



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Monday 20210112

COVID-19 Infection

Holding your breath may increase risk of COVID-19 Infection: IIT Madras study (The Tribune: 20210112)

<https://www.tribuneindia.com/news/health/holding-your-breath-may-increase-risk-of-covid-19-infection-iit-madras-study-196969>

The researchers noted that several infectious respiratory diseases such as COVID-19, that threaten the human lives globally, transmit primarily through virus laden droplets

Holding your breath may increase risk of COVID-19 Infection: IIT Madras study

Holding the breath and having low breathing rate can increase the chances of the novel coronavirus-laden droplets being deposited deep in the lungs, according to a study by researchers at the Indian Institute of Technology (IIT) Madras.

The study, published in the peer-reviewed journal Physics of Fluids, paves the way for developing better therapies and drugs for respiratory infections, including coronavirus disease-19 (COVID-19).

The researchers noted that several infectious respiratory diseases such as COVID-19, that threaten the human lives globally, transmit primarily through virus laden droplets.

Dramatic respiratory events such as coughs and sneezes that yielded a large quantity of droplets played a vital role in aiding such transmission, they said.

The researchers modelled breathing frequency in a laboratory to better understand how the rate of flow of droplet laden with virus determines the deposition of the virus in the lungs.

They found that low breathing frequency increases the time of residence of the virus and therefore, it increases the chances of deposition and consequently the infection.

The multiscale lung structure has a significant effect on a person's susceptibility to COVID-19, according to the research led by Professor Mahesh Panchagnula, from the Department of Applied Mechanics, IIT Madras.

“COVID-19 has opened a gap in our understanding of deep pulmonological systemic diseases. Our study unravels the mystery behind how particles are transported and deposited in the deep lung,” Panchagnula said.

“The study demonstrates the physical process by which aerosol particles are transported into the deep generations of the lung,” he added.

Previous research by the same group highlighted the significant variability in aerosol uptake from individual to individual, suggesting a reason why some people are more vulnerable to airborne diseases than others.

Airborne infections such as the novel coronavirus spread immensely through sneezing and coughing as it instantly releases a lot of tiny droplets.

The team, including IIT Madras research scholars Arnab Kumar Mallik and Soumalya Mukherjee, imitated the droplet dynamics in the lung by studying the movement of droplets in the small capillaries which were of a diameter similar to bronchioles, or air passages inside the lungs that branch off like tree limbs.

They took water mixed with fluorescent particles and generated aerosols from this liquid using a nebulizer, a medical equipment that people with respiratory conditions can use to administer drugs directly and quickly to the lungs.

These fluorescent aerosols were used to track the movement and deposition of the particles in the capillaries or very tiny blood vessels.

The researchers studied the movement of the fluorescent aerosol particles in capillaries of size ranging from 0.3 to 2 millimetres which covers the range of bronchiole diameters.

They found that the deposition was inversely proportional to the aspect ratio of capillaries, which suggested that the droplets were likely to deposit in longer bronchioles.

The IIT Madras researchers also studied how the ‘Reynolds Number,’ a parameter that quantifies the nature of flow — steady or turbulent — determines the deposition in the capillaries

They found that when the flow of aerosol movement was steady then the particles deposit through the process of diffusion, however, if the flow was turbulent then the particles deposit via impaction.

While diffusion is the movement of a substance from an area of high concentration to that of low concentration, impacection is a rapid change in air direction. PTI

New coronavirus strain

New coronavirus strain first seen in Britain confirmed in Mexico (The Tribune: 20210112)

<https://www.tribuneindia.com/news/health/new-coronavirus-strain-first-seen-in-britain-confirmed-in-mexico-196941>

Fast-spreading new strain of the virus has also been found in South Africa and Australia

New coronavirus strain first seen in Britain confirmed in Mexico

The confirmation of the especially contagious new variant of the virus marks the first time it has been found in Mexico, home to the pandemic's fourth-highest death toll globally. Reuters file

The new variant of the coronavirus first detected in Britain has been confirmed in northern Mexico, health officials said on Sunday, adding a new layer of concern to an already severe national outbreak.

The confirmation of the especially contagious new variant of the virus marks the first time it has been found in Mexico, home to the pandemic's fourth-highest death toll globally.

A 56-year-old British man who flew on December 29 from Mexico City to the city of Matamoros, just south of the US-Mexico border, tested positive for the new strain, both state and national health officials said on Sunday.

The man arrived to the Mexican capital a day earlier on a flight from Amsterdam, said Jose Luis Alomia, the head of epidemiology for the national health ministry, at a regular government news conference.

The official explained that upon arriving in Matamoros, the man did not show any symptoms of COVID-19, the disease caused by the virus. But he nonetheless tested positive again after a second test was administered to him on December 31.

Alomia stressed that while the new variant has been detected, it is not believed to be circulating on any significant scale among the population.

A dozen passengers on the same Mexico City-Matamoros flight have not yet been identified, officials said, while the rest of the 45-passenger flight have all tested negative, including the plane's crew.

The British man remains hospitalised in Matamoros, and was placed on a ventilator on Saturday.

Officials did not say that any form of contact tracing or testing had been conducted on passengers on the Amsterdam-Mexico City flight.

