



# DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY  
Monday 20190401

## C-section in India

### **C-section in India: twice as frequent in 10 years, growth twice as fast as world's (The Indian Express: 20190401)**

<https://indianexpress.com/article/explained/c-section-in-india-twice-as-frequent-in-10-years-growth-twice-as-fast-as-worlds-5651758/>

While China had 5.3 million cesarean births in 2008-2014, the cesarean rate is reportedly contracting. In a matter of years, the study estimates, India will become home to the largest number of cesarean births.

Explained: Desert kangaroo rat, whose ninja kick proved too much for rattlesnake

Opposition heavyweights, prestige fights, allies: Why BJP is treading cautiously in 18 UP seats

Sabarimala, Rahul Gandhi: Why a lot at stake for Pinarayi Vijayan in Kerala

C-sec in India: twice as frequent in 10 yrs, growth twice as fast as world's

The researchers list changes in lifestyles, commercial pressure, and cultural factors as some of the plausible explanations for the rise. (Representational)

A study in JAMA Network Open throws the spotlight on the rapid growth of caesarean section births in India.

“The proportion of births delivered by cesarean delivery has increased especially fast during the last decade in India, reaching 17.2% in 2010 to 2016 according to the NFHS-4 survey. This level is already higher than that observed in some industrialized countries in Europe such as the Netherlands or Finland. The emerging situation also points to significant regional and sex disparities, with a substantial deficit of cesarean deliveries among underprivileged groups and almost 2 million excess cesarean births every year among more advanced sections of the

population. The need to monitor the further progression of cesarean rates is urgent,” the paper states.

The researchers list changes in lifestyles, commercial pressure, and cultural factors as some of the plausible explanations for the rise. At the same time, they highlight the importance of making both women and medical professionals aware why C-Sec is not a commercial or lifestyle choice but a medical one.

#### The numbers

India’s annual birth rate is 2.64 crore per year. The paper flags the growth in C-sec rate to 17.2%, which is above the World Health Organization’s recommendation. In a statement in 2015, WHO said: “Since 1985, the international healthcare community has considered the ‘ideal rate’ for caesarean sections to be between 10% and 15%. New studies reveal that when caesarean section rates rise towards 10% across a population, the number of maternal and newborn deaths decreases. But when the rate goes above 10%, there is no evidence that mortality rates improve.” If caesarean rates are below 5% in a population, WHO suggests it indicates a problem in healthcare access.

The new study says the current cesarean rate corresponds to an estimated 4.38 million births per year between 2010-16. The change during the last decade corresponds to an annual rate of increase of 7%, almost twice the rate observed in the world, it says. While China had 5.3 million cesarean births in 2008-2014, the cesarean rate is reportedly contracting. In a matter of years, the study estimates, India will become home to the largest number of cesarean births.

NFHS-4 data show an institutional and regional skew — 40.9% of babies in private hospitals are born through C-sec as compared to 11.9% of those born in government hospitals. The C-sec figures range from 87.1% of deliveries in private hospitals of urban Tripura (against 36.4% in government sector) to 25.3% of private hospitals in urban Haryana (10.7% in government). In Tripura, the overall government-private gap was 73.7% to 18.1%.

‘In Chhattisgarh, we dispelled notion that Amit Shah is an election winning machine. There is no fear nw. Will do it in LS polls too’, Chhattisgarh Chief Minister Bhupesh Baghel

Public health experts the world over agree that C-secs save lives. Yet last year, WHO released a document underscoring its concern about rising C-section rates, while there remains a section of women who do not get it when they need it. “Caesarean birth is associated with short- and long-term risks that can extend many years beyond the current delivery and affect the health of the woman, the child and future pregnancies. These risks are higher in women with limited access to comprehensive obstetric care. Caesarean sections are also costly, and high rates of unnecessary caesarean sections can therefore pull resources away from other essential health services,” WHO said.

In 2011, the UK National Institute For Health And Care Excellence listed a set of guidelines. Among the conditions listed as warranting a C-sec are multiple pregnancies, premature birth, and when there is a risk of mother to child transmission of infection.

Akhlaq lynching accused in front row, Yogi says: 'SP govt tried to curb our emotions'

Pakistan will die its own death, leave it, let's move ahead: PM Narendra Modi

IIT-Kanpur teacher who complained of harassment, gets PhD revoked

Caesarean packages can range between Rs 9,000 (approved rate under Ayushman Bharat - PMJAY) to well over a lakh in some of the swankier hospitals. That is why C-secs under PMJAY can be reimbursed only if they happen in government hospitals or are pre-authorized by the competent authority to be carried out in a private hospital.

Doctors often say that a non-medical C-sec decision is taken at the behest of the mother or the family. There are also mothers who want their babies to be born on a particular day or a particular time, leading to a C-sec. There are others who are reluctant to go through protracted labour and want to get it over quickly.

According to a paper by the International Union for Scientific Study of Population: "... Unnecessary caesareans generate higher expenditure at individual and national levels and have the potential to divert human and financial resources from higher priority intervention... In 2008, the cost of the global excess/unnecessary C-section delivery was estimated approximately \$2.32 billion."

## **Mental health problems**

### **Stomach issues in kids may signal future mental health problems: Study (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/health/stomach-issues-in-kids-may-signal-future-mental-health-problems-study/751183.html>

Children who face adversities—such as parental separation—are more likely to suffer from gastrointestinal symptoms which may lead to mental health issues in later life, a study has found.

The study, published in the journal *Development and Psychopathology*, found that gastrointestinal symptoms in children may have an impact on the brain and behaviour as they grow to maturity.

"One common reason children show up at doctors' offices is intestinal complaints," said Nim Tottenham, a professor at Columbia University in the US.

"Our findings indicate that gastrointestinal symptoms in young children could be a red flag to primary care physicians for future emotional health problems," said Tottenham.

Scientists have long noted the strong connection between the gut and brain. Previous research has demonstrated that a history of trauma or abuse has been reported in up to half of adults with irritable bowel syndrome (IBS), at a prevalence twice that of patients without IBS.

"The role of trauma in increasing vulnerability to both gastrointestinal and mental health symptoms is well established in adults but rarely studied in childhood," said Bridget Callaghan, a post-doctoral research fellow at Columbia.

Animal studies have demonstrated that adversity-induced changes in the gut microbiome—the community of bacteria in the body that regulates everything from digestion to immune system function—influence neurological development, but no human studies have done so.

"Our study is among the first to link disruption of a child's gastrointestinal microbiome triggered by early-life adversity with brain activity in regions associated with emotional health," Callaghan said.

The researchers focused on development in children who experienced extreme psychosocial deprivation due to institutional care before international adoption.

Separation of a child from a parent is known to be a powerful predictor of mental health issues in humans.

That experience, when modelled in rodents, induces fear and anxiety, hinders neurodevelopment and alters microbial communities across the lifespan.

The researchers drew upon data from 115 children adopted from orphanages or foster care on or before approximately they were two years old, and from 229 children raised by a biological caregiver.

The children with past care giving disruptions showed higher levels of symptoms that included stomach aches, constipation, vomiting and nausea.

From that sample of adoptees, the researchers then selected eight participants, ages seven to 13, from the adversity exposed group and another eight who'd been in the group raised by their biological parents.

Researchers collected behavioural information, stool samples and brain images from all the children. They used gene sequencing to identify the microbes present in the stool samples and examined the abundance and diversity of bacteria in each participant's faecal matter.

The children with a history of early care giving disruptions had distinctly different gut microbiomes from those raised with biological caregivers from birth.

Brain scans of all the children also showed that brain activity patterns were correlated with certain bacteria.

