researchers say.

According to the team from the University of California-San Francisco (UCSF), people from South Asia are known to have a high chance of developing cardiovascular disease.

They may also develop risk factors such as high blood pressure, cholesterol and diabetes at a younger age. However, it remains unclear which clinical factors could help determine those at highest risk.

Further, South Asian men (8.8 per cent) were found to have a higher rate of calcification than their women (3.6 per cent) counterparts.

"The presence and change of coronary artery calcium may be useful for risk prediction in this ethnic population and may better guide the judicious use of statin and other preventive therapies," said lead author Alka Kanaya, Professor at UCSF.

The Journal of the American Heart Association (JAHA), the team focussed on nearly 700 patients with ethnic backgrounds from India, Pakistan, Bangladesh, Sri Lanka, Nepal and Bhutan and found that South Asian men had the same high rates of change in calcification of their artery walls over a five-year period as white men.

Coronary artery calcification (CAC) is the buildup of calcium in the arteries which can cause blood vessels to narrow and lead to the development of heart disease.

Early signs of CAC can be detected through a computed tomography (CT) scan.

The American Heart Association recently recommended CAC testing in individuals with intermediate heart disease risk to help determine whether they should be treated with cholesterol-lowering medications. — IANS

Vitamin D supplements

Vitamin D supplements can help lung patients (The Tribune: 20190114)

<https://www.tribuneindia.com/news/health/vitamin-d-supplements-can-help-lung-patients/712148.html>

Vitamin D supplements can reduce the risk of potentially fatal lung attacks in some patients with chronic obstructive pulmonary disease (COPD), suggests a new study.

COPD is a group of lung diseases including emphysema and chronic bronchitis that causes airflow blockage.

The study showed that the oral use of vitamin D supplements led to a reduction in lung attacks among COPD patients.

"Vitamin D supplementation is safe, and it costs just a few pence to supplement a person for a year so this is a potentially highly cost-effective treatment that could be targeted at those who have low vitamin D levels following routine testing," said lead researcher Adrian Martineau, Professor from the Queen Mary University of London.

For the study, published in the journal Thorax, the team included 469 patients across three clinical trials in the UK, Belgium and the Netherlands.

It was found that supplementation did not influence the proportion of participants experiencing serious adverse events, indicating that it was safe.

However, no benefit was seen for patients with higher vitamin D levels.

"New treatments are urgently needed to prevent COPD attacks. Our study shows that giving supplements to vitamin D-deficient COPD patients nearly halves their rate of potentially fatal attacks," Martineau noted.

While vitamin D is best known for its effects on bone health, previous studies have also revealed its role in protecting against colds, flu and asthma attacks, and even helping with weight gain and brain development in malnourished children.— IANS

Alzheimer's disease

Decreased deep sleep may signal Alzheimer's disease: Study (The Tribune: 20190114)

<https://www.tribuneindia.com/news/health/decreased-deep-sleep-may-signal-alzheimer-s-disease-study/711549.html>

Older people who get less deep sleep have higher levels of the brain protein tau, a sign of cognitive decline and Alzheimer's disease, according to a study.

Slow-wave sleep is the deep sleep people need to consolidate memories and wake up feeling refreshed, said researchers at the Washington University School of Medicine in the US.

The findings, published in the journal Science Translational Medicine, suggest that poor-quality sleep in later life could be a red flag for deteriorating brain health.

"What's interesting is that we saw this inverse relationship between decreased slow-wave sleep and more tau protein in people who were either cognitively normal or very mildly impaired, meaning that reduced slow-wave activity may be a marker for the transition between normal and impaired," said Brendan Lucey, an assistant professor at the Washington University.

"Measuring how people sleep may be a noninvasive way to screen for Alzheimer's disease before or just as people begin to develop problems with memory and thinking," Lucey said.

The brain changes that lead to Alzheimer's, a disease that affects an estimated 5.7 million Americans, start slowly and silently.

Up to two decades before the characteristic symptoms of memory loss and confusion appear, amyloid beta protein begins to collect into plaques in the brain.

Tangles of tau appear later, followed by atrophy of key brain areas. Only then do people start showing unmistakable signs of cognitive decline.

The challenge is finding people on track to develop Alzheimer's before such brain changes undermine their ability to think clearly. For that, sleep may be a handy marker.

To better understand the link between sleep and Alzheimer's disease, Lucey, along with David Holtzman, a professor at Washington University, and colleagues studied 119 people 60 years of age or older.

