



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE Day  
Wednesday 20190102

## **AYUSHMAN BHARAT - health scheme's**

**In 100days, 685Kavailedfreecare (Hindustan Times: 20190102)**

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

AYUSHMAN BHARAT Those involved in the health scheme's implementation say number of beneficiaries is rising rapidly

NEW DELHI: A little under 700,000 people have so far been treated free in various empanelled hospitals across India under the Narendra Modi government's flagship health insurance scheme, Ayushman Bharat- Pradhan Mantri Jan Aarogya Yojna (AB-PMJAY), which was launched on September 23.

The scheme, billed as world's biggest public health scheme, provides annual health cover of ₹5 lakh per family to 107.4 million poor and vulnerable families (around 500 million people) listed in the socio-economic caste census data for secondary and tertiary care hospitalisation through a network of empanelled hospitals. In first 100 days, 685,000 people have availed of the scheme.

To mark the first 100 days of the scheme, finance minister Arun Jaitley on Tuesday wrote a post on Facebook in which he described it as "a game changer in health care."

"Many people from weaker sections avoided hospital treatment in order to avoid the burden of an unbearable payment. Today, 40% of India's poorest are assured of a treatment in a hospital at the cost of public expenditure. This scheme also supports the hospitals as an institution by ensuring patients for them. This will lead to more hospitals (especially in Tier II and III cities), and those with better equipment. Health sector jobs are set to increase. PMJAY will help create an accountable health system because beneficiary feedback is an integral part of its implementation," Jaitley wrote.

Those involved in implementation of Ayushman Bharat say that it has been received well, and that the number of beneficiaries is rising rapidly.

"The outcome has been better than what we expected, even in greenfield states such as Uttar Pradesh, Bihar, Madhya Pradesh, and Haryana that have had no health insurance schemes

running in the past. In UP, the number of admissions increased by more than 60% during the past one month -- that shows the rate of pick-up is remarkable,” says Indu Bhushan, chief executive officer, Ayushman Bharat.

While the number of hospital admissions under the scheme is rising, it's the relatively less expensive medical fields such as obstetrics and gynaecology, general medicine, ophthalmology and oral and maxillofacial surgery (surgery for disorders affecting the facial complex and the skeleton) that have seen the most demand for treatment under the scheme, highlighting the need for more super-speciality hospitals to be empanelled for treatment.

One of the major challenges in implementing the scheme has been the reluctance of big corporate hospitals to come on board, largely for financial reasons.

“The problem here is that in insurance model you cannot have two separate rates for the same procedure. The rates in this scheme are lower than CGHS (central government health scheme) rates that cannot be acceptable. The medical industry proposed CGHS rates plus 10%; and if not that then at least CGHS rates,” says Dr KK Aggarwal, ex-national president, Indian Medical Association.

Union ministry of health provides comprehensive medical facilities to the current and retired employees of the central government and their dependents in their empaneled hospitals at subsidised rates that are fixed by the ministry.

Bhushan says, “At least 50% of the hospitals empanelled under the scheme are privately run, but the big ones seem to be reluctant as their cost structure is too high because of the kind of salaries they pay and other costs involved. We are also relooking at our rates and are in discussion with the industry.”

#### FAKE WEBSITES, APPS, DATA SAFETY

Another problem that the National Health Agency, the central implementing agency of the scheme, is trying to tackle is the rise of fraud websites and mobile apps that dupe beneficiaries.

“Ayushman Bharat is a totally cashless scheme and beneficiaries do not have to pay a penny out of their pocket. We have tracked some 69 apps and at least 50 fake websites that have got nothing to do with the scheme's implementation but only meant to dupe people,” says Bhushan.

“Preventing fraud or abuse is our concern and we are trying to have more checks and balances in place. We have taken down 62 apps and many of the websites we found are registered outside India. We are getting it fixed.”

Since the scheme is information technology-enabled, safety of data has also been a concern.

“We are ensuring that the data is secure and the IT system remains stable and not easily hacked. Also, our analysis shows that our staff needs further training, especially in software and in states that have had no schemes in place earlier,” Bhushan adds.

The agency is also working with the health research department to frame a standard treatment protocol that can be issued to all empanelled hospitals.

“This is especially for tertiary care so that all patients are treated in a uniform manner even though there could be some modifications depending on the case that the treating doctor will take a call on,” says Bhushan.

The agency also had an offline module developed as internet connectivity was a problem in remote areas like in the northeastern region.

“We don’t encourage its use much as it’s prone to frauds. But at the same time we don’t want anyone to be denied services so it will be used wherever connectivity is an issue.”

Bhushan is hopeful that in the next three months, the scheme’s reach will grow exponentially.

“Our assessment is that the weaker states such as UP, Bihar, MP should catch up in next three months,” he says.