For example, the children raised by parents had increased gut microbiome diversity, which is linked to the prefrontal cortex, a region of the brain known to help regulate emotions.

"It is too early to say anything conclusive, but our study indicates that adversity-associated changes in the gut microbiome are related to brain function, including differences in the regions of the brain associated with emotional processing," said Tottenham. — PTI

## **Food and Nutrition**

### **White people's diet most harmful for environment: Study (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/health/white-people-s-diet-most-harmful-for-environment-study/750762.html>

Eating habits of white individuals disproportionately affect the environment as their foods require more water and release more greenhouse gases during production, a study claims.

The study, published in the Journal of Industrial Ecology, takes an in-depth look at what different demographic populations eat, how much greenhouse gas those foods are responsible for, and how much land and water they require.

The study was undertaken to get a better understanding of the environmental impacts of the food consumption patterns of major demographic groups so that environmental policies designed to reduce negative impacts of food production could be drafted that take these differences into account.

"The food pipeline—which includes its production, distribution and waste—contributes significantly to climate change through the production of greenhouse gases and requires significant amounts of water and land, which also has environmental effects," said Joe Bozeman, a student in the University of Illinois at Chicago in the US.

"If we are to draft policies related to food, they can't be one-size-fits-all policies because different populations have different eating patterns which have their own unique impacts on the environment," said Bozeman.

Researchers analysed data on per capita food consumption estimates for more than 500 types of food, and environmental impact of these foods.

Foods considered 'environmentally intense,' include those that require more water, land and energy and produce more greenhouse gases than other foods. Apples, potatoes, beef and milk are among the most environmentally intense foods.

Researchers found that white individuals produced an average of 680 kilogrammes of the greenhouse gas carbon dioxide each year that can be directly linked to what they ate and drank, while Latinx individuals produced 640 kilogrammes of carbon dioxide and blacks produced 600 kilogrammes of carbon dioxide each year.

"While the difference may not be enormous, these numbers are per individual, and when you add up all those individuals, it's very clear that whites are responsible for the majority of greenhouse gases emitted as a result of their food choices," Bozeman said.

The researchers also found that the food habits of white people require about seven per cent more water at 328,000 litres per year than Latinx individuals.

Black's eating habits depend on about 12 per cent more land than other populations, which Bozeman said is driven in part by their higher consumption of chicken and apples, which are high land-use food items.

"Whites tend to drink more water and milk. Milk itself requires a lot of water to produce when you consider livestock cultivation, so that is part of what we think is pushing their water impacts higher," he said.

Policies that attempt to reduce resource dependence or greenhouse gases need to also take into account individual nutrients, said Bozeman.

"If you are going to draft policies that may reduce the amount of land-intensive oranges, we need to think about other less resource-intensive sources of vitamin C," said Bozeman.

"It gets more complex as you look closely at the food pipeline and how different populations engage with it, but we are now starting to get a better understanding on these complex dynamics in such a way that we can begin to rationally take steps to improve environmental quality," he added. —

## **Smoking in pregnancy**

### **Smoking in pregnancy raises infant's obesity risk (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/health/smoking-in-pregnancy-raises-infant-s-obesity-risk/750760.html>

Children whose mothers smoked during their pregnancy are at increased risk of being obese later in life, say researchers.

The findings published in the journal *Experimental Physiology*, showed that chemerin a protein that is produced by fat cells and appears to play a role in energy storage, was more prevalent in the skin and isolated cells of infants whose mothers smoked during pregnancy.

Previous research had shown that chemerin is present in higher levels in the blood of obese people.

The new results suggest that smoking in pregnancy could lead to changes in the regulation of the genes that play an important role in fat cell development and, by extension, obesity.

"It has been consistently shown that mothers who smoke during pregnancy confer increased risk of obesity to their baby, but the mechanisms responsible for this increased risk are not well understood," said Kevin Pearson from the University of Kentucky in the US.

"Our work demonstrated that expectant mothers who smoke cigarettes during pregnancy induce distinct changes in chemerin gene expression in their offspring," Pearson said.

For the study, the researchers recruited a total of 65 new mothers. All of the infants were full-term and approximately half of all new mothers reported smoking during their pregnancies.

The current and future results could provide a springboard for the development of effective treatments against pediatric and adult obesity in babies born to smokers as well as those exposed to other in utero environmental exposures, the team noted. — IANS

## **Vitamin C**

### **Vitamin C doses may shorten ICU stay (The Tribune: 20190401)**

In six trials, orally administered vitamin C with an average dose of 2 grams per day reduced the length of ICU stay on average by 8.6 per cent. IStock

LONDON: Administering vitamin C to patients in intensive care unit (ICU) can help shorten their stay, scientists say.

The researchers from University of Sydney in Australia and University of Helsinki in Finland carried out a systematic review of vitamin C for ICU patients.

They identified 18 relevant controlled trials, and 12 of them were included in the meta-analysis on the length of stay. On average, vitamin C administration shortened ICU stay by 7.8 per cent.

In six trials, orally administered vitamin C with an average dose of 2 grams per day reduced the length of ICU stay on average by 8.6 per cent.

“Vitamin C is a safe, low-cost essential nutrient. Given the consistent evidence from the trials published so far, vitamin C might be administered to ICU patients, although further studies are needed to find out optimal protocols for its administration,” researchers said.

“A few common cold studies have indicated that there may be a linear dose response for vitamin C on common cold duration for up to 6 and 8 grammes per day,” they said.

“Evidently the dose response for doses higher than 2 grammes per day should also be investigated for ICU patients,” they added.

Given that vitamin C has shown diverse effects on medical conditions, it may influence practical outcomes such as the length of ICU stay, irrespective of the medical conditions affecting a patient, scientists say. PTI

## **Artificial Intellegence**

### **AI may predict premature deaths (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/health/ai-may-predict-premature-deaths/750264.html>

Researchers have developed an Artificial Intelligence (AI)-based system to predict the risk of early deaths due to chronic disease in middle-aged adults. The study, published by PLOS ONE journal, found that the new AI Machine Learning models ‘random forest’ and ‘deep learning’ were very accurate in its predictions and performed better than the current standard approach developed by human experts.

These new models take into account demographic, biometric, clinical and lifestyle factors for each person, and assess their consumption of fruit, vegetables and meat per day. The traditionally-used ‘Cox regression’ prediction model, based on age and gender, was found to be least accurate.

"Preventative healthcare is a growing priority in the fight against serious diseases so we have been working for a number of years to improve the accuracy of computerised health risk assessment in the general population," says an expert. The study included over half a million people aged between 40 and 69.

Although these techniques could be new in health research and difficult to follow, clearly reporting these methods in a transparent way could help with

## **Alzheimer's**

### **Eye exam can predict Alzheimer's (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/health/eye-exam-can-predict-alzheimer-s/750263.html>

A study of more than 200 subjects at Duke University, North Carolina, USA, published in Ophthalmology Retina, says the loss of blood vessels in the retina could signal Alzheimer's. The Duke research team was led by a doctor of Indian origin, Dr Dilraj S Grewal

The Alzheimer's disease is the most common type of dementia worldwide with no cure or treatment. It can severely disrupt the life of the patient and caregivers and is both emotionally and physically challenging for caregivers. There are millions living with Alzheimer's across the globe. With an aging population, the incidence is expected to increase significantly in the coming decades. Current tools for diagnosis rely on clinical exam and symptoms, invasive tests such as evaluating the cerebrospinal fluid using lumbar puncture or expensive neuro-imaging such as MRI or PET scans of the brain. There are as yet not accurate, rapid, cost-effective, easy to use and non-invasive tools for early diagnosis of Alzheimer's.