The fast-spreading new strain of the virus has also been found in South Africa and Australia, prompting authorities to take more aggressive action to prevent even greater contagion as countries across the globe struggle to contain the pandemic. Reuters

Smoking

Youth using e-cigarettes three times as likely to become daily cigarette smokers: Study (The Tribune: 20210112)

<https://www.tribuneindia.com/news/health/youth-using-e-cigarettes-three-times-as-likely-to-become-daily-cigarette-smokers-study-196923>

Youth using e-cigarettes three times as likely to become daily cigarette smokers: Study

Starting tobacco products, including e-cigarettes, before the age of 18 is a major risk factor for people becoming daily cigarette smokers, suggests a new study.

This was reported in the analysis of a large nationally representative longitudinal study by the University of California San Diego Herbert Wertheim School of Public Health and Human Longevity Science.

Reporting in the online edition of Pediatrics, researchers found that in 2014 people age 12 to 24 who used e-cigarettes were three times as likely to become daily cigarette smokers in the future. Among those who reported using a tobacco product, daily use increased with age through age 28. Daily cigarette smoking nearly doubled between 18 to 21-year-old (12 per cent) and 25 to 28-year-old (21 per cent).

"This is the first paper that actually looks at progression to dependent cigarette smoking among young adults. In these data, e-cigarettes are a gateway for those who become daily cigarette smokers," said the study's first author, John P. Pierce, PhD, Professor Emeritus at Herbert Wertheim School of Public Health and Human Longevity Science and UC San Diego Moores Cancer Center.

"The start product has changed from cigarettes to e-cigarettes, but the end product has stayed the same. When users become dependent on nicotine, they are converting to cigarette smoking."

Researchers used data from the Population Assessment of Tobacco and Health (PATH) Study, a longitudinal study of tobacco use and its effect on the health of people in the United States.

The PATH Study, undertaken by the National Institute on Drug Abuse (NIDA) and the FDA Center for Tobacco Products under contract to Westat, enrolled a nationally representative sample of 12 to 24-year-olds between in 2013 and 2014 and re-interviewed them annually for four years to explore progression to daily use among experimenters of 12 tobacco products.

In the first year, 45 per cent of study participants reported using at least one tobacco product in their lifetime. By the fourth year, as participants aged, 62 per cent reported some tobacco experimentation. Among those who have ever experimented with tobacco, 73 per cent had tried cigarettes and 72 per cent had tried e-cigarettes. Further, more than half tried hookahs and cigarillos. Traditional cigars, filtered cigars, smokeless products, pipes and snus were each tried by more than 10 per cent of study participants.

The analyses revealed that, by year four, 12 per cent of participants were using tobacco products daily -- half of whom became daily users after the first year. Seventy percent of daily users smoked cigarettes and most of them (63 per cent) used cigarettes exclusively. Of those who smoked cigarettes and used another tobacco product, half vaped e-cigarettes on a non-daily basis.

Among the 17 per cent of daily users who were vaping every day, almost half were also non-daily cigarette smokers. Further follow-up will determine whether these young daily tobacco users continue to use both products or whether they settle on a single product, said Pierce.

"What we're seeing is that the proportion who are daily e-cigarette users did not increase with age. Whereas with cigarettes, the number of users jumps up rapidly with age," said Pierce. "This rapid increase with age only occurred with cigarettes, not with any other tobacco products."

Less than 1 per cent of study participants who experimented with just one tobacco product progressed to daily cigarette smoking. People who had tried five or more products increased their risk of becoming daily cigarette smokers by 15 percentage points.

"Trying e-cigarettes and multiple other tobacco products before the age of 18 is also strongly associated with becoming daily cigarette smoking," said senior author Karen Messer, PhD, professor at UC San Diego Herbert Wertheim School of Public Health and Human Longevity Science and director of biostatistics at UC San Diego Moores Cancer Center.

"We know that e-cigarette use among high school seniors, most under the age of 18, increased from 38 percent in 2016 to 45 percent in 2019. These results suggest that recent rapid growth

in adolescent e-cigarette use will lead to increased daily cigarette smoking among young adults in the United States, reversing decades of decline in cigarette smoking." ANI

Mediterranean diet

Mediterranean diet reduces risk of prostate cancer (The Tribune: 20210112)

<https://www.tribuneindia.com/news/health/mediterranean-diet-reduces-risk-of-prostate-cancer-195610>

The Mediterranean diet is way of eating based on traditional cuisine of countries bordering Mediterranean Sea

If you follow a Mediterranean diet, then there are chances that you may be protected against prostate cancer, a new study suggests.

The findings, published in the journal Cancer, suggests that men with localised prostate cancer who reported a baseline dietary pattern that more closely follows the key principles of a Mediterranean-style diet fared better over the course of their disease.

“A Mediterranean diet is non-invasive, good for overall health and, as shown by this study, has the potential to effect the progression of their cancer,” said the lead researcher, Justin Gregg, Assistant Professor at the University of Texas.

“Men with prostate cancer are motivated to find a way to impact the advancement of their disease and improve their quality of life,” Gregg added.

The Mediterranean diet is a way of eating based on the traditional cuisine of countries bordering the Mediterranean Sea. While there is no single definition of the Mediterranean diet, it is typically high in vegetables, fruits, whole grains, beans, nut and seeds and olive oil.

For the study, the researchers involved 410 men on an active surveillance protocol with Gleason grade group 1 or 2 localized prostate cancer.

The men completed a 170-item baseline food frequency questionnaire, and Mediterranean diet score was calculated for each participant across 9 energy-adjusted food groups. The participants were then divided into three groups of high, medium and low adherence to the diet.