## **Health sector**

### **The health sector needs new ideas (Hindustan Times: 20190102)**

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

Use health schemes to garner additional funds from the public and in return offer quality care

**COUNTRIES WHICH HAVE BUILT WELL-FUNCTIONING HEALTH SYSTEMS HAVE DONE SO BY STRONGLY SHAPING AND CONTROLLING THEIR HEALTH CARE MARKETS USING ALL THE TOOLS AT THEIR DISPOSAL**

There are some interesting developments in progress within India. Extreme poverty is all but gone and by 2025 the prediction is that fewer than 1% of the population will be at that level of income. With the total fertility rate nearing replacement rate, population growth rate has slowed sharply and is expected to fall below 1% per annum by 2025, with several states already showing negative rates of growth. Total calorie consumption has fallen and there are now consistent food surpluses in the country. While each of these statistics is individually remarkable, taken together they paint a picture that is very different from the one that India woke up to on August 15, 1947. The India of naked, hungry, and homeless, teeming millions is all but gone forever, as are the fears of Professor Malthus, one of the earliest teachers of Indian civil servants at the East India Company College in Hertfordshire. As India looks ahead and prepares itself for the next decade, it will need to make room for this new India, and to think very differently than it has in the past.

This new India faces some very different challenges. Very few people below the poverty line but close to 95% of the population being low-income, and not middle-class. Adequate total expenditure on health care by citizens but over 50 million people returning to poverty each year because of health shocks, having to once again claw their way back up. And, despite all this expenditure, a continuing burden of maternal and child mortality and infectious diseases alongside a rapidly rising burden of non-communicable diseases such as high blood pressure, diabetes, and mental illness which have a direct impact on the well-being and economic

productivity of young Indians. Absolute hunger a distant memory for families but children with high levels of anaemia and malnutrition which hurts both their physical health and their mental abilities. To respond effectively to these new challenges, India may need to focus its attention and redirect its scarce tax resources towards building up its human capital and rely far more heavily on its wellfunctioning capital markets and private sector, to address the more traditional challenges of the lack of adequate capital and infrastructure and tools for risk management in the economy.

In a field such as curative health care, given the severe challenges that are inherently associated with it and its strong links to the productivity and welfare of its citizens, countries which have built well-functioning health systems have done so by strongly shaping and controlling their health care markets using all the tools at their disposal, and by so doing have effectively addressed the four concerns of health status, degree of responsiveness, financial protection, and equity. They have all, for example, used taxes (and other tax-like mandatory instruments) as the primary means of pooling current health care expenditures of citizens (currently estimated at over 4% of GDP for India) and have then used these pooled funds to pay for health care , instead of requiring their citizens to pay for them from their pockets when they need to use them. Additionally, all of them have found a way of keeping a strict control on both the quantity and quality of health care that is provided using a combination of their pooled purchasing power and the more traditional licensing and price control regimes, and have not allowed market forces to determine them in an unfettered manner.

India, while continuing on its journey to further strengthen its public health system, may also want to explore these ideas more carefully, to promote the orderly development of its entire health system and to address many of the challenges that it now faces. For example, in addition to allocating a significantly larger share of its annual tax budget for health care as many countries with similar aspirations have already done, it could also further strengthen its commercial health insurance markets and work closely with it to introduce products far more suitable for low-income families. It could also use schemes such as Employees' State Insurance Scheme and Ayushman Bharat to garner additional resources from the public and in return offer all of them free and high quality health care . Additionally, while India could, over time, further strengthen its capacity to regulate the health care sector, since it already has a great deal of experience in operating strict licensing and price control regimes, it could very rapidly and effectively bring this to bear in health care markets. Nachiket Mor is the India Country Director of the Bill &

Melinda Gates Foundation. The views expressed are personal

## **Newborns.**

### **South Asia is a dangerous place for a child to be born (Hindustan Times: 20190102)**

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

There's plenty that families can do to protect newborns. It is not all in the hands of doctors, nurses and attendants

Right now, as you read this, babies that have just been born here in South Asia are battling for their lives. The lucky ones are in a special newborn care unit with doctors and nurses working hard to keep them alive – keeping them warm; giving them oxygen and antibiotics if they need them. For too many, the battle will be lost before their lives even properly begin.

n Ankita Jadav, a five-month-old malnourished baby, at Pantha Sash Kutir Hospital, Jawahar, Palghar district, 2016

South Asia is a dangerous place to be born. In 2018, one million newborn babies died before they reached one month of age. Every one of these deaths is a tragedy for the family. And the sheer number of deaths is an outrage. This number – one million newborn baby deaths – is 40% of all newborn deaths if we look around the globe. The risk of dying is the same for a South Asian newborn as it is for a baby in Sub-Saharan Africa.