#### Eyes don't lie

A study of more than 200 subjects at Duke Eye Centre, Duke University, North Carolina, USA, published in the journal Ophthalmology Retina, suggests that the loss of blood vessels in the retina could signal Alzheimer's. The study included results of eye tests of 39 persons with Alzheimer's. It found that the web of capillaries in the superficial layer of the retina was less dense and even sparse in places compared to similarly aged healthy people. The changes were also seen in subjects with mild cognitive impairment which is often a precursor to Alzheimer's. These differences in blood-vessel density were statistically significant even after the researchers controlled for factors, including age, sex, and education. The Duke research team was led by Dr Dilraj S Grewal, a doctor of Indian origin, a Duke ophthalmologist, retinal surgeon and a lead author on the study. The team also studied other changes in the retina that could signal trouble in the brain, such as thinning of some of the retinal nerve layers.

#### Non-invasive diagnostic tool

These small blood vessels in the back of eye cannot be seen during a regular eye exam and were evaluated using a new non-invasive technology, OCT-Angiography, that is a dye-free angiography of the retina. It takes high-resolution images of very small blood vessels within the retina. It is possible that these changes in blood vessel density in the retina mirror what's going on in the tiny blood vessels in the brain (the ones that could earlier be seen only under a microscope), perhaps even before the doctors are able to detect any changes in cognition or mental status or before changes show up on brain scans such as an MRI or cerebral angiogram, which highlight only larger blood vessels.

## Opening new avenues

According to Dr Grewal, “We know that changes occur in the brain in the small blood vessels in Alzheimer’s. Because the retina is an extension of the brain, we wanted to investigate whether these changes could be detected in the retina using OCT Angiography that is less invasive and easier to obtain than a brain scan. As a potential biomarker for Alzheimer’s diagnosis, this test needs to be validated in large scale international clinical trials. This technology of imaging the retina has the potential to open up new frontiers of research on multiple fronts: to be able to detect Alzheimer’s at an earlier stage before symptoms are evident. This could allow drug trial interventions at an earlier stage where these could be more effective and finally to be able to detect progression of the disease and potential response to treatment in participants of clinical trials studying new Alzheimer’s treatments.” — TNS

## Artificial tissues

### **Soon, 3D printed tissues to help heal bone, cartilage (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/health/soon-3d-printed-tissues-to-help-heal-bone-cartilage/750207.html>

Scientists are developing 3D-printed artificial tissues that may help heal bone and cartilage typically damaged in sports-related injuries.

The researchers at Rice University in the US engineered scaffolds that replicate the physical characteristics of osteochondral tissue—hard bone beneath a compressible layer of cartilage that appears as the smooth surface on the ends of long bones.

Injuries to these bones can be painful and often stop athletes' careers in their tracks.

Osteochondral injuries can also lead to disabling arthritis, according to the study published in the journal *Acta Biomaterialia*.

The gradient nature of cartilage-into-bone and its porosity have made it difficult to reproduce in the lab, but the scientists used 3D printing to fabricate what they believe will eventually be a suitable material for implantation.

"Athletes are disproportionately affected by these injuries, but they can affect everybody," said Sean Bittner, a graduate student at Rice University.

"I think this will be a powerful tool to help people with common sports injuries," Bittner said.

The key is mimicking tissue that turns gradually from cartilage at the surface to bone underneath.

The researchers, including those from the University of Maryland in the US, printed a scaffold with custom mixtures of a polymer for the former and a ceramic for the latter with imbedded pores.

This would allow the patient's own cells and blood vessels to infiltrate the implant, eventually allowing it to become part of the natural bone and cartilage.

"For the most part, the composition will be the same from patient to patient," Bittner said.

"There is porosity included so vasculature can grow in from the native bone. We do not have to fabricate the blood vessels ourselves," he said.

In the future, the project will involve figuring out how to print an osteochondral implant that perfectly fits the patient and allows the porous implant to grow into and knit with the bone and cartilage. — PTI

## **Cataract surgery**

### **Eye ops in Haryana govt hospitals halted (The Tribune: 20190401)**

<https://www.tribuneindia.com/news/haryana/eye-ops-in-haryana-govt-hospitals-halted/751298.html>

Scores of elderly patients planning cataract surgery at government hospitals will have to wait as the state authorities have decided to suspend all eye operations indefinitely.

Health Minister Anil Vij today told The Tribune that the decision was taken after cases of post-cataract surgery complications were reported recently. He said the eye operations would resume once it was ensured that medicines used in the procedure were strictly as per the standards.

In March, at least 62 elderly patients were diagnosed with infections after they underwent cataract surgery at Lok Nayak Jai Prakash Civil Hospital (LNJPCH), Kurukshetra, and Kishanlal Jalan Government Eye Hospital, Bhiwani.

According to officials, the two government hospitals were known for organising a maximum number of cataract surgeries in the state.

On March 20, The Tribune had reported that 24 patients were admitted to PGI, Chandigarh, with the post-surgery bacterial infection after cataract operations at the Kurukshetra hospital.

Later, 38 other patients were admitted to PGIMS, Rohtak, with post-cataract operation complications from other districts. At least 19 had to undergo fresh surgeries on March 28.

While the health authorities claim prima facie bacterial infection was caused by contamination in fluids used in the surgery, officials said any possible delay by state agencies in realising suspected shortcomings in the medicines supplied for the cataract surgeries needed to be looked into.

“Botched eye surgeries at government hospitals are not common in Haryana and any attempt to downplay the incidents must be probed,” said a health official. The minister, however, denied any such delay or cover-up. “After cases from the Lok Nayak Jai Prakash Civil Hospital were reported, it was suspected to be a case of issues generated from the local conditions there. But as the department found more cases from Bhiwani, medical supplies in all hospital were suspended immediately,” said the minister.

Vij said he would summon the report submitted by Dr Asruddin, Director, Health Services, about his findings into the 24 cases from the Lok Nayak Jai Prakash Civil Hospital. “Strict action will be initiated on the basis of an inquiry report,” the minister said.

## **Bird Flu**

### **Culling of birds begins in Puri district (The Hindu: 20190401)**

<https://www.thehindu.com/news/national/other-states/culling-of-birds-begins-in-puri-district/article25746403.ece>

The Odisha government on Friday began culling of birds after confirmation of avian influenza outbreak in Krushnaprasad block of Puri district.

Special teams went around Sanasahi, Maluda and Patharaganja in the block and looked for affected birds. As many as 400 birds in three poultry farms were culled and dumped in a pit on the first day.

Bird culling would be undertaken within a one-km radius of the epicentre of bird flu

The State government also decided to take samples of migratory birds congregating in Chilika lake to ascertain if they were carriers of H5N1.

## **Abortion**

### **Abortion a right few women are aware of, say doctors (The Hindu: 20190401)**

<https://www.thehindu.com/news/cities/Delhi/abortion-a-right-few-women-are-aware-of/article26696680.ece>

Many mothers, even in urban India, resort to unsafe methods of termination of pregnancy which at times prove fatal, say doctors

Only one in 10 abortions in Delhi are reported, say gynaecologists, with the official figures on termination of pregnancies hovering between 49,000 and 56,000 in last six year (2013 to December 2018), as disclosed by the Delhi Health Department in an RTI reply.

“This doesn’t even come close to the actual figures that are rarely disclosed and kept extremely confidential,” said gynaecologist Dr. Puneet Bedi.

While the official figures itself, according to doctors, are just an indication of the trend in the sector, what is more worrying is the fact that only 42 maternal deaths related to abortions have been reported and recorded between 2013 and 2018, all of them in government hospitals except two.

The missing data

“There is no data available from private hospitals about maternal deaths related to abortions except two in 2016-17. The data clearly hides more than it reveals,” said RTI activist Rajhans Bansal who sought the figures on abortions and related maternal deaths.