All study participants underwent a confirmatory biopsy at the beginning of the study and were evaluated every six months through clinical exam and laboratory studies of serum antigen PSA and testosterone.

After adjusting for factors known to increase risk of cancer getting worse over time, such as age, prostate-specific antigen (PSA) and tumour volume, men with a diet that contained more fruits, vegetables, legumes, cereals and fish had a reduced risk of their prostate cancer growing or advancing to a point where many would consider active treatment.

The researchers also examined the effect of diabetes and statin use and found a similar risk reduction in these patient groups.

“Our findings suggest that consistently following a diet rich in plant foods, fish and a healthy balance of monounsaturated fats may be beneficial for men diagnosed with early-stage prostate cancer,” Gregg said. IANS

Bird flu cases

Govt amps up action as bird flu cases confirmed in Delhi (Hindustan Times: 20210112)

<https://epaper.hindustantimes.com/Home/ArticleView>

Delhi on Monday became one of the 10 states in the country with confirmed cases of avian influenza, or bird flu, even as authorities announced a ban on the sale of processed and packaged poultry brought from outside the city as a precautionary measure aimed at stopping the spread of the disease.

At least 10 samples from three locations of the over 120 samples sent to Bhopal’s National Institute of High Security Animal Diseases (NIHSAD) of the Indian Council of Agricultural Research have returned positive, government officials said, launching a drive to either cull or isolate birds in east Delhi’s Sanjay Lake Park that has already been shut.

Carcasses of 17 ducks were found on Sunday, triggering a scare and prompting authorities to declare it an “alert zone”. Officials said the culling of live birds at Sanjay Lake Park began at 8am on Monday. They said large-scale culling might not be required in Delhi immediately.

In an online press briefing in the afternoon, deputy chief minister Manish Sisodia said the Delhi government was making all efforts to check the spread of bird flu and that chief minister Arvind Kejriwal was monitoring the situation.

“...there is a ban on selling packaged chicken or processed chicken from outside in Delhi to prevent infection from one state to another,” he said, asking people not to panic. “Those who consume chicken and eggs...if you cook your chicken and boil eggs properly, there is no risk...” Sisodia added.

A senior government official, who did not want to be named, explained that date and place of packaging will be considered before imposing the ban.

“For example, if a company sources its poultry from Haryana, which has reported cases of bird flu, authorities will check manufacturing dates on packages in the storage unit of the company in Delhi, or at its retail outlets. If the manufacturing date is after the outbreak in Haryana, it will have to be trashed immediately. If it is pre-outbreak, then it will be approved for sale. Similarly, if a company has already brought its stock from a state which is not yet affected, sale of those packages will be allowed,” the official said.

“We will also issue advisories to people asking them to check the manufacturing dates of packaged chicken and eggs. People are advised to check from which states the product is coming before purchasing and the manufacturing date of the same. However, bringing fresh stock into the city will not be allowed as of now,” he added.

Later in the evening, state animal husbandry unit issued an order, saying the “entry and sale of dressed/processed/canned poultry products is also required to be restricted as a measure of abundant precaution in view of public health and safety”.

On Saturday, Delhi announced the closure of the Ghazipur wholesale poultry market for 10 days and banned the entry of live birds from outside Delhi. Over the past four days, about 150 birds have been found dead across the city.

Though Sisodia said in his briefing samples of ducks from Sanjay Lake area were the only ones in Delhi that tested “positive so far”, officials clarified later that 10 samples from three locations in the city were found with bird flu virus.

In the morning, officials said three of the positive samples were from Sanjay Lake Park in Mayur Vihar Phase 2, four from Mayur Vihar Phase 3, and one from Dwarka Sector 9.

By evening, two more samples — from a district park in Dwarka Sector 9 — tested positive, prompting authorities to immediately shut the facility for public.

Apart from the Sanjay Lake Park and the one in Dwarka Sector 9, the Delhi Development Authority (DDA), which maintains most of the big parks in the city, has shut down at least two parks — in Hauz Khaz and Hastal — until further orders. Agencies such as DDA, the New Delhi Municipal Council and the three civic bodies issued separate advisories on Monday, asking people not to go near water bodies in parks and monuments.

“Doctors of all 48 veterinary hospitals of the Animal Husbandry Unit are continuously monitoring bird flu across Delhi. Also, 11 rapid response teams have been set up which are continuously collecting samples,” a Delhi government statement said.

Delhi lieutenant governor Anil Baijal, too, reviewed the situation in the Capital.

On Twitter, he said officials have been advised to enhance surveillance and undertake requisite measures for control and containment. “Citizens are advised to maintain caution and reach out to help line # 011-23890318, in case of need of any assistance,” he tweeted.

As of Monday, nine other Indian states have reported the outbreak: Kerala, Rajasthan, Madhya Pradesh, Himachal Pradesh, Haryana, Gujarat, Uttar Pradesh, Uttarakhand, and Maharashtra. No case among the human population has been reported.

“We have seen a slight reduction in the sale of raw chicken. This has been compensated by the increase in sales of fish and seafood, mutton and pork products,” Siddhant Wangdi, chief executive officer at meatigo.com (an online marketplace selling seafood and meat products), said.

“We source our poultry products from certified and licensed supply partners who have their own network farms. There has not been any report of the outbreak of avian influenza or any other disease from any of our supply partners in the past 30 days....Further, when we receive the birds, each of them undergoes a safety and quality check and is vacuum packed to curb any kind of contamination,” he said.