The availability of clinics and hospitals is still an issue in some places, as is transport to get to them on time. But this is no longer the main problem. The key issue is how good, or how bad, the care for pregnant mothers and newborns is. When we know that every year, one million babies here in our region will be dead within the first month of being born, we have a strong indication that the quality of care is simply not good enough.

The good news that I can share is that mothers and families actually can do a lot themselves to counter the threat of poor care. They are far from powerless and they are crucial to improving this situation. They can start by looking critically at the care they get when a new baby is on its way. There are very visible signs of quality care to look for at their clinic or hospital. It starts with the fundamentals: Is the place clean? Look at the health care workers: are they able and willing to answer your questions? Are they washing their hands before they touch you and the baby? You don't need a medical degree to look for these signs and they will be a good indicator of how well the mother, the birth and child will be handled.

What can you do if you do not feel comfortable with the quality? The answer is to speak up! Bring to the attention of the director of the clinic or hospital. Post your concerns about the quality on social media. Or talk to a journalist who might be able to write a story about it. Each one of us may have very little power, but together we are powerful. And if more mothers and families complain about the lack of appropriate care, we have better chances of improving the situation for the next newborn. You really do have a crucial part to play in creating change.

At home, mothers and families can also help ensure that a baby has the best chances of survival. Making sure that no girl becomes pregnant before she is 20 years old and her body can sustain a healthy pregnancy and is fully developed to give birth will help improve South Asia's grave

newborn death statistics. Families can help make sure that an expecting mother gets her first medical check within the first 12 weeks of pregnancy. That way, she can be given advice and problems can be detected. And, by choosing to breastfeed and to start breastfeeding right after the baby is born, the mother is giving her newborn the best chances to survive that first month when the new baby girl or boy is extremely vulnerable.

So, there is plenty that mothers and families can do to help protect their newborns. It is not all in the hands of doctors, nurses and birth attendants.

My wish for 2019 is that we will see many more South Asia babies getting the urgent attention and quality care that they need and deserve. Every child has the right to survive – and I wish for joy and happiness in every new family with a healthy and thriving newborn.

## **Women Empowerment**

### **Women in science are often made to feel like impostors (Hindustan Times: 20190102)**

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

Along with sexist biases, women in STEM fields also face discriminatory practices and weak peer networks

A 2017-18 SURVEY SAYS 40% OF THE UNDERGRADUATES IN SCIENCE AND ENGINEERING ARE WOMEN, BUT THEY MAKE UP ONLY 14% OF SCIENTISTS, ENGINEERS AND TECHNOLOGISTS EMPLOYED IN RESEARCH

When I introduce myself to people outside the worlds of science and engineering, I often joke that I am a rocket scientist. It's not untrue: I studied aerospace engineering both in college and graduate school. Some ask why I am not a rocket scientist anymore. I have an arsenal of responses ranging from poetic ("I was fascinated by flight, by the poetic idea of overreaching and escape") to witty ("Studying aeronautics because you are fascinated by flight is like becoming a gynaecologist because you like watching porn").

Buried underneath the banter is an unspoken conviction that I was not good enough to continue. Let's pause and consider the evidence: I graduated as the department topper. In graduate school, I had a perfect 4.0 GPA. Professors and mentors told me that I had the temperament for research. Yet, I found the idea of a career in research laughable. I would have done it if I were smarter, I believed. To have a meaningful career as a researcher in science or engineering one had to be a genius, but I thought I was only an aberration.

It was in graduate school in the United States that I learnt of the impostor syndrome, a psychological pattern where one believes, in spite of evidence to the contrary, that one is a fraud, that one's successes are sheer flukes. Impostor syndrome, huh, I remember thinking. Trust the Americans to come up with big names for the weight of bad decisions. Like the decision to pursue science or engineering when one is not cut out for it.

Back in college, I was an aberration: I was the only woman in my class of around 40. In my third year, I was working on a homework assignment with some of my classmates.

At one point I got stuck and one of the men explained to me how to proceed. It was a perfectly normal interaction, but when I excused myself to use the bathroom, I came back to overhear this classmate sagely pronouncing that girls might get better grades, but they just don't get the fundamentals of maths and science.

All I heard was that I did not understand those fundamentals. It wasn't the first such pronouncement. I had heard that girls do well in school only because they work harder, only because teachers favour them, only because boys aren't serious about their futures yet.

The real geniuses — like Einstein, like Edison — were, in a way, too cool for school. Yes, I did work hard. Yes, teachers liked me. But did I know everything, could I answer every question? No.

Hence, not good enough. I never stopped to ask why a man could so easily extrapolate one woman's wrong answer to a weakness of the whole gender, and why, just as easily, a woman could believe that she was the specific subject of every loose judgement on women (unless, of course, she declared that she was not like other girls.)

