



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Friday 20201120

Oxford-Astrazeneca vaccine

At Rs 1,000, India could get Covid vaccine by April next year, says Serum Institute CEO

Oxford-Astrazeneca vaccine is working well in elderly people, which was a concern earlier (The Tribune: 20201120)

<https://www.tribuneindia.com/news/nation/at-rs-1-000-india-could-get-covid-vaccine-by-april-next-year-says-serum-institute-ceo-173122>

At Rs 1,000, India could get Covid vaccine by April next year, says Serum Institute CEO
File photo

Vaccine maker Serum Institute of India's CEO Adar Poonawalla on Thursday said the Oxford COVID-19 vaccine should be available for healthcare workers and elderly people by around February 2021 and by April for the general public, and will be priced at a maximum of Rs 1,000 for two necessary doses for the public, depending on the final trial results and regulatory approvals.

Probably by 2024, every Indian will get vaccinated, he said at the Hindustan Times Leadership Summit (HTLS), 2020.

"It will probably take two or three years for every Indian to get inoculated, not just because of the supply constraints but because you need the budget, the vaccine, logistics, infrastructure and then, people should be willing to take the vaccine. So these are the factors that lead up to being able to vaccinate 80-90 per cent of the population.

"It will be 2024 for everybody, if willing to take a two-dose vaccine, to be vaccinated," Poonawalla said. Asked at what price the public will get it, he said it will be around USD 5-6 per dose with an MRP of around Rs 1,000 for the two necessary doses.

"The government of India will be getting it at a far cheaper price at around USD 3-4, because it will be buying in a large volume and get access to the price that is similar to what COVAX

has got. We are still pricing it far cheaper and more affordable than other vaccines we have in the market today," Poonawalla said.

Asked about the efficacy of the vaccine, he said the Oxford-Astrazeneca vaccine is so far proving to work very well even in elderly people, which was a concern earlier.

"It has induced a good T-cell response, which is an indicator for your long-term immunity and antibody response but then again, time will only tell if these vaccines are going to protect you in the long term. Nobody can answer that for any of the vaccines today," Poonawalla said.

Responding to a question on the safety aspect, he said there has been no major complaints, reactions or adverse events, adding, "We would need to wait and see. The efficacy and immunogenicity results from the Indian trials will come out in about a month-and-a half." Asked when the SII will apply for an emergency authorisation, Poonawalla said as soon as the UK authorities and the European Medicines Evaluation Agency (EMA) approve it for emergency use, it will apply to the drug controller for emergency use authorisation in India.

"But that will be for a limited use for frontline workers, healthcare workers and elderly people," he added.

Children would have to wait a little longer till the safety data is out, but the good news is that COVID-19 is not so bad and serious for them, Poonawalla said.

"Unlike measles pneumonia, which is deadly, this disease is seeming to be less of a nuisance for children but then, they can be carriers and can give the infection to others.

"We want to vaccinate the elderly people and others who are the most vulnerable first. Once we have enough safety data to go in on children, we can recommend it for children too," he said.

Poonawalla said the Oxford vaccine is affordable, safe and stored at a temperature of two to eight degrees Celsius, which is an ideal temperature for it to be stored in the cold storages of India.

He said the SII plans to make about 10 crore doses per month from February.

As regards how many doses would be provided to India, Poonawalla said talks are still going on and no agreement has been arrived at in this regard.

"India wants around 400 million doses by July. I do not know if it will take all from the Serum Institute. We are gearing up to offer that kind of volume to India and still have a few 100 million to offer to COVAX by July and August. No agreement so far," he said.

Poonawalla said the SII is not entering into any agreement with other countries at this moment as India is its priority.

"We have not signed and committed anything else beyond Bangladesh at the moment. We really do not want to partner right now with many countries because we will not have enough stocks to deliver.

"We want to handle India as a priority first and manage Africa at the same time and then help out other countries," he said.

Poonawalla said 30-40 crore doses of the Oxford vaccine will be available by the first quarter of 2021.

In another session of the summit, AIIMS Director Dr Randeep Guleria said there is some talk going on between Pfizer and the Indian government but not much with Moderna.

"It is going to be a huge challenge as far as the Pfizer vaccine is concerned, considering that it needs a cold chain of minus 70 degrees Celsius," he said and pinned hopes on the vaccines that are at various stages of trial in India.

On the availability of a COVID-19 vaccine, Guleria said the percentage of population to be inoculated will depend on the number of vaccines getting the regulatory approvals and the number of shots they are producing.

He further said the coronavirus goes into the lungs without making a person symptomatic.