The current outbreak — migratory birds are believed to be behind it — began in December-end, barely a few months after India declared the country free from the disease on September 30, 2020.

While the risk to humans from the disease is considered low, past outbreaks among farm birds have needed extensive slaughtering programmes to contain the outbreak.

Only those coming in close contact with infected (alive or dead) birds for a long time can contract the H5N1 (strain of) bird flu virus, which does not usually spread from person to person, according to the World Health Organization (WHO).

Most other strains of bird flu cannot be transmitted to humans. Experts say well-cooked chicken or poultry products such as eggs (heated over 70 degrees Celsius) kill the virus and are, therefore, safe to consume.

“The receptor used by the virus that causes the bird flu is very different from the receptors needed for human flu. So it is very unlikely for the infection to pass on to humans unless there is some recombination or mutation that allows the virus to enter human cells. Second, it does not pass from humans to humans. It is not a respiratory infection like Covid-19 and can happen to humans only if they are handling the dead infected birds or poultry that has been infected,” said Dr Shobha Broor, former head of the department of microbiology at Delhi’s All India Institute of Medical Sciences (AIIMS).

“However, once a person is infected, the disease tends to be severe. The bird flu virus usually attaches with the lower respiratory tract and causes pneumonia,” she said.

Health facilities across the country'

Adverse event surveillance is being set up in health facilities across the country' (The Hindu: 20210112)

<https://www.thehindu.com/sci-tech/health/adverse-event-surveillance-is-being-set-up-in-health-facilities-across-the-country/article33550987.ece>

Regulators are not taking any shortcuts on ensuring safety of COVID-19 vaccine, says NTF member N.K. Arora.

Dr N.K. Arora, executive director of the New Delhi-based INCLEN Trust and head of the operations research group of the ICMR's National Task Force for COVID-19 says all safety related information will be shared with the public as it emerges with the use of COVID-19 vaccine.

This is for the first time the government is going to vaccinate adults. Does it require any special preparation?

Yes, it does. India has an existing vaccine safety surveillance mechanism called the AEFI (Adverse Events Following Immunisation) surveillance. It's comprised of a national secretariat under the Universal Immunisation Programme (UIP), including doctors, data specialists and public health specialists. The vaccine safety surveillance network extends up to every district where a panel of doctors and health workers monitor events of concern after getting any vaccine, investigate and report to State and national level.

A vaccine van is seen outside Dasappa hospital in Bengaluru on January 9, 2021. India will kick off the coronavirus vaccination drive on January 16, 2021.

Coronavirus | First phase of vaccination to start on January 16

COVID-19 has necessitated immunisation of the adult population. The government has now involved cardiologists, neurologists, general physicians and pulmonologists in AEFI committees at national, State, and district level.

Right now, we are anticipating — theoretically — events of concern that might possibly happen after immunisation drive. The AEFI members will be trained to look for any adverse events before we start the immunisation process. Adverse event surveillance is being established to actively seek these events across designated health facilities across the country. Additionally, there are around 300 medical colleges and tertiary care hospitals across the country that have adverse drug reaction monitoring centres which also report adverse events after vaccines along with drugs.

What kind of awareness programmes do we need before rolling out the immunisation for COVID?

We need to educate people and make them aware of lesser-known facts about vaccines. For example, some people might face mild symptom such as pain or swelling, mild fever, among others. It is a normal immune response.

Then, it is important for people to know that vulnerable population — the elderly, people with associated illness, such as diabetes, chronic lung disease, high blood pressure, kidney ailments, cancers and others may, otherwise also, suffer from any sudden health issues such as heart attack. We cannot and should not link it to the vaccine in all cases. I believe that we need to practise ‘exceptional transparency’ in this case. I assure that all safety related information will be shared with the general population as it emerges with the use of COVID-19 vaccine(s) either in our country or in any other part of the globe with the same vaccine.

Indian regulators gave authorisation to Covaxin even before its phase-III trial results were out. How do we explain this?

We are passing through troubled times. COVID-19 has caused social disruption, economic downturn and significant number of deaths. To control this pandemic, the society as well as the system may have to take steps which may also be termed as drastic. Both pre-clinical and clinical data (complete data for Phase I and II, and partial data for Phase III) of Covaxin have been thoroughly scrutinised by the regulators. This data shows that the vaccine is safe and induces a robust antibody response. However, to what extent the vaccine will protect the recipients from getting the disease is not known yet. Therefore, the regulators have allowed its use in trial mode.

What would trial mode mean for a vaccine recipient?

The way we do in a clinical trial phase: First, the recipient will be asked to give a written consent. Then he/she will undergo some blood tests before and after taking the vaccine. Additionally, the recipient will be followed-up actively to see if the vaccine has led to any side effects. In short, it will be an extension of the Phase-III trial. But in this, the person would know that s/he has received the vaccine, and not the placebo. It will be completely a person’s choice if he/she would like to give the vaccine a try or not.

Developing a vaccine takes years. But this time our scientists have developed a vaccine against coronavirus in such a short time. How was this possible?

Developing a vaccine generally involves years of research. First, we need a vaccine candidate that is evaluated in animals for its safety and efficacy. After a vaccine candidate passes a pre-clinical trial, it enters the clinical trial phase. While scientists have worked round the clock in the laboratory, even regulatory approvals which used to take several months have been pretty quick. It helped eliminate all the time lapses between the pre-clinical and clinical trial stages. Earlier, the vaccine development involved a series of steps, but in the case of the coronavirus

vaccine, the scientists and regulators worked in tandem, accelerating the whole process without compromises on any protocols and any step.