I am still learning to probe my self-doubt and shed the parts of it that are inherited. I am still learning to question my own biases.

When I wanted to examine my professional experiences in my first novel, I instinctively wrote a male character. In *Milk Teeth*, it's the male protagonist Kartik who is a brilliant student, who goes to an elite engineering college. It's the man who grapples with the sting of unfulfilled genius. And it took two drafts for me to even question this choice, and the voice in my head said at once: "But it feels more universal this way. With a female character, this struggle will feel too specific, too narrow."

The All India Survey on Higher Education 2017-18 estimates that 40% of the undergraduates in science and engineering are women, but women make up only 14% of scientists, engineers and technologists employed in research and development institutions.

An absorbed fear that you are not good enough might look like the smallest of the obstacles women in STEM fields face – like sexism and discriminatory practices, an uneven distribution of childcare and chores at home, weaker peer networks, fewer female mentors and far fewer women in decision-making positions – but let's not forget the young man who thinks women "just don't get the fundamentals of maths and science".

Even if we don't listen to him, as things stand today, he will be the professor, the manager, the supervisor of tomorrow. Amrita Mahale is the author of the novel, *Milk*

*Teeth* (Westland Context, 2018) The views expressed are personal

## **Health concerns – Arsenic**

### **Test all Punjab hand pumps for arsenic: Study (The Tribune: 20190102)**

<https://www.tribuneindia.com/news/punjab/test-all-punjab-hand-pumps-for-arsenic-study/707473.html>

High contamination confined to flood plains of Ravi covering Tarn Taran, Amritsar and A blanket testing of hand pumps/tube wells, especially private ones, should be the first step in dealing with public health issues due to arsenic exposure in Punjab, a recent study on the Indus Basin region, covering Indian as well as Pakistani areas, has said.

Besides, the Punjab Government needs to concentrate more on northern parts which have “serious” levels of arsenic, along with traces of fluoride and nitrate, in groundwater, said Dr Chander Kumar Singh from the Department of Energy and Environment at the TERI School of Advanced Studies.

The presence of arsenic in groundwater is mostly “natural, from geogenic sources” and prevalent in Indus as well as the Bengal basin. In fact, it extends to most South Asian countries and several studies have been conducted on problem in the past three decades, including mitigation and reducing exposure. According to Dr Chander, this study, covering 13,000 water sources on the Indian side, is the “first large-scale study of this nature”.

Twenty-five researchers, including 15 from India, participated in the research— conducted by Delhi-based TERI in collaboration with Quaid-i-Azam University, Islamabad, and Columbia University of New York— on 30,000 hand pumps/ tube wells on both sides of the border.

“The issue needs immediate attention whether by the way of piped water or community RO systems. The question is whether the mitigation is targeted towards affected areas because we found that the majority of RO systems are installed in southern parts whereas high arsenic levels were found to be confined to flood plains of the Ravi river covering Tarn Taran, Amritsar and Gurdaspur districts,” Dr Chander, who is the lead researcher of the study, said.

“What the government needs to do is to focus on these areas, test all hand pumps/ tube wells and not just those installed by it. Normally, the government only focuses on its facilities and private wells are not tested. But we see a ray of hope in testing each and every well, including private ones. It costs just Rs 20 per test,” he said.

The study found that 87 per cent of households that had hand pumps high in arsenic also had access to private hand pump with cleaner water within 100 m. Normally, in a village of 90 to 100 households (on an average), there would be as many tube wells/hand pumps, but the government would be testing only eight to 10 installed by it.

“Mitigation is only possible if you know the exact level and location of the problem. A similar study in the arsenic-affected region of Bihar found that approximately one-third of the population with high arsenic switched to safe wells in the vicinity as a result of blanket testing,” he said.



“Deep wells in Punjab do not look promising in terms of solution as some of these have also been found to have high arsenic levels. We foresee the centralised systems of treated water supply/centralised RO systems as a probable long-term solution, but this should be based on the blanket testing of wells along with proper maintenance.”

30,000 hand pumps/wells under study in India, Pakistan

13,000 water sources on the Indian side under study

25 researchers, including 15 from India, conducted the study

Health concerns

High arsenic levels in water are leading to slow poisoning, potentially causing skin lesions, damage to nervous system, stomach ailments, diabetes, renal toxicity, cardiovascular diseases and cancer

Because of high fluoride content in water, kids are facing dental and skeletal fluorosis, while high nitrate levels are causing gastric cancer, goitre and birth malformations

## **Pursuit of happiness**

**Author and philosopher Pascal Bruckner explains how to achieve joy in life (The Hindu: 20190102)**

<https://www.thehindu.com/society/pursuit-of-happiness/article18488992.ece>

We have heard of aspirin as a painkiller and as a blood thinner but would you ascribe life changing philosophy to the humble pill? Pascal Bruckner, a French philosopher and writer says, “...in ancient times...happiness was not the main concern...devoted people had only salvation in their mind...happiness was just an accident...happiness was defined as diversion...Pain was the major experience.” Pain was a reward, happiness a sin.