“Abortion in India is legalised and governed under the ambit of Medical Termination of Pregnancy Act, wherein a woman can opt to medically terminate her pregnancy with the approval of one or two registered medical practitioners up to 20 weeks of gestation,” said Dr. Rita Bakshi, gynaecologist-obstetrician and chairperson, International Fertility Centre.

She said it is unfortunate that till date a large majority of women, even in urban India, are unaware of their rights regarding abortion and continue to resort to unsafe and medically non-substantiated methods of abortions which at times prove fatal.

“As a matter of fact, unsafe abortions currently account for one of the leading causes of maternal mortality in our country,” said the doctor.

Induced abortions

Dr. Archana Dhawan Bajaj, gynaecologist and IVF expert, Nurture IVF Centre, said an induced abortion is always a planned action which mostly takes place in a situation when the continuation of pregnancy carries risk to the life of the expecting woman or it can bring upon serious threat to her physical or mental health. Also in cases where the child is upon a substantial risk of being born seriously handicapped with physical or mental abnormalities, induced abortion is an option.

“Often unexpected pregnancy due to failure of contraceptives also leads to induced abortion,” she added.

“Earlier a significant number of abortions were carried out based on the gender of the baby [female foeticide], but in recent years people are opting for induced abortions mostly due to health concerns. The most common age group to go for abortions is also changing gradually from teenage girls to women in their late 30s and 40s.”

#### Miscarriage risk

Women over the age of 35 are at high risk of suffering miscarriages. According to doctors, miscarriage in early pregnancy (less than eight weeks) is most commonly because of genetic abnormalities in the embryo, hormonal imbalance or some other medical problems with the mother. Miscarriage in later pregnancy is because of uterine abnormalities and autoimmune diseases in the mother.

Dr. Sonia Naik, head of unit, obstetrics and gynaecology, Max Super Speciality Hospital, said: “Abortions are commonly seen in pregnant women who are 35 years and above because of increased genetic abnormalities in the embryo.”

She added that termination of pregnancy related to female unborn child happens in the early second trimester.

“These are women who come asking for termination of pregnancy or take pills sold over the counter [easily available in our country] for abortion,” she added.

In metro cities like Delhi, women of reproductive age may seek abortions due to various reasons such as failure of contraceptives leading to unplanned pregnancies, medical complications that are likely to cause harm to the mother and the unborn baby, and being worried about various socio-financial implications (many couples do not wish to have a second child or feel that having a baby may interfere with their professional careers).

For unmarried girls or married women below 21 years of age, abortions are sometimes seen as a way out to shove off age-inappropriate, untimely responsibilities.

Dr. Rita Bakshi said that even though gender detection of fetus is illegal in India, sex-selective abortions continue to be a persistent problem, especially in rural towns and suburbs.

“However, it is important to mention that only less than one-tenth of the total abortions happening in India are estimated to be sex-selective, while a vast majority of abortions take place during the first trimester [when it is practically impossible to determine the gender of the baby]. Female foeticide is a major social issue and a sensitive topic which needs to be seen and handled from a wider lens instead of only blaming abortions for it, which usually contribute to a very minor proportion of this large social problem,” said Dr. Bakshi.

# ‘Stomach issues in kids may cause mental ailments’

**Washington:** Children who face adversities — such as parental separation — are more likely to suffer from gastrointestinal symptoms which may lead to mental health issues in later life, a study has found.

The study, published in the journal *Development and Psychopathology*, found that gastrointestinal symptoms in children may have an impact on the brain and behaviour as they grow to maturity.

“One common reason children show up at doctors’ offices is intestinal complaints,” said Nim Tottenham, a professor at Columbia University in the US. “Our findings indicate that gastrointestinal symptoms in young children could be a red flag to primary care physicians for future emotional health problems,” said Tottenham. Scientists have long noted the strong connection between the gut and brain. Previous research has demonstrated

▶ **The study found that gastrointestinal symptoms in kids may have an impact on the brain and behaviour as they grow to maturity**

that a history of trauma or abuse has been reported in up to half of adults with irritable bowel syndrome (IBS), at a prevalence twice that of patients without IBS.

“The role of trauma in increasing vulnerability to both gastrointestinal and mental health symptoms is well established in adults but rarely studied in childhood,” said Bridget Callaghan, a post-doctoral research fellow at Columbia.

Animal studies have demonstrated that adversity-induced changes in the gut microbiome — the community of bacteria in the body that regulates everything from digestion to immune system function. — *PTI*

## **Summer action plan to focus on bad air hotspots**

### **Summer action plan to focus on bad air hotspots (Hindustan Times: 20190401)**

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

ALERT Authorities look to avoid cycle of inaction in non-spike periods

Winter is over and the city's pollution levels have dropped. With the Air Quality Index (AQI) hovering largely in the "moderate" zone, as opposed to "very poor" and "severe" in winter months, this is usually the time when authorities in the Capital forget about pollution, only to be rudely woken when a sudden spike around Diwali plunges Delhi into another public health emergency.

RAJ K RAJ/HT FILE

The DPCC has identified at least 12 areas where pollution levels remain at least two to three times above the permissible limits on most days of the year, including in the summer.

This year, for the first time, the Capital's pollution monitoring and controlling agencies are preparing a hotspot-based action plan to tackle bad air even during summer months. This, they say, will help them prepare better for next winter.

According to senior government officials, the Delhi Pollution Control Committee (DPCC) has identified at least 12 areas — Anand Vihar, Okhla Phase 2, Mundka, Dwarka Sector 8, Bawana, RK Puram, Rohini Sector 16, Narela, Jahangirpuri, Vivek Vihar, Wazirpur and Ashok Vihar — where pollution levels have been found to remain at least two to three times above the permissible limits on most days of the year, including in the summer.

The body, which is the city's pollution control agency under the Delhi government, has decided that the bi-weekly action plans, which will be routinely submitted by Indian Institute of Technology-Delhi researchers from April, will be enforced in these hotspots to improve air quality during the summer.

In addition, measures listed under the Graded Response Action Plan (GRAP) for "moderate" and "poor" AQI levels will also be enforced by the civic bodies and the revenue department, said the officials cited above. See page 10



## **Lowest female labour force participation rates in the world. In 2017**

### **What is forcing Indian women to stay at home? (Hindustan Times: 20190401)**

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

Early marriage is not responsible for the low female labour force participation. Blame the male backlash effect for it

India has one of the lowest female labour force participation rates in the world. In 2017, only 27% of adult Indian women had a job or were actively looking for one. The comparable figure for the rest of world was 50%. Equally alarming is the fact that the earnings and wages of women who are employed are low. According to the Global Wage Report 2018-19, the hourly wages of women are 34% less than men in India, a disparity that is highest among 73 countries mentioned in the report. It is often suggested that a major reason for the poor labour market outcomes of Indian women is the high incidence of child marriage in India. The average age of marriage for women also continues to be significantly lower compared to that in many other developing countries such as countries such as Brazil, Chile, Kenya and Pakistan.

BURHAAN KINU/HT

n India has one of the lowest female labour force participation rates in the world. In 2017, only 27% of adult Indian women had a job or were actively looking for one

Early marriage hampers labour market prospects of women in two ways. First, it interrupts a woman's formal education, which negatively impacts her labour market outcomes. Second, early marriage leads to early motherhood.

This causes younger brides to focus more on the home, in turn, reducing their likelihood of participation and productivity in the labour market. In light of this, it is often proposed that one way to address the issue of dismal labour market prospects of women is through policies that can potentially delay their marriage.