Most—80 per cent—were cognitively normal, and the remaining were very mildly impaired.

The researchers monitored the participants' sleep at home over the course of a normal week.

Participants were given a portable EEG monitor that strapped to their foreheads to measure their brain waves as they slept, as well as a wristwatch-like sensor that tracks body movement.

They also kept sleep logs, where they made note of both nighttime sleep sessions and daytime napping. Each participant produced at least two nights of data; some had as many as six.

The researchers also measured levels of amyloid beta and tau in the brain and in the cerebrospinal fluid that bathes the brain and spinal cord.

Thirty-eight people underwent PET brain scans for the two proteins, and 104 people underwent spinal taps to provide cerebrospinal fluid for analysis. Twenty-seven did both.

After controlling for factors such as sex, age and movements while sleeping, the researchers found that decreased slow-wave sleep coincided with higher levels of tau in the brain and a higher tau-to-amyloid ratio in the cerebrospinal fluid.

"The key is that it wasn't the total amount of sleep that was linked to tau, it was the slow-wave sleep, which reflects quality of sleep," Lucey said.

"The people with increased tau pathology were actually sleeping more at night and napping more in the day, but they weren't getting as good quality sleep," he said. — PTI

Air Quality (The Asian Age: 20190114)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12260768>

Air quality recorded in 'severe' category

AGE CORRESPONDENT
NEW DELHI, JAN. 13

Delhi's air quality was recorded in the "severe" category on Sunday due to a reduced wind speed even as authorities have forecast rainfall in the next couple of days which they said might lower the pollution level.

According to Central Pollution Control Board (CPCB) data, the overall air quality index (AQI) in the city was 416, which falls in the "severe" category.

An AQI between 100 and 200 comes under the 'mod-

erate' category, 201 and 300 is considered "poor", 301 and 400 "very poor", while that between 401 and 500 is "severe". As many as 24 areas recorded "severe" air quality and seven "very poor" air quality, the CPCB said. In the National Capital Region (NCR), Ghaziabad, Faridabad, Noida and Greater Noida recorded "severe" air quality, it said.

The overall PM2.5 level - fine particulate matters in the air with a diameter of less than 2.5 micrometers - in Delhi was at 273, while the PM10

level was at 426, it said. The Centre-run System of Air Quality and Weather Forecasting (SAFAR) said the air quality may improve in the next two days under the influence of light rains which is expected thereafter.

"The overall air quality will deteriorate further, with small fluctuations in the next three days if it does not rain. Other meteorological conditions are not favourable although foggy conditions are likely to reduce now," the SAFAR said. It said the air quality will deteriorate further by Sunday to

remain in the border of very poor to severe and then to start improving depending on rain.

"In any case, the AQI will start receding by Tuesday but to remain in very poor. Other meteorological conditions are not favourable although foggy conditions are likely to reduce now," it said.

Delhi's air quality was recorded in the "poor" category on Wednesday and Thursday with increased wind speed which helps in cleansing the air before slipping into very poor category on Friday afternoon,

Emergency services hit at Safdarjung

AGE CORRESPONDENT
NEW DELHI, JAN. 13

Emergency services at Safdarjung Hospital were affected on Sunday as the resident doctors stayed away from work alleging one of their colleagues was manhandled by a Delhi police head constable's son who had come for treatment.

According to police, son of head constable Vinod, posted at Safdarjung Enclave police station, was taken to the hospital on Sunday morning after he complained of abdominal pain.

An argument broke out between the head constable's son Akshay Kumar (24) and the doctor on duty over the former allegedly not being given priority and subsequent delay in treatment, a senior police officer said. Enraged, Akshay punched the doctor, who sustained injuries on his nose. The accused fled from the hospital soon after the inci-

▶ **An argument broke out between the cop's son and the doctor over the former allegedly not being given priority resulting in delay in his treatment**

dent, he said.

A member of Resident Doctors Association (RDA) said the doctor on emergency duty tried to relieve the patient's pain but it did not subside. "While the resident doctor on duty was filling up a form so that the patient could undergo an ultrasound, the latter started hurling abuses," a senior doctor said.

The doctor on duty fell unconscious after he was attacked and suffered a broken nose, he said. "The resident doctor is under observation. We have lodged an FIR in the case," he added.