Aspirin helped change perspective of pain and salvation. “And pleasure began to make its presence felt!”

Bruckner begins by defining happiness as one of three: “Happiness is a moment of grace and joy in life...it is different in quality from ordinary days and it is a feeling that may make us go on the right track...Grace is something that comes on you without you expecting it...when you are having an experience and you realise there is a special quality about that moment which may never come back. That is why happiness is more a moment in life than a permanent state...happiness may last a long time but the problem comes when you try to ‘retain’ it...” Bruckner refers to the familiar exclamation, “Oh! You must be so happy!” saying, “... The moment you hear that, you become a comedian of happiness, you play happiness instead of feeling it.”

Fulfilling duties

Happiness makes you feel you have a goal in life, you have a passion and whatever happens to you in spite of any setback or moments of distress, you are pursuing the goal. You are not wasting life. In that definition happiness could be confused with passion. Having a passion in life is an advantage because you know exactly what to do, what to achieve...it helps a lot in days of anger or sadness because you know you have to overcome it..., but, he adds, "Success might be the end of your happiness. Whenever you achieve your goal, your main concern is to find another one. Today the right to happiness turns into a duty. For two centuries, the right to pleasure has been a subversive motto...duty was to work...in the sixties, asceticism gave way to consumerism...then came the individualistic revolution. No religion or social class can stop you from being happy...the main enemy between me and happiness is myself, so I have to work on myself to gain that happiness...which is not just a right but a social goal now," and so Buckner says, "Medicine drugs, aesthetical surgery, therapy and religions...all aimed at one goal, to make people happy. Happiness is more a private matter...in spite of greater comfort, the culture of complaints is growing. Too intent on pursuing their own happiness, people are fighting for it and dying for it."

Buckner asserts that, "Happiness is a secondary goal. If you pursue just it, it will be evasive." Our fears make us live within a cocoon looking for "happiness". True happiness says Buckner comes with expansion of our experiences. "We cannot command our feelings as we command machines...you can prevent disease and bankruptcy, disruption of family life, but you cannot order happiness." So says Buckner that a good life may mean some sorrows and setbacks too. We have to have a sense of measure, recognise limits and not want everything, like everlasting youth, for example.

## **Pollution**

### **New Year begins with 'very poor' air; cold wave eases (Hindustan: 20190102)**

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

Delhi's air quality improved marginally on Tuesday, the first day of the New Year, to the 'very poor' category after reeling in the 'severe' zone for the last two days.

ARVIND YADAV/HT PHOTO

n A Delhi Police contingent rehearses for the Republic Day parade at Vijay Chowk, New Delhi, on a smoggy Tuesday morning. Officials say Delhi may see some fog on January 7 and 8.

A rise in both day and night temperatures helped in the dispersal of pollutants. But the respite may not stay as government agencies warned air quality could deteriorate to 'severe' again on Wednesday.

Parts of the city saw a moderate fog cover with the lowest visibility recorded at 500 metres at the IGI Airport. Safdarjung, which is representative of Delhi's weather, had visibility of around 600 metres in the morning. On Wednesday, shallow to moderate fog has been forecast with visibility likely to drop to 400 metres.

According to India Meteorological Department (IMD) officials, Delhi may see a spell of moderate to dense fog on January 7 and 8, on account of a western disturbance approaching the northern plains.

“So far, Delhi has had a clean December in terms of visibility and it is likely to continue for the first week of January. However, there could be a spell of moderate to dense fog after January 6, when light rain is expected in parts of Delhi-NCR, which will bring moisture, resulting in fog,” said, Kuldeep Srivastava, head of regional weather forecasting centre (RWFC), IMD.

Officials said cold wave conditions have subsided and both day and night temperatures are expected to rise by a degree or two. People in the city woke up to a cold January morning with the minimum temperature settling at 4 degrees Celsius, three notches below the season’s average. The day temperature was 22.2 degrees, three notches above normal.

“The day and night temperatures are likely to rise at least in the first week of January on account of two successive western disturbances (WD) approaching the city, bringing possibility of rain and a cloudy sky. Whenever there is a cloud layer in the sky, the temperature rises,” said Srivastava.

On Wednesday, the minimum temperature is likely to settle around 6 degrees while the day temperature may settle around 23 degrees Celsius. The air quality index (AQI) was 393 at 4pm against Monday’s 420.