Can marriage delaying policies improve women's labour market prospects in India? I recently collaborated with Gaurav Dhamija (a doctoral student at the Shiv Nadar University) to examine this question. Using nationally representative household data of close to 40,000 women from the Indian Human Development Survey 2012, we found that delaying the age of marriage for women does not lead to better labour market outcomes for them. One possibility is that delaying the age for marriage does not lead to more education and lower fertility for women. This, however, does not seem to be the case. Indeed, older brides in my sample, are more educated and have lower fertility.

I believe that my results can be explained by what is known as the "male backlash" effect. According to this theory, the more educated (and hence empowered) a woman, greater is her chance of facing domestic violence. This is because when gender roles and power relations are redefined, men resort to violence to reinstate a culturally prescribed norm of male dominance and female dependence. In fact, in a recent study published in

Population and Development Review, based on data from the National Family Health Survey 2005-06, sociologist Abigail Weitzman finds unequivocal evidence of Indian women who are at least as educated as their husbands have a higher likelihood of experiencing frequent and severe intimate partner violence than women who are less educated than their spouses.

Since the theory of backlash effect predicts a positive relationship between violence and educational attainment of women, and because education increases with women's age at the time of marriage in my sample, it is reasonable to claim that older brides, as compared to younger brides, are likely to face more male backlash and be denied the freedom to work. This male backlash effect could nullify the positive effects of more education and lower fertility and, therefore, Indian women's labour market prospects.

These findings suggest that for improving labour market outcomes of Indian women, conventional policies that talk about delaying marriage and laws to prevent child marriage may not be sufficient.

Such policies must be complemented by smart and effective interventions to curb the male backlash effect. For example, gender quotas in politics and the corporate sphere could be useful in reducing male backlash.

## Healthy Diet

### Tapeworms may be lurking in 'healthy' salad, yummy kebab (The Times of India: 20190401)

<https://timesofindia.indiatimes.com/india/tapeworms-may-be-lurking-in-healthy-salad-yummy-kebab/articleshow/68662214.cms>

Unwashed and uncooked vegetables, especially leafy ones such as spinach, may be infected with tapeworm (NYT photo)

Unwashed and uncooked vegetables, especially leafy ones such as spinach, may be infected with tapeworm (NYT photo)

The next time you reach out to pick a piece of succulent seekh kebab or sushi, think twice. It may be infected with tapeworm - a flat, slimy and segmented parasite that killed an 18-year-old Faridabad boy, infesting his brain, right eye and even a testicle. The case was published in the New England Journal of Medicine this week.

"When we did an MRI and ultrasounds, we found more than 1,000 cysts in the teenager's body," said Dr Nishanth Dev, who co-authored the article with Dr S Zafar Abbas. They work at ESIC Medical College and Hospital, Faridabad and got this case of cysticercosis, the medical term for this infection, four years ago.

So how does it spread? "Humans become accidental hosts of tapeworm," says Dr Nishanth. Pigs pass out eggs in their feces, which then contaminate water or food. Besides under-cooked pork, unwashed, uncooked vegetables, especially leafy ones such as spinach, may also be infected with eggs as feces of infected pigs are a major source of transmission. CDC also warns about the risks of eating sushi which contains raw fish.

Once inside the human body, the cysts hatch in the intestine. The adult tapeworm then lays more eggs, which sometimes travel in the bloodstream and make their home in different parts of the body, like heart, liver and brain.

Dr PK Sethi, emeritus consultant, neurology at Sir Ganga Ram Hospital in Delhi, says that salads and minced meat preparations are best avoided. "The commonest symptoms of cysticercosis are seizures and epilepsy," says Dr Praveen Gupta, director, neurology at Fortis Memorial Hospital, Gurgaon. According to a 2016 research published in the Indian Journal of Medical Research, it is the most common cause of epilepsy in India.

Last year, Dr Gupta treated an eight-year-old girl who had more than 100 tapeworm eggs in her brain. "When she came to us, her weight had doubled because of taking anti-epilepsy drugs and steroids. She had fits and severe headache," says Dr Gupta, who put her on a regimen of

anti-epileptic drugs and medicines that dissolve cysts. "Typically, the course is for 15 days but can extend to a month.

The cysts take six months to a year to die. In some cases, the cysts can leave a scar in the brain tissue, says Dr Sethi, leading to continued fits and life-long dependence on anti-epilepsy drugs. It's not rare, and thrives in unsanitary conditions

As many as 8.3 million people in Latin America, Asia and sub-Saharan Africa are estimated to be suffering from neurocysticercosis, the version of the disease that affects the brain and spinal cord, according to the World Health Organization.

Another attempt by this Manuwadi newspaper to malign non vegetarian food habits.

Arijit Thakur

Dr Nishanth adds that out of all the cases of cysticercosis, 80% do not present any symptom. Kerala and Tamil Nadu have the lowest number of cysticercosis cases because of better standards of hygiene while northern states like Punjab and Uttar Pradesh report more cases.

"If we do random CT scans, 1% to 2% people will show some calcification in the brain tissue due to tapeworm cysts," says Dr Gupta.

## **Harmful ingredients'**

### **Harmful ingredients' found in J&J baby shampoo in Rajasthan (The Times of India: 20190401)**

<https://timesofindia.indiatimes.com/business/india-business/harmful-ingredients-found-in-jj-baby-shampoo-in-rajasthan/articleshow/68662490.cms>

NEW DELHI: Johnson & Johnson's baby shampoo has come under the regulatory lens with samples of the product collected in Rajasthan showing presence of "harmful ingredients" that may cause cancer. The Centre has put the product under scrutiny based on the Rajasthan state drug controller's report, official sources said.

The company maintained that the shampoo was safe and in compliance with regulatory standards.

Rajasthan has ordered withdrawal of two batches of 'No More Tears' baby shampoo which were found to be "not of standard quality" and contaminated with formaldehyde.

Formaldehyde - identified as a substance that promotes formation of cancer in human body - is a colourless, strong-smelling chemical compound mainly used in making building materials and pressed wood products.

"Please ensure the quality of other batches and drugs of said manufacturers available in the market from time to time," Drugs Controller of Rajasthan said in a letter to the Drugs Controller General of India (DCGI).

TOI has reviewed the letter, which has been sent to drug regulators in other states as well, asking them to take shampoo bottles from the contaminated batches off the shelves immediately. Two batches - containing around 50,000 bottles each - were manufactured at J&J's facility at Baddi, HP.

Why scrutinized only foreign companies? If one scrutinize the Desi products, one will find almost every products are unsuitable for usage

Jay Boro

Rejecting the findings of the Rajasthan state drug regulator about presence of harmful ingredients in baby shampoo, J&J said, "We do not accept the interim results given to us which mentioned samples to contain harmful ingredients - identification positive for formaldehyde.

However, regulatory authorities told TOI that the samples of baby shampoo picked up in Rajasthan contained ingredients which were on the "negative list of BIS standards" and were considered harmful for public health.

## **Chocolate**

### **Chocolate for those who lost their sense of taste The Times of India: 20190401)**

<https://timesofindia.indiatimes.com/home/science/chocolate-for-those-who-lost-their-sense-of-taste/articleshow/68664157.cms>

MADRID: One of the side-effects of chemotherapy in cancer patients is dysgeusia, an impaired sense of taste that can leave a patient's favourite foods, such as chocolate, with no flavour at all.

The Michelin-starred Spanish pastry chef Jordi Roca suffers from a rare neurological disease that affects his voice and throat. It made him wonder: what if he totally lost his sense of taste? His friend, the chef Oriol Blanes, has been living with dysgeusia for two years, and that also inspired Roca to create the "The Sense of Cocoa" experience, now a documentary. Roca's

project worked with patients with cancer and other ailments and with a group of neuroscientists and neurogastronomy experts to create a cocoa flavour that the patients experience through their own memories.