What is your opinion on the safety and efficacy of the vaccine?

To ensure that a vaccine is safe, we need to try it on a large number of people. The vaccine developers have not reduced the sample size at any stage of clinical trials rather it was bigger than what we usually test a vaccine on.

Protection level: Asymptomatic infections may result in low antibody levels or even no antibodies being measured in up to 20% of people.

Coronavirus | Why people with prior infection still need COVID-19 vaccination

When a vaccine is tested, most of the adverse events or unwanted effects, if any, occur in the first four to six weeks of its administration. So, in order to ensure that it is safe, we keep a close watch, for the first two-three months, on the people it has been given to. This data helps us decide if a vaccine is safe. All concerned in the line of vaccine development, testing and evaluation have followed these procedures to the tee. Both Indian vaccines are considered safe on this yardstick.

As for the efficacy of the vaccine, we need time to tell how effective a vaccine is. All the global agencies have set the benchmark that only those vaccine candidates which show the efficacy of at least 50-60% will be considered. Interestingly, most of the vaccines have shown the efficacy of 70–90% within the short period of 2-3 months of observation, way more than what we were expecting. Besides, when a vaccine is given an emergency use authorisation, as in case of COVID-19 vaccine, the trial follow-ups continue for one-two years to assess the total duration of protection the vaccine will provide.

What is emergency use authorisation. Does it involve any short-cuts on the part of our regulators?

Not at all. In fact, our regulators are taking extra precautions. Some vaccine candidates were not considered for review by our regulators as the data was inadequate; some companies were asked to increase their sample size so that our regulators can have adequate evidence to support the safety and efficacy of the vaccine before they approve it.

Similarly, Indian regulators wanted the U.K.'s regulator to approve Oxford's vaccine first before even considering it for the Indian population. An important pre-requisite of the COVID-19 vaccine authorisation for our country is – the vaccine should have been evaluated on subjects in India. The regulators are not taking any shortcuts when it comes to ensuring the safety of COVID-19 vaccines.

New challenges for COVID-19 vaccine

Coronavirus | New challenges for COVID-19 vaccine trials in India (The Hindu: 20210112)

<https://www.thehindu.com/sci-tech/health/new-challenges-for-covid-19-vaccine-trials-in-india/article33537446.ece>

With the daily cases coming down, many people who would have volunteered would not see the urgency now as earlier

On January 1, Pune-based Serum Institute's Covishield vaccine was granted permission for restricted use, while Bharat Biotech's Covaxin got a similar

Bird Flu (The Asian Age: 20210112)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=15342199>

Bird flu confirmed in 10 states: Govt

Over 200 migratory birds found dead in Himachal, culling begins in Haryana

New Delhi, Jan. 11: The Centre on Monday said bird flu has been confirmed in 10 states so far and stressed on increased surveillance around water bodies, live bird markets, zoos and poultry farms. "Till January 11, 2021, avian influenza has been confirmed in 10 states of the country," the department of animal husbandry and dairying said in a statement.

The outbreak was confirmed in seven states — Kerala, Rajasthan, Madhya Pradesh, Himachal Pradesh, Haryana, Gujarat and Uttar Pradesh — as on January 10.

On Monday, bird flu has also been confirmed in Delhi, Uttarakhand and Maharashtra.

The Himachal Pradesh government on Monday banned the supply of all poultry products from other states for a week amid the bird flu scare, an official spokesman said on Monday.

Carcasses of 215 migratory birds were found in Pong Dam Wildlife Sanctuary in Himachal Pradesh's Kangra district on Sunday, taking the total number of such birds suspected to have died of avian influenza to 4,235, officials said.

Each day, hundreds of migratory birds were found dead in the lake area since December 29. Last Monday, the samples tested positive for H5N1, they said.

Also, for the fourth day in a row, a large number of dead poultry birds were found dumped by the side of the Chandigarh-Shimla highway in Solan district. The remains of the birds were buried according to safety protocol and their samples sent to a disease diagnostic laboratory in Jalandhar.

States have been asked to build awareness among the public and avoid the spread of misinformation. "States/UTs have been requested to increase surveillance around water bodies, live bird markets, zoos, poultry farms, etc. along with proper disposal of carcass, and strengthening of biosecurity in poultry farms," it said. The Centre has also directed



Horticulture team members gather geese for medication following reports of bird flu cases at Sanjay Lake in New Delhi on Monday.

— PTI

states to maintain adequate stock of PPE kits and accessories required for culling operations.

Meanwhile, the department said that ICAR-NIHSAD has confirmed the death of crows and migratory/wild birds in Tonk, Karauli, Bhilwara districts of Rajasthan as well as Valsad, Vadodara and Surat districts of Gujarat.

Further, the death of crows was confirmed in Kotdwara and Dehradun districts of Uttarakhand. In Delhi, crows and ducks, respectively, were reported dead in New Delhi and Sanjay lake areas.

The outbreak of Avian Influenza has been among poultry in Parbhani district, while AI is confirmed from Mumbai, Thane, Dapoli, Beed in crows in Maharashtra.

In Haryana, culling of infected birds is underway to control and containment of the spread of the disease. A Central team has visited Himachal Pradesh and will reach Panchkula on Monday.