According to officials in the Central Pollution Control Board (CPCB) and Safar, the union government’s air quality forecasting

system, air quality may worsen to ‘severe’ again on Wednesday mainly because of unfavourable meteorological conditions.

“Low wind speed and poor ventilation index (factor which determines how fast pollutants can disperse) are not allowing pollutants to disperse, which may push air quality back to severe,” said, a senior CPCB official.

However the AQI is expected to improve from January 4, when wind speed is likely to pick up. Rain may also help clear the air.

## **Osteoporosis (The Asian Age: 20190102)**

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=12189164>



# 'Atlas' of genetic factors behind osteoporosis

Toronto, Jan. 1: Researchers have succeeded in compiling an atlas of genetic factors associated with estimated bone mineral density (BMD), one of the most clinically relevant factors in diagnosing osteoporosis.

The research, published in the journal *Nature Genetics*, identified 518 genome-wide loci, of which 301 are newly discovered, that explain 20 per cent of the genetic variance associated with osteoporosis.

Having identified so many genetic factors offers great promise for the development of novel targeted therapeutics to treat the disease and reduce the risk of fracture.

"Our findings represent significant progress in highlighting drug development opportunities," said Brent Richards, a geneticist at the Jewish General Hospital (JGH) in Canada.

"This set of genetic changes that influence BMD provides drug targets that are likely to be helpful for osteoporotic fracture prevention," said Richards.

## BONE POWER

▶ Osteoporosis is a very common age-related condition characterised by the progressive reduction of bone strength, which results in a high risk of fracture

quences, including the risk of mortality.

Among all sufferers, fractures impose major burdens of hospitalisation.

As the population ages, the urgency of improving preventive measures becomes all the more intense.

"We currently have few treatment options, and many patients who are at high risk of fractures do not take current medications because of fear of side effects," said Richards.

"We can prescribe injectables that build bone, but they are prohibitively expensive. We have medications that prevent loss of bone, but they must be taken on a strict schedule," he said.

## Brain Cancer (The Asian Age: 20190102)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12189168>

# Research reveals machinery of brain cancer

**Washington, Jan. 1:** Scientists have mapped the effects of biological machinery that drives a deadly brain cancer called diffuse intrinsic pontine glioma (DIPG).

A team at St Jude Children's Research Hospital in the US created a genetically engineered mouse that offers ways to further understand such brain cancers, as well as a laboratory model for developing more effective treatments.

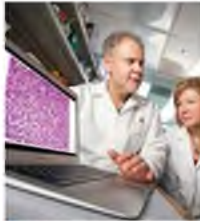
DIPGs are incurable brainstem tumours that strike hundreds of children a year in the US, according to the study published in the journal *Cancer Cell*.

Current treatments of radiation and chemotherapy are largely ineffective, and fewer than 10 per cent of children with the tumours survive more than two years.

Although many cancers arise from mutations in the genes that directly drive abnormal cell proliferation or survival, others such as DIPGs arise from abnormalities in the cell's "epigenetic" machinery for managing gene activation, or expression.

The researchers discovered that a key mutation called H3 K27M in the epigenetic machinery occurs in the vast majority of DIPG cases.

"It wasn't clear exactly



**▶ A team created a genetically engineered mouse that offers ways to further understand brain cancers**

how that translated into changes in regulation of gene expression," said

Jinghui Zhang from St Jude Children's Research Hospital.

"And it was really completely unclear why this particular mutation was oncogenic in this disease," Zhang said.

The H3 K27M mutation arises in a gene that codes for a molecule called a histone.

Histones function as "smart packaging" for genes — compacting DNA to fit into the confined space of the cell's nucleus.

"One of the biggest mysteries is why this mutation is so selectively seen in brainstem gliomas and other midline gliomas in kids when the H3 histone is important in packaging

the DNA in every cell in the body," said Suzanne Baker from St Jude Children's Research Hospital.

To analyse the mutation's effects, the researchers genetically engineered a strain of mice so that scientists could selectively switch on the mutation in the same type brain cell that gives rise to the human cancer.

They engineered the mice so that the mutant gene was expressed at the same levels as in human DIPGs. The mouse study revealed critical details of how the mutation causes DIPG. The mutation triggers immature cells called neural stem cells. — *PTI*

## Epilepsy (The Asian Age: 20190102)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12189167>

# Scientists develop brain 'pacemaker' to treat epilepsy

Los Angeles, Jan. 1: Scientists have developed a wireless device that can stimulate the brain with electric current, potentially delivering fine-tuned treatments to patients with diseases like epilepsy and Parkinson's.