“It was as if the dessert had a heartbeat ... the heartbeat of the life I’m fighting for,” said Susana Quevedo who was deeply moved after eating Roca’s white chocolate dessert. Quevedo, 50, has been diagnosed with ovarian cancer.

The challenge was to help the patients reconnect with chocolate flavours they had lost, via “other aural, visual and tactile sensations,” he said.

When the youngest participant, Marian Torres, thinks about chocolate, she remembers her first years at school. Roca concocted a dessert using distilled water and pencil tips and put them alongside sounds of playtime, to help her flash back to those moments.

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## **Poor air quality**

### **Poor air quality to remain a problem in India, despite pollution control policies (New Kerala: 20190401)**

<https://www.newkerala.com/news/read/120682/poor-air-quality-to-remain-a-problem-in-india-despite-pollution-control-policies.html>

A recent study has found that more than 674 million Indian citizens are likely to breathe air with high concentrations of PM2.5 in 2030, even if India were to comply with its existing pollution control policies and regulations.

The study was released by the International Institute for Applied Systems Analysis (IIASA) and the Council on Energy, Environment, and Water (CEEW).

The study shows that only about 833 million citizens would be living in areas that meet India's National Ambient Air Quality Standards (NAAQS) in 2030 and that implementation failure could increase these numbers significantly.

However, aligning sustainable development policies to the implementation of advanced emission control technologies could provide NAAQS-compliant air quality to about 85 per cent of the Indian population.

In 2015, more than half of the Indian population, about 670 million citizens, were exposed to PM2.5 concentrations that did not comply with India's NAAQS for PM2.5 (40 mg/m<sup>3</sup>).

Further, less than 1 per cent enjoyed air quality that met the World Health Organisation (WHO) benchmark limit of 10 mg/m<sup>3</sup>.

"A significant share of emissions still originates from sources associated with poverty and underdevelopment such as solid fuel use in households and waste management practices," explained Markus Amann, Air Quality and Greenhouse Gases Program director, IIASA.

In January 2019, the Indian government launched the National Clean Air Program (NCAP), a five-year action plan to curb air pollution, build a pan-India air quality monitoring network, and improve citizen awareness.

The program focuses on 102 polluted Indian cities and aims to reduce PM<sub>2.5</sub> levels by 20-30 per cent over the next five years.

The analysis conducted by researchers from IIASA and CEEW, however, suggests that NCAP needs to be backed by a legal mandate to ensure successful ground-level implementation of emission control measures.

In the long-term, NCAP also needs to be scaled-up significantly to ensure that rapid economic growth and meeting NAAQs are aligned.

Pallav Purohit, an IIASA researcher and lead author of the study said, "While current ambient PM<sub>2.5</sub> monitoring in India reveals high levels in urban areas, remote sensing, comprehensive air quality modelling, and emission inventories, suggest large-scale exceedances of the NAAQS, also in rural areas.

"Pollution from rural areas is transported into the cities (and vice versa), where it constitutes a significant share of pollution making the coordination of urban-rural and inter-state responses critical," Purohit added.

Hem Dholakia, a senior research associate at the CEEW, and one of the authors of the study added, "The health burden of air pollution is significant in India. Limited control of air pollution will aggravate this burden in the future."

"The IIASA-CEEW study clearly shows that the policy choices of today will impact future air quality and its aftermaths. The central and state governments must do more to align air quality, climate change, and sustainable development goals in a resource efficient manner," Dholakia said.

The study also found that the Indo-Gangetic plain, covering parts of states such as Punjab, Haryana, Uttar Pradesh, Bihar, and West Bengal, has the highest population exposure to significant PM<sub>2.5</sub> concentrations.

This is mainly due to the high density of polluting sources and reduced ventilation by the obstructing presence of the Himalayas. Citizens living in parts of Bihar, West Bengal, Chhattisgarh, and Odisha are also exposed to high levels of PM<sub>2.5</sub>.

The governments in these regions must design state-specific policies to comply with NAAQS and embrace a low-carbon growth model to ensure better air quality for its citizens.

Further, the study highlighted a stark variance in factors contributing to air pollution across the states. Solid fuel, including biomass combustion for residential cooking, is the largest contributor in the major states of the Indo-Gangetic Plain.

However, in Delhi and Goa, it contributes only a small amount due to enhanced access to clean fuels in these states. Instead, NO<sub>x</sub> emissions from transportation are major contributors to air pollution in these two states.

Similarly, SO<sub>2</sub> emissions from power plants are dominant contributors to air pollution in Haryana and Maharashtra.

In coming years, every state government must commission detailed scientific studies to better understand the sources contributing to air pollution in their cities.

Another challenge for many states is that emission sources that are outside their immediate jurisdiction contribute significantly to ambient pollution levels of PM<sub>2.5</sub>.

For example, transboundary transport or crop burning are sources of secondary pollution in some states. Such states could achieve significant improvements in air quality only with a region-wide coordinated approach to reduce air pollution and strict on-ground enforcement to ensure compliance with emissions control measures.

The IIASA-CEEW study also recommends focusing on energy efficiency, enhanced public transport, increased use of cleaner fuels, improved agricultural production practices, and replacement of coal with natural gas and renewables in the power and industrial sector to achieve better air quality and meet multiple Sustainable Development Goals (SDGs).

## **Brain tumour**

### **Aggressive brain tumour are reacting well to this new combination therapy (New Kerala: 20190401)**

<https://www.newkerala.com/news/read/120679/aggressive-brain-tumour-are-reacting-well-to-this-new-combination-therapy.html>

Patients with aggressive brain tumour have reacted well to a new combination therapy during a clinical trial.

The findings of the trial, published in Journal of Clinical Cancer Research, are an important step forward for this area of research, for which there are a very poor prognosis and no recognised standard of care treatment.

The trial used a treatment combination of ADI-PEG20, pemetrexed and cisplatin, which showed encouraging efficacy in patients with recurrent high-grade gliomas (HGGs), a disease for which little progress has been made over the last few decades.

In the trial, led by Professor Peter Szloserek, ten patients with heavily pre-treated, recurrent HGG were treated with ADI-PEG20 in combination with standard chemotherapies pemetrexed and cisplatin.

This clinical work built upon pre-clinical studies performed at the Queen Mary's Barts Cancer Institute and Imperial College London which identified that ADI-PEG20 can enhance the effects of other standard chemotherapies such as pemetrexed and cisplatin.

Normal cells are able to generate their own supply of the essential amino acid arginine, which is required for a variety of cellular processes. However, this capability is lost in many tumour types due to the down-regulation of the ASS1 enzyme required for arginine production.

Consequently, tumour cells rely on the arginine supply in the bloodstream, a vulnerability that can be exploited therapeutically. ADI-PEG20 works by depleting arginine in the blood, thus 'starving' tumours of this essential amino acid.

Combining the concept of arginine deprivation with pemetrexed and cisplatin has proven efficacious in other cancer types, including treatment-resistant ASS1-deficient mesothelioma or non-small cell lung cancer.

"This trial represents an important first step in developing a biomarker-led approach to treating recurrent high-grade gliomas," said Dr Peter Hall, first author of the study.

As the treatment was shown to be well tolerated in patients, the results of this trial pave the way for a phase II trial to include a larger patient cohort to further assess efficacy, which is currently being developed.

## **Heart disease**

### **Working in shifts may increase heart disease risks (New Kerala: 20190401)**

People who work in shifts are at heightened danger of heart disease and the risk increases with years they work in shifts, finds a Chinese study of more than 300,000 people.