Police said the head constable and constable on

▶ **Enraged, the policeman's son punched the doctor, who sustained injuries on his nose. The accused fled from the hospital soon after incident.**

duty, who was also present at the time of the incident, have been transferred to District Lines. An enquiry has been ordered into the incident and the role of duty constable in instigating the accused is also being probed, they said. Meanwhile, patients coming to Safdarjung Hospital faced a tough time.

The faculty and the paramedical staff managed the Emergency.

The resident doctors held a protest and demanded that security at the hospital be beefed up. They have also threatened to go on indefinite strike from Monday if their demand is not met.

Emergency services at the Safdarjung

Cop's son 'assaults' doc at Safdarjung Hospital (Hindustan Times: 20190114)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

Cop suspended, hospital brings in paramedics to help fill gap

Emergency services at the Safdarjung Hospital were hit after resident doctors at the hospital went on strike on Sunday following an assault on a doctor by a patient who happens to be son of a Delhi Police head constable.

HT FLE

Doctors want the hospital to lodge an institutional FIR.

Police have registered a case and are probing the matter.

According to police, 24-yearold Akshey Kumar arrived at the ER-3 ward of the hospital at around 7am and complained of abdominal pain.

By this time, Kumar's father Virender, a Delhi Police head constable posted at Safdarjung police station, called up the duty constable Vinod at the hospital informing him that his son would be coming there for treatment.

During treatment, Kumar allegedly abused the attending junior resident doctor 28-year-old Ravinder Nath Thakur. Doctors alleged that the police constables on duty at the hospital "backed" the attackers.

"Following an argument, Kumar assaulted the doctor," said deputy commissioner of police (southwest) Devender Arya. "The doctor suffered injuries to his nose, and hospital security intervened to control Kumar. The police was informed and the doctor was treated at the hospital. We have registered a case of assault against the man and they have been asked to join for the probe."

However, till late Sunday evening, neither of the two men reported to the police. The DCP said the police were working to arrest Kumar for the alleged assault. "We are also checking the CCTV footages from the hospital to establish the sequence of incidents," the DCP said.

At the hospital, he was accompanied by his friend Rajesh. Police are yet to establish whether Rajesh too was involved in the alleged assault.

Vinod as well as Virender have been suspended pending enquiry.

Sunday's strike affected emergency services in the hospital, including wards, intensive care units and operation theatres.

With the strike likely to affect services on Monday as well, hospital administration has put faculty and paramedical staff on duty to handle the rush of patients that is the hospital likely to witness with the out-patient departments (OPDs) open for consultation.

The resident doctors wrote a formal complaint to the hospital administration, requesting them to lodge an institutional FIR in the incident.

According to the complaint, “the culprits had backing from the police constable on duty, who showed bias on duty and clearly favoured the culprits... the culprits had police constable’s duty wooden stick (lathi) while they were assaulting the doctors...”

“We intend to continue the strike as doctors need to get a safe work environment. The guards didn’t come on time and the duty doctor was badly beaten ,” said Dr Prakash Thakur, president, resident doctors association.

Artificial ripeners

Watch out for artificial ripeners (The Tribune: 20190114)

<https://www.tribuneindia.com/news/in-focus/watch-out-for-artificial-ripeners/713578.html>

Fruits are the best natural food as these are the richest source of nutrition. The consumption of fruits has increased considerably in recent years due to improved financial standards, awareness about their benefits and their availability round the year, thanks to cross-border trading. The fruit trade involves transportation to distant places. Highly perishable ones such as mango, papaya and banana cannot be stored and transported to long distances after ripening as they tend to get spoiled. Therefore, traders generally harvest raw fruits and ripen these artificially at the destination market before sale.

Considering the importance of artificial ripening in the supply chain of certain fruits, the Food Safety & Standards Authority of India (FSSAI) permits the use of ethylene for the purpose. Due to the high cost of the gas and the requirement of sophisticated infrastructure (gas chambers), traders often use unsafe and banned ripeners such as calcium carbide sachets or gas which can be harmful to our health.

Artificial ripening of fruits by acetylene gas, commonly known as carbide gas or calcium carbide, is prohibited as per the provisions in sub-regulation 2.3.5 of the Food Safety and Standards (Prohibition and Restriction on Sales) Regulations, 2011. It permits the use of ethylene at a concentration up to 100 ppm (100 microgram/litre) depending upon the crop, variety and maturity for artificial ripening of fruits. Of late, the FSSAI has approved the use of ethephone.