The neurostimulator, named the WAND, works like a "pacemaker for the brain," monitoring the brain's electrical activity and delivering electrical stimulation if it detects something amiss, said researchers at the University of California, Berkeley in the US.

These devices can be extremely effective at preventing debilitating tremors or seizures in patients with a variety of neurological conditions, according to the study published in the journal *Nature Biomedical Engineering*.

However, the electrical signatures that precede a seizure or tremor can be extremely subtle, and the frequency and strength of electrical stimulation required to prevent them is equally touchy.

It can take years of small adjustments by doctors before the devices provide optimal treatment.

WAND, which stands for wireless artifact-free neuromodulation device, is both wireless and autonomous, meaning that once it learns to recognise the signs of tremor or seizure, it can adjust the stimulation parameters on its own to prevent the unwanted movements.

Since it is closed-loop — meaning it can stimulate and record simultaneously — the device can adjust these parameters in real-time.

"The process of finding the right therapy for a



▶ **WAND, which stands for wireless artifact-free neuromodulation device, is both wireless and autonomous, meaning that once it learns to recognise the signs of tremor or seizure, it can adjust the stimulation parameters on its own to prevent the unwanted movements**

"We want to enable the device to figure out what is the best way to stimulate for a given patient to give the best outcomes. And you can only do that by listening and recording the neural signatures," he said.

WAND can record electrical activity over 128 channels, or from 128 points in the brain, compared to eight channels in other closed-loop systems.

To demonstrate the device, the team used WAND to recognise and delay specific arm movements in rhesus macaques.

Simultaneously stimulating and recording electrical signals in the brain is much like trying to see small ripples in a pond

## Cholesterol (The Asian Age: 20190102)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12189166>

# Christmas, New Year bad for your cholesterol!

**C**elebrating Christmas is associated with higher cholesterol, scientists have warned.

A study of more than 25,700 people found their cholesterol levels are up to 20 per cent higher in January.

Researchers say this could be because they indulged in fatty foods like brandy butter, cream and Stilton over the festive season, according to a *Daily Mail* report.

Scientists have warned that indulging in too much cream over Christmas raises a person's cholesterol level which is associated with heart disease. Scientists have now warned doctors they should not diagnose people with high cholesterol in January.

And any patients who are told they have the condition at the beginning of the year should be retested before taking medication.

The research was carried out by the University of Copenhagen and led by Dr Signe Vedel-Krogh, from the department of clinical biochemistry.

The study, "The Christmas holidays are immediately followed by a period of hypercholesterolemia", was published in the journal *Atherosclerosis*.

"Our study shows strong indications that cholesterol levels are influenced by the fatty food we consume when celebrating Christmas," study author Dr Anne Langsted, who also specialises in clinical biochemistry, said.

"The fact that so many

### HIGH CHOLESTEROL

▶ Cholesterol is made in the liver and is carried in the blood by proteins

▶ The first – high-density lipoprotein (HDL) – carries cholesterol from cells to the liver where it is broken down or passed as waste. This is 'good cholesterol'.

▶ 'Bad cholesterol' – low-density lipoprotein (LDL) – carries cholesterol to cells, with excessive amounts then building in the artery walls



people have high cholesterol readings straight after the Christmas holiday is very surprising."

Cholesterol is a fatty substance that is vital for the normal functioning of the body.

But too much can cause

it to build up in the arteries, restricting blood flow to the heart, brain and rest of the body.

This raises the risk of angina, heart attacks, stroke and blood clots.

Cholesterol is made in the liver and is carried in

the blood by proteins.

The first – high-density lipoprotein (HDL) – carries cholesterol from cells to the liver where it is broken down or passed as waste. This is "good cholesterol".

"Bad cholesterol" – low-density lipoprotein (LDL) – carries cholesterol to cells, with excessive amounts then building in the artery walls.

High cholesterol can be genetic but it is also linked to a diet rich in saturated fat, as well as smoking, diabetes, high blood pressure and a family history of stroke or heart disease.

Blood cholesterol is measured in units called millimoles.

Cholesterol can be lowered by a low-fat diet; not smoking; and exercising regularly. — Agencies

## Yoga (The Asian Age: 20190102)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=12189346>

# Yoga helps regulate BP, claims new study

SHASHI BHUSHAN  
NEW DELHI, JAN. 1

A recent study has revealed that six months of 'yoga' lifestyle intervention produces modest but clinically meaningful reductions in 24-hour ambulatory 'systolic blood pressure' (upper level BP) and "diastolic blood pressure" (lower level BP). The study, published in the *Journal of Hypertension*, was conducted by researchers from the department of neurophysiology at Sir Ganga Ram Hospital (SGRH) in the national capital.