Shift work "can earn more profit, but it can also cause harm to the health of employees. Thus, employers should reduce shift work as much as possible," lead author Weihong Chen, a researcher in occupational and environmental health at Huazhong University of Science and Technology in Wuhan, was quoted as saying to the Health Day.

While the reason is unknown, disruption in the normal sleep-wake cycle could increase stress. In the study, published in the journal Occupational Medicine, the team analysed data from 21 earlier studies involving over 320,000 people and nearly 20,000 cases of coronary heart disease.

The study was not designed to prove the cause and effect, but the data showed shift workers were 13 per cent more likely to develop coronary heart disease than daytime workers.

For every year spent working in shifts, there was a nearly one per cent increase in the risk of coronary heart disease, the report said.

According to Weihong, employers should pay attention to staff members who are experiencing symptoms of heart problems as well as those with a family history of heart disease. Employers could provide health promotion, such as information on how to prevent and deal with ischemic heart disease, she said.

Companies could also consider providing health check-ups to detect early signs of heart problems, Weihong said.

### **Bacteria (Hindustan: 20190401)**

[http://epaper.livehindustan.com/imageview\\_16696\\_75019346\\_4\\_1\\_01-04-2019\\_i\\_18.pagezoomsinwindows.php](http://epaper.livehindustan.com/imageview_16696_75019346_4_1_01-04-2019_i_18.pagezoomsinwindows.php)

अवसाद का कारण भी बन सकते हैं आंतों में मौजूद बैक्टीरिया

# आंतों के बैक्टीरिया तय करते हैं मूड



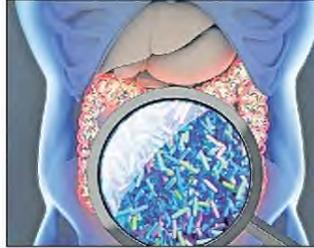
सेहत

नई दिल्ली | हिंदी

क्या आपने कभी सोचा है कि आपके खुश या दुखी होने की वजह आपके पेट में मौजूद बैक्टीरिया हो सकता है। यह बैक्टीरिया सिर्फ पाचन प्रक्रिया पर ही असर नहीं करता है, बल्कि डिप्रेशन की वजह भी हो सकता है। एक हालिया शोध में यह दावा किया गया है।

शोधकर्ता विशा इलैज कहती हैं कि हमारी आंत में एक हजार खरब बैक्टीरिया रहते हैं। इनकी संख्या शरीर में मौजूद सारी कोशिकाओं से दस गुना ज्यादा है। यह बैक्टीरिया अच्छे या बुरे नहीं है बल्कि सेहत के लिए बहुत जरूरी हैं। हमारी जीवनशैली और खानपान का असर उन पर पड़ता है।

**मस्तिष्क से संवाद करते हैं बैक्टीरिया :** विशा इलैज पता लगा रही है कि हमारी आंतों में रहने वाले बैक्टीरिया हमारे मस्तिष्क से कैसे संवाद करते हैं। यह जानने के लिए उन्होंने चूहों पर परीक्षण किया। चूहों के एक गुप



**01** हजार खरब बैक्टीरिया रहते हैं इंसानों की आंतों में

- आंतों में रहने वाले बैक्टीरिया मस्तिष्क को देते हैं काम करने का संकेत

को लैक्टोबेसिलस बैक्टीरिया युक्त खाना दिया गया। वहीं, दूसरे गुप को सामान्य खाना दिया गया। परिणामस्वरूप देखा गया कि पहले गुप के अलग ढंग से बर्ताव कर रहे हैं। खासतौर पर डरे सहमे रहने वाले चूहों को जब लैक्टोबेसिलस बैक्टीरिया वाला खाना दिया गया तो वह ज्यादा साहसी हो गए। आंतों में पाए जाने वाले बैक्टीरिया

## चूहों पर किया परीक्षण

आंतों के बैक्टीरिया और मस्तिष्क के बीच के संबंध को जानने के लिए चूहों पर परीक्षण किया गया। चूहों के एक गुप को लैक्टोबेसिलस बैक्टीरिया युक्त खाना दिया गया और दूसरे गुप को नहीं दिया गया। लैक्टोबेसिलस बैक्टीरिया युक्त भोजन खाने वाले चूहे ज्यादा साहसी दिख रहे थे और वहीं दूसरे गुप के चूहे डरे सहमे से नजर आ रहे थे। इससे शोधकर्ताओं को पता चला कि आंत के बैक्टीरिया काफी महत्वपूर्ण हैं।

होती है। दोनों एक-दूसरे से सीधा संवाद करते हैं। सबसे चौकाने वाली बात यह है कि मस्तिष्क को सारे संदेश या इनपुट आंतों से मिलते हैं। उन्होंने कहा, पहले हम सोचते थे कि मस्तिष्क बहुत अलग-थलग सिस्टम है लेकिन बाद में हमने पाया कि आंत के संकेत वाकई मस्तिष्क तक पहुंच सकते हैं। ब्रीडिंग की मदद से ऐसे चूहे पैदा किए गए जिनमें बैक्टीरिया नहीं थे। उनका मस्तिष्क अलग नजर आया। आंतों के बैक्टीरिया की कमी से दिमाग का इम्यून सिस्टम क्षतिग्रस्त हो जाता है। माइक्रोगिलिया कही जाने वाली कोशिकाओं में टूट-फूट हो जाती है या यह गायब हो जाती है। माइक्रोगिलिया संक्रमण से रक्षा करती हैं। यह कोशिकाएं मृत कोशिकाओं का सफाया कर दिमाग की न्यूरोप्लास्टिसिटी को बढ़ावा देती हैं। इस दौरान बिना बैक्टीरिया वाले चूहों को बैक्टीरिया चूहों के साथ चार हफ्ते तक रखा गया और दोनों को लैक्टोबेसिलस वाला खाना दिया गया। जब बिना बैक्टीरिया वाले चूहों की आंत में बैक्टीरिया की संख्या बढ़ी माइक्रोगिलिया कोशिकाओं में भी वृद्धि होती गई।

की खुराक से चूहों के बर्ताव में फर्क पाया गया। चूहों की आंत मनुष्यों की तरह ही होती है। वैज्ञानिकों के अनुसार आंत में पाए जाने वाले बैक्टीरिया सेहत, वजन और मूड तय करते हैं।

**मस्तिष्क और आंतों को एक-दूसरे की जरूरत :** इस विषय पर शोध कर रहे प्रोफेसर मार्को प्रिस ने कहा कि मस्तिष्क और आंतों को एक-दूसरे की जरूरत

**Malinan Pigment (Hindustan: 20190401)**

[http://epaper.livehindustan.com/imageview\\_16696\\_75020920\\_4\\_1\\_01-04-2019\\_i\\_18.pagezoomsinwindows.php](http://epaper.livehindustan.com/imageview_16696_75020920_4_1_01-04-2019_i_18.pagezoomsinwindows.php)

# त्वचा के मेलानिन पिगमेंट से बनेगी ऊर्जा

## अध्ययन

नई दिल्ली | हिटी

इंसानों की त्वचा में मौजूद मेलानिन पिगमेंट त्वचा, बालों और आंखों के रंग को तय करने में महत्ती भूमिका निभाता

है। वैज्ञानिकों के अनुसार त्वचा में मौजूद मेलानिन पिगमेंट ऊर्जा का संवाहक है, लेकिन अपने प्राकृतिक रूप में यह इस्तेमाल किए जाने लायक नहीं होते।

पत्रिका फ्रॉंटियर्स इन केमिस्ट्री में प्रकाशित शोध में वैज्ञानिकों की एक टीम ने एक ऐसी प्रक्रिया की खोज की है