— PTI

Five districts in Maha hit by bird flu, health alert issued

BHAGWAN PARAB
MUMBAI, JAN. 11

Maharashtra has become the ninth state in the country to be hit by bird flu as crows and birds from five districts were found positive for avian influenza by the Bhopal-based National Institute of High Security Animal Diseases (NIHSAD). State Health Minister Rajesh Tope has called for a health alert to be issued across the state to tackle the disease.

The Bhopal-based lab confirmed that two crows from Mumbai died due to bird flu while three pond egrets and a parrot from neighbouring Thane were found positive for avian influenza virus. In addition to this, a chicken and two herons from

Parbhani, while crows from Beed and Dapoli (in Ratnagiri district) were infected by avian influenza virus.

Apart from Maharashtra, bird flu cases have so far been confirmed in Kerala, Rajasthan, Madhya Pradesh, Himachal Pradesh, Haryana, Gujarat, Uttar Pradesh and Delhi.

In Mumbai, 11 more dead crows were found near Tata Colony in Chembur's RCF area, whereas in Thane as many as 20 birds, including pond herons, parakeets have been found dead over the last four days. Some 800 chickens in a poultry farm were found dead due to bird flu at Muramba village in Parbhani.

"Culling of all birds will now be undertaken up to

a 1km radius of the infected zone in Parbhani where the poultry samples were found positive. The district administration has decided to cull nearly 8,000 birds in the Muramba village," Parbhani district collector Deepak Mugalikar said.

The Maharashtra animal husbandry department has so far recorded 1,205 deaths of various birds since January 8.

Tope said that there is a need to issue a health alert across the state to tackle the disease.

"It has now been confirmed that bird flu has entered Maharashtra. To prevent the spread of the disease, the health and animal husbandry departments should issue a health alert," he said.

Food-borne parasite

Exposure to common food-borne parasite linked to rare brain cancer (New Kerala: 20210112)

<https://www.newkerala.com/news/2021/6523.htm>

If you eat undercooked meat then you may need to stop it, as researchers have found a link between toxoplasma gondii (T. gondii) infection and the risk of glioma, a rare type of brain cancer, in adults.

T. gondii is a common parasite that is most commonly acquired from undercooked meat and may lead to the formation of cysts in the brain.

The study, published in the International Journal of Cancer, suggests that people who have glioma are more likely to have antibodies to T. gondii (indicating that they have had a previous infection) than a similar group that is cancer free.

"The findings do suggest that individuals with higher exposure to the T. gondii parasite are more likely to go on to develop glioma," said lead researcher James M. Hodge from the Department of Population Science, American Cancer Society, Atlanta.

"However, it should be noted that the absolute risk of being diagnosed with a glioma remains low, and these findings need to be replicated in a larger and more diverse group of individuals," Hodge added.

For the study, the research team examined the association between T. gondii antibodies measured several years before the cancer was diagnosed and the risk of developing a glioma.

These results suggest that reducing exposure to this common food-borne pathogen could provide a modifiable risk factor for highly aggressive brain tumors in adults.

Although glioma is a relatively rare disease, it is a highly fatal cancer. Globally in 2018, there were an estimated 300,000 incident cases and 241,000 deaths due to brain and other nervous system cancers, the researchers said.

The majority (80 per cent) of malignant brain tumors are gliomas, for which the estimated five-year relative survival rate is a stark 5 per cent, they added.

"This does not mean that T. gondii definitely causes glioma in all situations. Some people with glioma have no T. gondii antibodies, and vice versa," notes Hodge.

Covid infection risk

Holding breath may increase Covid infection risk: IIT researchers (New Kerala: 20210112)

<https://www.newkerala.com/news/2021/6261.htm>

Researchers, at the Indian Institute of Technology (IIT) Madras, have found that the process of virus-laden droplets being transported into deep lung increases with decreasing breathing frequency.

The team modelled the breathing frequency in a laboratory and found that low breathing frequency increases the time of residence of the virus and therefore, it increases chances of deposition and consequently the infection. Also, the multi-scale lung structure has a significant effect on a person's susceptibility to Covid-19.

"Covid-19 has opened a gap in our understanding of deep pulmonological systemic diseases. Our study unravels the mystery behind how particles are transported and deposited in the deep lung," the researcher, Mahesh Panchagnula, Department of Applied Mechanics, IIT Madras, said in a statement on Monday.

"The study demonstrates the physical process by which aerosol particles are transported into the deep generations of the lung," Panchagnula added.

The research team worked to gain a deeper understanding of how the rate of flow of droplet laden with virus determines the deposition of the virus in the lungs.

In their research, the team reported that holding the breath and having low breathing rate can increase chances of virus deposition in the lungs.

Airborne infections such as Covid-19 spread immensely through sneezing and coughing as it instantly releases a lot of tiny droplets. The research team imitated the droplet dynamics in the lung by studying the movement of droplets in the small capillaries which were of a diameter similar to bronchioles.

They took water mixed with fluorescent particles and generated aerosols from this liquid using a nebulizer. These fluorescent aerosols were used to track the movement and deposition of particles in the capillaries.

The researchers studied the movement of the fluorescent aerosol particles in capillaries of size ranging from 0.3 to 2 millimetres which covers the range of bronchiole diameters.

They found that the deposition is inversely proportional to the aspect ratio of capillaries, which suggests that the droplets are likely to deposit in longer bronchioles.

Gene therapy

Gene therapy strategy found effective in mouse model of hereditary disease TSC (New Kerala: 20210112)

<https://www.newkerala.com/news/2021/6040.htm>

A team led by investigators at Massachusetts General Hospital (MGH) has now shown that gene therapy can effectively treat mice that express one of the mutated genes that cause the tuberous sclerosis complex disease.