This inference was the result of a randomised study of 60 patients to analyse the effect of yoga lifestyle on ambulatory blood pressure in patients with high-normal blood pressure. The patients were divided into two groups. Patients in Group A (yoga) were assigned to practice yoga — an intensive lifestyle modification, while patients in Group B were prescribed lifestyle modifications. "This study has demonstrated that yoga intervention in patients with prehypertension can significantly reduce blood pressure," said Dr Nandini Agarwal.



## Yoga and physical Fitness (The Asian Age: 20190102)

[http://epaper.livehindustan.com/imageview\\_25157\\_86675348\\_4\\_1\\_02-01-2019\\_i\\_5.pagezoomsinwindows.php](http://epaper.livehindustan.com/imageview_25157_86675348_4_1_02-01-2019_i_5.pagezoomsinwindows.php)

# योग रक्तचाप नियंत्रित करने में मददगार

## शोध

नई दिल्ली | वरिष्ठ संवाददाता

उच्च रक्तचाप और हाइपरटेंशन के मरीजों के लिए अच्छी खबर है। योग के जरिए रक्तचाप को नियंत्रित किया जा सकता है। सर गंगाराम अस्पताल के

न्यूरोफिजियोलॉजी विभाग के एक ताजा अध्ययन में यह बात सामने आई है। यह शोध जर्नल ऑफ हाइपरटेंशन में प्रकाशित हुआ है।

इस शोध के लिए उच्च रक्तचाप से पीड़ित 60 मरीजों को चुना गया था। इन मरीजों को 30-30 के दो अलग-अलग समूहों में विभाजित किया गया। एक समूह को छह महीने तक योग के लिए कहा

गया। दूसरे समूह के मरीजों को व्यायाम बेहतर आहार करने के साथ धूम्रपा छोड़ने को कहा गया। छह महीने बाद पाया गया कि योग करने वाले समूह में लोगों के रक्तचाप में दूसरे समूह में मुकाबले काफी कमी आई है। न्यूरोफिजियोलॉजी विभाग के डॉक्टर संदीप जोशी ने बताया कि नतीजे में योग ऐसे मरीजों के लिए अधिक फायदेमंद है।

## Lifestyle (Navbharat Times: (The Asian Age: 20190102)

<http://epaper.navbharattimes.com/details/7259-71132-1.html>

# लाइफस्टाइल में बदलाव हाई बीपी से बचने के लिए काफी नहीं, योग से मिलता है फायदा

■ प्रमुख संवाददाता, नई दिल्ली

जो लोग हाई ब्लड प्रेशर की बीमारी का शिकार होने की तरफ बढ़ रहे हैं, वे अगर सोचते हैं कि लाइफस्टाइल में बदलाव करके इससे बचा जा सकता है तो वे शायद गलत हैं। राजधानी के गंगाराम अस्पताल में हुई स्टडी से पता चला कि लाइफस्टाइल बदलने से ज्यादा फायदा नहीं होता है, लेकिन नियमित योगाभ्यास से लाभ होता है।

अस्पताल के न्यूरोफ़िजियॉलजी विभाग की डॉ. नंदिनी अग्रवाल ने बताया कि आमतौर पर 120/80 ब्लड प्रेशर को



नॉर्मल माना जाता है। जब ऊपर का बीपी (सिस्टोलिक) 120 से 139 के बीच पहुंच जाए तो यह प्री-हाइपरटेंशन (हाई

बीपी से पहले की स्थिति) की स्थिति मानी जाती है। ऐसे लोग बाद में ब्लड प्रेशर के मरीज बन जाते हैं। हमने प्री-हाइपरटेंशन के 120 मरीजों को दो ग्रुप में बांटकर स्टडी की। जिन्होंने नियमित योगासन किए थे, उनका बीपी 4 mmHg तक कम हो गया। बिना योग के सिर्फ खानपान और लाइफस्टाइल में सुधार करने वालों के बीपी में कमी नहीं आई। स्टडी में शामिल डॉ. संदीप जोशी ने बताया कि अगर ऊपर का बीपी 3 mmHg भी घट जाए तो ब्रेन स्ट्रोक से मौतों में 8 पसेंट और दिल की बीमारी से मौतों में 5 फीसदी तक की कमी हो सकती है।

## ये आसन अच्छे

स्टडी के दौरान लोगों को वॉर्मअप के बाद सूर्य नमस्कार, वज्रासन, ताड़ासन, शशकासन आदि कराया गया। फिर प्राणायाम में अनुलोम विलोम करवाया। आराम के लिए कायोत्सर्ग बताया गया। मेडिटेशन के लिए प्रेक्षा ध्यान की ट्रेनिंग दी गई। यह सब छह महीने कराने पर काफी फायदा हुआ। एक्सरसाइज, खानपान और स्मोकिंग की आदतों में बदलाव असरदार नहीं रहा।