जिसके द्वारा मेलानिन की संवहन की क्षमता को बढ़ाया जा सकता है। यूनिवर्सिटी ऑफ नेप्लस फेडरिको के शोधकर्ता एलेसैंड्रो ने कहा कि मेलानिन का इस्तेमाल मेडिकल इंप्लांट व अन्य मेडिकल उपकरणों को कोट करने के लिए किया जा सकता है।

**Fungish (Hindustan: 20190401)**

[http://epaper.livehindustan.com/imageview\\_16696\\_75019966\\_4\\_1\\_01-04-2019\\_i\\_18.pagezoomsinwindows.php](http://epaper.livehindustan.com/imageview_16696_75019966_4_1_01-04-2019_i_18.pagezoomsinwindows.php)

# उभयचरों की 90 प्रजातियां फफूंद की बीमारी से नष्ट

नई दिल्ली | हिटी

फफूंद की एक बीमारी की वजह से 500 से ज्यादा उभयचरी प्रजातियों की आबादी में भारी नुकसान हुआ है। पिछले 50 सालों में 90 प्रजातियां तो खत्म ही हो गईं। ऑस्ट्रेलियन नेशनल यूनिवर्सिटी के नेतृत्व में हुए एक शोध में यह खुलाया हुआ है।

इसके अनुसार इस घातक बीमारी का नाम साइट्रिडियोमिकोसिस है। यह उभयचरी प्रजातियों की त्वचा को खा जाती है। उभयचर जीव जल और थल दोनों पर रह सकते हैं। इनमें मेढ़क, टोड और सालामैंडर शामिल हैं।

**कुछ प्रजातियां पूरी तरह खत्म :**  
विज्ञान पत्रिका साइंस में प्रकाशित इस शोध में पाया गया है कि इस बीमारी की वजह से जानवरों की कुछ प्रजातियां तो पूरी तरह खत्म हो गईं। यह बीमारी करीब 60 देशों में पाई गई है। सबसे खराब हालत ऑस्ट्रेलिया के अलावा मध्य और दक्षिण अमेरिका की है।

शोधकर्ताओं का कहना है कि यह बीमारी साइट्रिड फंगस के कारण होती है, जिसकी शुरुआत संभवतः एशिया में हुई जहां स्थानीय उभयचर जानवरों में

## चिंताजनक

- पिछले 50 सालों में 500 प्रजातियों को हुआ नुकसान
- इन प्रजातियों में मूल रूप से मेढ़क, टोड और सालामैंडर शामिल हैं

इस बीमारी के लिए प्रतिरोधक क्षमता है। शोध करने वाली टीम के प्रमुख वैज्ञानिक बेन शील ने एक बयान में कहा कि उनकी टीम ने पाया कि यह बीमारी जैव विविधता में बड़े पैमाने पर क्षति के लिए जिम्मेदार है और दुनिया भर में प्रजातियों को सबसे ज्यादा नुकसान पहुंचाने वालों में शामिल है।

बेन शील ने कहा कि वन्य जीवों में होने वाली अत्यंत खतरनाक बीमारियां, जिनमें साइट्रिडियोमिकोसिस भी शामिल है, पृथ्वी के छोटे सामूहिक विनाश में योगदान दे रहा है। जिस बीमारी का हमने अध्ययन किया है वह दुनिया भर में उभयचरों के आम विनाश का कारण है। इस बीमारी के कारण ऑस्ट्रेलिया में पिछले 30 सालों में मेढ़कों की 7 प्रजातियां खत्म हो गई हैं, जबकि 40 प्रजातियों की आबादी कम हुई है।

## Medicine Prescription

**डॉक्टर बड़े अक्षरों में लिखें दवाओं का नाम (Dainik Gagan: 20190401)**

[https://epaper.jagran.com/epaper/article-01-Apr-2019-edition-delhi-city-page\\_5-9023-690-4.html](https://epaper.jagran.com/epaper/article-01-Apr-2019-edition-delhi-city-page_5-9023-690-4.html)

जागरण संवाददाता, नई दिल्ली: डॉक्टरों की मनमानी पर रोक लगाने के लिए एक अधिवक्ता ने हाई कोर्ट में जनहित याचिका दायर की है। इसमें कहा गया है कि डॉक्टर मरीजों की पर्ची पर बड़े अक्षरों में दवाओं का नाम नहीं लिख रहे हैं। वहीं तमाम आदेशों के बावजूद मरीजों को जेनरिक दवाएं लिखी जा रही हैं। याचिका में भारतीय चिकित्सा परिषद (व्यावसायिक, आचरण, शिष्टाचार और नैतिकता) विनियम-2002 के नियमों का सख्ती से पालन कराने के साथ ही केंद्र सरकार व एमसीआइ को निर्देश देने की मांग की गई है।

अधिवक्ता अमित साहनी ने हाई कोर्ट में याचिका दायर की है। इसमें कहा गया है कि एमसीआइ ने वर्ष 2017 में सभी पंजीकृत चिकित्सकों को दवाओं का नाम बड़े अक्षरों में लिखने के निर्देश दिए थे। लेकिन, डॉक्टरों ने इसे गंभीरता से नहीं लिया। इस संबंध में जारी किए गए तमाम आदेशों के बावजूद भी यह नियम लागू नहीं हुआ। यही नहीं डॉक्टरों की मनमानी पर लगाम लगाने में अफसर भी विफल रहे हैं। उन्होंने कहा कि अधिकारियों ने सिर्फ आदेश के क्रम में पत्रचार तक ही खुद को सीमित कर लिया है। उन्होंने देश के प्रत्येक सुपर स्पेशियलिटी अस्पताल के पास प्रधानमंत्री जनऔषधि योजना के तहत दुकानें स्थापित करने की भी मांग की है। यही नहीं याचिका में कहा गया है कि डॉक्टर अपने फायदे के लिए जेनरिक दवाओं को नहीं लिखते हैं।

**मानसिक आघात सहने वाले बच्चों को पेट की बीमारियों का खतरा**

**मानसिक आघात सहने वाले बच्चों को पेट की बीमारियों का खतरा ((Dainik Gagan: 20190401)**

[https://epaper.jagran.com/epaper/article-01-Apr-2019-edition-delhi-city-page\\_16-7908-707-4.html](https://epaper.jagran.com/epaper/article-01-Apr-2019-edition-delhi-city-page_16-7908-707-4.html)

अगर बच्चे को ज्यादा मानसिक आघात से गुजरना पड़े तो आगे चलकर उसे पेट की बीमारियां होने का खतरा ज्यादा रहता है। इससे उसके दिमाग और व्यवहार पर भी असर पड़ सकता है। शोध में पाया गया कि ऐसे बच्चों को पेट दर्द, कब्ज, उल्टी और चक्कर आने जैसी दिक्कतों का सामना करना पड़ता है। शोध को डेवलपमेंट एंड साइकोपैथोलॉजी जर्नल में प्रकाशित किया गया है। अमेरिका की कोलंबिया यूनिवर्सिटी के प्रोफेसर निम टोटेनहम ने कहा, 'हमारे अध्ययन से यह सामने आया है कि बचपन में पेट की दिक्कत डोलने वाले बच्चों को आगे चलकर भावनात्मक परेशानियों का सामना भी करना पड़ सकता है।' शोधकर्ताओं ने पाया कि जिन बच्चों का पालन-पोषण उनके मां-बाप के पास होता है, उन्हें इस तरह की परेशानियों का सामना कम करना

पड़ता है। वहीं मां-बाप से दूर या अनाथालय में पलने वाले बच्चों को पेट की बीमारियों और भविष्य में भावनात्मक दिक्कतों का सामना करना पड़ता है। - आइएएनएस

मानसिक आघात सहने वाले बच्चों को पेट की बीमारियों का खतरा