Pesticide residue

The FSSAI has prescribed maximum residual limits (MRL) of pesticides for different foods under the Food Safety and Standards (Contaminants, Toxins, and Residues) Regulations, 2011. The MRL for insecticides has been prescribed for fruits and vegetables also. For example, the maximum residual limit for pesticide chlordane is 0.1 ppm for fruits and 0.2 ppm for vegetables. The MRL fixed for pesticide dicofol is 5 ppm for fruits and vegetables.

Acid content

Acids are added to fruit juice to bring the pH within the range 3-3.3, which is necessary for product-making (pH is a measure of acidity, a lower value means greater acidity). Acidity levels vary in different types of fruits and also in different samples of the same fruit. Limes are very acidic and have a pH lower than 3.3. Sodium bicarbonate is added to the fruit juice to reduce the acidity. The only acids that are allowed to be added to jams are citric acid, tartaric acid and malic acid. In practice, citric acid (found in lemon juice) is mainly used; it is widely available with chemists or pharmacies. If citric acid is not available, lemon juice is often used as an alternative.

Use of colour

During boiling, fruit pulps and juices get darker in colour. In the case of some fruits, the change of colour is only marginal and hence these are still acceptable for product-making. Other fruits get darkened too much and become unattractive to consumers. Processors, therefore, add some artificial colour to these products to improve their appearance. Natural fruit colours can also be used to improve the shade of products, for example, adding dark red fruits or berries can give a more attractive and natural colour to jams. Most consumers prefer to eat preserves that are free from artificial colouring. The processors are required to ensure that they add only those colours to fruit products which are allowed by the regulatory body, and that too within the permitted limit.

Total soluble solids

The aim of boiling a fruit product is to reduce the water content of the mixture and concentrate the fruit and sugar in as short a time as possible. As per Food Product Standards and Food Additives Regulations, 2011, the final total soluble solids (TSS) content of a jam should be 65 to 68 per cent. The TSS is a measure of the amount of material that is soluble in water. The correct sugar content is critical for proper preservation of the product. If the final TSS of the jam is lower than 65-68 per cent, the shelf life will be reduced.

Stickers on fruits

The FSSAI has issued an advisory that stickers should not be pasted on the fruits as these contain non-edible glues. As per the advisory, if the stickers are to be pasted, the same should be done on the wrapper of paper or plastic around the fruits. Further, the consumers have been advised to properly clean the spot of the stickers or cut the portion of the fruits containing the sticker, so as to avoid eating any residue of harmful glue. Stickers mostly don't contain valuable information regarding the fruit quality; these are pasted only to falsely enhance its value.

Rs 9,411 crore Export of fruits and vegetables from India during 2017-18

Rs 4,229 crore Fruits

Rs 5,182 crore Vegetables

1% India's share in global market

In Mangoes, walnuts, grapes, bananas and pomegranates account for the lion's share of fruits exported from India. Onion, okra, bitter melon, green chilli, mushroom and potato contribute largely to the vegetable export basket.

In Major destinations for Indian fruits and vegetables are UAE, Sri Lanka, Netherlands, Bangladesh, Malaysia, Nepal, UK, Saudi Arabia and Qatar.

Source: Agricultural & Processed Food Products Export Development Authority (APEDA)

New packaging norms

Food businesses need to comply by July 1 with new packaging regulations that bar use of recycled plastics and newspapers to wrap food articles, according to Food Safety & Standards Authority of India.

Regulations prohibit material made of recycled plastic, including carry bags, for packaging, storing, carrying or dispensing articles of food.

Taking cognisance of carcinogenic effect of inks and dyes, norms also prohibit use of newspaper and such other materials for packing or wrapping of food articles and includes respective Indian standards for printing inks for use on food packages.

The new norms will replace all provisions with respect to packaging requirements prescribed in the Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

Primary objective of packaging is to protect food from micro-biological, chemical, physical and atmospheric contamination and preserve it.

Good packaging ensures there is no change in sensory properties or composition of food when packed.