The research is published in Science Advances.

The gene, called TSC2, codes for tuberin, a protein that acts to inhibit cell growth and proliferation. When mutations occur in TSC2, resulting in a lack of tuberin in cells, the cells enlarge and multiply, leading to the formation of tumors.

To restore the function of TSC2 and tuberin in a mouse model of tuberous sclerosis complex, researchers developed a form of gene therapy using an adeno-associated virus vector carrying the DNA that codes for a condensed form of tuberin (which fits within the vector's carrying capacity) and functions like the normal full-length tuberin protein.

Mice with tuberous sclerosis complex had a shortened life span of about 58 days on average, and they showed signs of brain abnormalities consistent with those that are often seen in patients with the disease.

When the mice were injected intravenously with the gene therapy treatment, however, their average survival was extended to 462 days, and their brains showed reduced signs of damage.

"Current treatments for tuberous sclerosis complex include surgery and/or lifelong treatment with drugs that cause immune suppression and potentially compromise early brain development. Therefore, there is a clear need to identify other therapeutic approaches for this disease," said co-lead author Shilpa Prabhakar, an investigator in the MGH departments of Neurology and Radiology.

"Adeno-associated virus vectors have been used widely in clinical trials for many hereditary diseases with little to no toxicity, long-term action in nondividing cells, and improvement in symptoms," adds Prabhakar.

She notes that benefits can be seen after a single injection, and some forms of the viral vector can efficiently enter the brain and peripheral organs after intravenous injection.

The US Food and Drug Administration has approved a limited number of gene therapy products for use in humans, and the results from this study suggest that clinical trials are warranted to test the strategy's potential in patients with tuberous sclerosis complex.

Vaccine (Hindustan: 20210112)

https://epaper.livehindustan.com/imageview_568089_108093928_4_1_12-01-2021_0_i_1_sf.html

टीके पर अफवाहें रोकना सुनिश्चित करें राज्य: मोदी

टीकाकरण 4 दिन शेष

नई दिल्ली | विशेष संवाददाता

प्रधानमंत्री नरेंद्र मोदी ने टीकाकरण को लेकर सोमवार को मुख्यमंत्रियों के साथ चर्चा की। उन्होंने कहा, देश के भीतर व बाहर कुछ स्वार्थी लोग अफवाहों को हवा देने का काम कर सकते हैं। राज्यों को सुनिश्चित करना होगा कि अफवाहें न फैलें, यह जिम्मेदारी सबकी है।

मोदी ने कहा, अपप्रचार की हर कोशिश को, देश के हर नागरिक तक सही जानकारी पहुंचाकर हमें नाकाम करना है। उन्होंने बताया कि पहले चरण में तीन करोड़ लोगों को टीका दिया जाएगा। कोई सवाल उठने की आशंका



नहीं है। यह हम सभी के लिए गौरव की बात है कि जिन दो टीकों को मंजूरी दी गई है, वो दोनों ही भारत में ही बनी हैं।

मोदी ने कहा, चार और वैक्सीन प्रगति के चरण में हैं। उनके आने पर जब दूसरा चरण शुरू होगा, जिसमें 50 साल से ऊपर के लोगों व बीमार लोगों को टीका दिया जाएगा। पहले चरण में तीन करोड़ स्वास्थ्यकर्मी और फ्रंटलाइन वर्कर्स के टीकाकरण का खर्च सरकार उठाएगी।

➤ 210 रुपये में टीका पेज 07

Food and Nutrition (Hindustan: 20210112)

https://epaper.livehindustan.com/imageview_568091_107325918_4_1_12-01-2021_3_i_1_sf.html

सलाह : चिकन अच्छी तरह पकाकर ही खाएं

बर्ड फ्लू को लेकर आपके मन में जो भी शंका है, यहां हम उनके जवाब दे रहे हैं। इन सवालों के जवाब डॉक्टर इंद्र कस्तूरिया, विभागाध्यक्ष, मेडिसिन विभाग, आकाश अस्पताल ने दिए हैं।

● बर्ड फ्लू क्या है, क्या इसका किसी मौसम विशेष से संबंध है ?

बर्ड फ्लू संक्रामक बीमारी है। यह इन्फ्लूएंजा टाइप ए वायरस की मदद से फैलता है जो आम तौर पर चिकन, कबूतर और इस तरह के पक्षियों में पाया जाता है। इस वायरस के 11 स्ट्रेन हैं, इसमें से कुछ हल्के होते हैं, जबकि कुछ बहुत अधिक संक्रामक होते हैं। उससे बहुत बड़े पैमाने पर पक्षियों के मरने का खतरा पैदा हो जाता है।

● क्या बर्ड फ्लू के दौरान अंडे, चिकन का सेवन करना चाहिए ?

बर्ड फ्लू से बचने के लिए अधपके और रोस्टेड मांस का सेवन करने से

बचना चाहिए। चिकन खाना है तो घर पर अच्छी तरह धुलकर और पकाकर खाएं। इसे

देर तक पकाने से वायरस मर जाएगा।

● इंसानों में कम मामले पर क्या बेहद जानलेवा हैं ?

बर्ड फ्लू पक्षियों के जरिए ही इंसानों में फैलता

है। यह दुनिया में चार बार बड़े पैमाने पर फैल चुका है। यह इंसानों में थले कम फैलता है, लेकिन इसका संक्रमण कहीं ज्यादा घातक है।

● एवियन इन्फ्लूएंजा के क्या लक्षण होते हैं ?