Family Planning Injection

क्लिनिकल ट्रायल पूरा, इस्तेमाल के लिए जल्द मिल सकती है इजाजत

पुरुषों के लिए गर्भनिरोधक इंजेक्शन, एक बार लगाकर 13 साल टेंशन फ्री(Navbharat Times: 20190114)

<http://epaper.navbharattimes.com/details/9453-61595-2.html>

एक्सक्लूसिव • पहले चूहे, फिर खरगोश और अन्य जानवरों पर किया गया ट्रायल • फिर 303 लोगों पर की गई जांच, 99.2 पर्सेंट तक प्रेग्नेंसी रोकने में पाया गया कारगर

• पुरुषों को अब नसबंदी की जरूरत नहीं होगी, अब एक इंजेक्शन उनके लिए कॉन्स्ट्रासेप्टिव (गर्भनिरोधक) का काम करेगा। भारतीय वैज्ञानिकों ने मेल कॉन्स्ट्रासेप्टिव इंजेक्शन डिवलप कर लिया है। इसका क्लिनिकल ट्रायल भी पूरा हो चुका है। इंडियन काउंसिल ऑफ मेडिकल रिसर्च की अगुवाई में यह ट्रायल पूरा कर रिपोर्ट स्वास्थ्य मंत्रालय को सौंप दी है। बहुत जल्द इस इंजेक्शन को इस्तेमाल के लिए हरी झंडी मिलने वाली है।

आईसीएमआर के साइंटिस्ट डॉक्टर आर एस शर्मा ने बताया कि यह रिक्सबल इनबिशन ऑफ स्पर्म अंडर गाइडेंस (RISUG) है, जो एक तरह का गर्भनिरोधक इंजेक्शन है। अब तक पुरुषों में गर्भनिरोधक के लिए सर्जरी की जाती रही है, लेकिन अब सर्जरी की जरूरत नहीं होगी। अब एक इंजेक्शन पुरुषों के लिए गर्भनिरोधक का काम करेगा। खास बात यह है कि इस इंजेक्शन की सफलता दर 95 पर्सेंट से भी ऊपर है और एक बार इंजेक्शन के बाद 13 साल तक यह काम करता है। डॉक्टर शर्मा ने कहा कि 13 साल तक का हमारे पास रिकॉर्ड है, हमें उम्मीद है कि यह इंजेक्शन इससे भी ज्यादा समय तक काम कर सकता है। डॉक्टर शर्मा ने बताया कि आईआईटी खड़गपुर के वैज्ञानिक डॉक्टर एस्के गुहा ने इस इंजेक्शन में इस्तेमाल होने वाले ड्रग्स की खोज की थी। यह एक तरह का सिंथेटिक पॉलिमर है। सर्जरी में जिन दो नसों को काट कर इसका इलाज किया जाता था, इस प्रोसिजर में उसी दो नसों में यह इंजेक्शन दिया जाता है, जिसमें स्पर्म ट्रैवल करता है। इसलिए इस प्रोसिजर में दोनों नसों में एक एक इंजेक्शन दिया जाता है। डॉक्टर ने कहा कि 60 एमएल का एक डोज होगा।

उन्होंने कहा कि इंजेक्शन के बाद निगेटिव चार्ज होने लगता है और स्पर्म टूट जाता है, जिससे फर्टिलाइजेशन यानी गर्भ नहीं ठहरता। डॉक्टर ने कहा कि पहले चूहे, फिर खरगोश और अन्य जानवरों पर इसका ट्रायल पूरा होने के बाद इंसानों पर इसका क्लिनिकल ट्रायल किया गया। 303 लोगों पर इसका क्लिनिकल ट्रायल फेज वन और फेज दो पूरा हो चुका है। इसके टॉक्सिसिटी पर खास ध्यान रखा गया है, जिसमें जीनोटॉक्सिसिटी और नेफ्रोटॉक्सिसिटी वगैरह क्लियर हैं। 97.3 पर्सेंट तक दवा एक्टिव पाया गया और 99.2 पर्सेंट तक प्रेग्नेंसी रोक पाने में कारगर साबित हुआ।

डॉक्टर शर्मा ने कहा कि हमने यह रिपोर्ट स्वास्थ्य मंत्रालय और ड्रग्स कंट्रोलर ऑफ इंडिया को सौंप दी है। उन्होंने कहा कि अब हम इस पर एक स्टेप और आगे काम करने की तैयारी कर रहे हैं, जिसमें यह कोशिश है कि अगर किसी को इंजेक्शन लेने के बाद फिर से स्पर्म को एक्टिव बनाना है, तो क्या वह वापस लाया जा सकता है या नहीं। इस पर काम करना शुरू कर दिया है।