इसके लक्षण सामान्य फ्लू जैसे ही होते हैं। इसमें बुखार, खांसी, गले में

दर्द, मांसपेशियों में दर्द जैसे लक्षण दिखते हैं, लेकिन गंभीर संक्रमण होने पर पेटदर्द, चक्कर आना, सांस लेने में दिक्कत होना, निमोनिया और यहां तक की जान भी जा सकती है।

● क्या बर्ड फ्लू का कोई टीका बाजार में उपलब्ध है या ऐहतियात के तौर पर कोई दवा ली जा सकती है ?

बर्ड फ्लू का कोई टीका अभी तक नहीं आया है। सावधानी ही बचाव है। फ्लू की तरह लक्षणों के आधार पर ही इसका इलाज किया जाता है। जैसे लक्षण, वैसी ही दवा दी जाती है।

● क्या बर्ड फ्लू इंसानों से इंसानों में भी फैलता है ?

अभी तक इंसानों से इंसान तक बर्ड फ्लू फैलने का कोई मामला नहीं आया है। एनफ्लूएंजा के 11 वायरस हैं, जो इंसानों को संक्रमित करते हैं सिर्फ पांच इंसानों के लिए जानलेवा साबित हो सकते हैं। वो हैं एच5एन1, एच7एन3, एच7एन7,

एच7एन9 और एच9एन2। भारत में अभी तक एच5एन1 के मामले ही ज्यादा आए हैं।

● बर्ड फ्लू की पुष्टि के लिए टेस्ट कहाँ कराया जा सकता है ?

बर्ड फ्लू जांच के लिए स्वाब सैंपल लिया जाता है। यह गले या नाक से लिया जाता है। दिल्ली के कुछ लैब में इसकी जांच की सुविधा है।

● किसी के घर-कार्यालय के आसपास बर्ड फ्लू का केस पाया गया है तो उसे क्या सावधानी बरतनी चाहिए ?

बर्ड फ्लू के मामले अभी पक्षियों में ही मिले हैं। लोगों को पक्षियों और उनके मलमूत्र से दूरी बनानी चाहिए।

● पॉल्ट्री फॉर्म में काम करने वाले लोगों को क्या सावधानी बरतनी चाहिए ?

ऐसे लोगों को संक्रमण से बचने के लिए अपने हाथों और पैरों को ढंककर रखना चाहिए। मुंह पर मास्क लगाएं और वहां से बाहर निकलने के बाद अच्छी तरह हाथ धुलें।

इलाज

बर्ड फ्लू के लक्षणों के आधार पर इलाज किया जाता है। जैसे लक्षण होते हैं, उसी के अनुसार इलाज किया जाता है

Vaccination (Hindustan: 20210112)

https://epaper.livehindustan.com/imageview_568091_107497068_4_1_12-01-2021_3_i_1_sf.html

89 टीकाकरण केंद्रों पर कई बूथ बनाए जाएंगे



नई दिल्ली | वरिष्ठ संवाददाता

89 कोविड केंद्र पर स्वास्थ्यकर्मियों के टीका लगाया जाएगा। दो हफ्ते के अंदर यह काम पूरा हो जाए, इसके लिए प्रत्येक केंद्र पर मल्टीपल वैक्सीनेशन बूथ बनाए जाएंगे। वहीं शनिवार से शुरू होने वाले टीकाकरण कार्यक्रम की शुरुआत एलएनजेपी अस्पताल से मुख्यमंत्री अरविंद केजरीवाल करेंगे।

डॉ. सुनीला गर्ग ने बताया कि हम एक वैक्सीनेशन बूथ पर एक दिन में 100 लोगों को टीका लगा सकते हैं।

कोरोना के 3354 सक्रिय मरीज रह गए

दिल्ली में सोमवार को 3354 कोरोना के सक्रिय मरीज रह गए। दिल्ली के स्वास्थ्य विभाग के अनुसार सोमवार को कोरोना संक्रमण के कुल 306 नए मामलों की पुष्टि हुई। वहीं 407 मरीजों को छुट्टी दी गई, जबकि 13 मरीजों की मौत हो गई है। दिल्ली में कोरोना से मृत्युदर 1.70 फीसदी है।

पहले चरण में स्वास्थ्यकर्मियों के लिए जो 89 लोकेशन का चुनाव किया गया है। वहां पर हम टीका लगाने के लिए कई प्वाइंट बनाएंगे। जिससे अगर एक लोकेशन पर तीन वैक्सीनेशन बूथ बनेगा तो वहां 300 लोगों को टीका दे सकेंगे। इससे टीकाकरण में तेजी आएगी।

चार यात्री मिले पॉजिटिव, क्वारंटाइन किया गया

ब्रिटेन से चौथे दिन दिल्ली पहुंची उड़ान में चार यात्री कोरोना पॉजिटिव मिले हैं। दिल्ली हवाईअड्डा प्रशासन के मुताबिक रविवार देर रात यूके से एयर इंडिया की उड़ान संख्या एआई 162 टर्मिनल 3 पर पहुंची। इसमें तीन दुधमुंहे बच्चे समेत कुल 186 लोग थे। सभी की आरटीपीसीआर जांच की गई। जांच में चार लोगों की रिपोर्ट पॉजिटिव आई। करीब साढ़े सात घंटे के भीतर जांच प्रक्रिया पूरी की गई।