"We have individuals who are asymptomatic and you can see patches in their lungs at CT scans directly. It really bypasses a person's defence mechanism, which means that you not only have the virus in your nose or throat, but it has gone right into your lungs. A virus, which can do that is something we have to be wary of," Guleria said. PTI

WHO warns against remdesivir for Covid-19 treatment?

WHO warns against remdesivir for Covid-19 treatment? (The Tribune: 20201120)

<https://www.tribuneindia.com/news/health/who-warns-against-remdesivir-for-covid-19-treatment-173128>

The antiviral is one of only two medicines currently authorized to treat Covid-19 patients across the world.

The World Health Organization (WHO) on Friday warned that the antiviral drug remdesivir should not be used to treat Covid-19 patients no matter how ill they are as there is no evidence it works.

"The panel found a lack of evidence that remdesivir improved outcomes that matter to patients such as reduced mortality, need for mechanical ventilation, time to clinical improvement, and others," Xinhua news agency quoted the WHO's Guideline Development Group (GDG) panel as saying in a statement.

"Any beneficial effects of remdesivir, if they do exist, are likely to be small and the possibility of important harm remains," the panel added.

The WHO recommendation, published in the British Medical Journal, was based on an evidence review that included data from four international randomised trials among more than 7,000 hospitalised patients.

After reviewing the evidence, the panel concluded that remdesivir has no meaningful effect on death rates or other important outcomes for patients.

"Especially given the costs and resource implications associated with remdesivir... The panel felt the responsibility should be on demonstrating evidence of efficacy, which is not established by the currently available data," it said.

The antiviral is one of only two medicines currently authorized to treat Covid-19 patients across the world.

It has been approved for use in the US, the European Union and other countries after initial research found it may shorten recovery time in some Covid-19 patients.

Made by the US company Gilead, remdesivir is extremely expensive and has to be given intravenously.

Gilead said last month that the drug had boosted its third quarter sales by about \$900 million.

The WHO's warning comes as the overall number of global coronavirus cases has topped 56.8 million, while the deaths have surged to more than 1.35 million, according to the Johns Hopkins University.

In its latest update on Friday, the University's Center for Systems Science and Engineering (CSSE) revealed that the current global caseload and death toll stood at 56,817,667 and 1,358,489, respectively.

The US is the worst-hit country with the world's highest number of cases and deaths at 11,710,084 and 252,484, respectively, according to the CSSE.

Anti-COVID-19 nasal spray

Anti-COVID-19 nasal spray 'ready for use in humans'

The team believe the spray could be particularly useful in areas where crowding is less avoidable, such as aeroplanes or classrooms (The Tribune: 20201120)

<https://www.tribuneindia.com/news/health/anti-covid-19-nasal-spray-ready-for-use-in-humans-172760>

A nasal spray that can provide effective protection against the COVID-19 virus has been developed by researchers at the University of Birmingham, using materials already cleared for use in humans, the varsity said on Thursday.

A team in the University's Healthcare Technologies Institute formulated the spray using compounds already widely approved by regulatory bodies in the UK, Europe and the US.

The materials are already widely used in medical devices, medicines and even food products.

This means that the normal complex procedures to take a new product to market are greatly simplified, so the spray could be commercially available very quickly.

A pre-print (not yet peer-reviewed) study describes cell culture experiments designed to test the ability of the solution to inhibit infection. They found cell-virus cultures inhibited the infection up to 48 hours after being treated with the solution and when diluted many times.

Lead author on the paper, Dr Richard Moakes, said: "This spray is made from readily available products that are already being used in food products and medicines and we purposely built these conditions into our design process. It means that, with the right partners, we could start mass production within weeks."

The spray works in two primary ways. Firstly, it catches and coats the virus inside the nose, from where it can be eliminated via the usual routes – either nose-blowing or swallowing.

Secondly, because the virus is encapsulated in the spray's viscous coating, it is prevented from being uptaken by the body.

That means it will reduce the viral load in the body, but also even if virus particles are passed on to another person via a sneeze or cough, that person is less likely to be infected by active virus particles.

Co-author Professor Liam Grover, says: "Although our noses filter 1000s of litres of air each day, there is not much protection from infection, and most airborne viruses are transmitted via the nasal passage. The spray we have formulated delivers that protection but can also prevent the virus being passed from person to person."

The team believe the spray could be particularly useful in areas where crowding is less avoidable, such as aeroplanes or classrooms. Regular application of the spray could significantly reduce disease transmission. PTI

Healthtech startups in India

Microsoft partners Social Alpha to accelerate growth of healthtech startups in India

The COVID-19 pandemic has impacted every aspect of the healthcare system (The Tribune: 20201120)

<https://www.tribuneindia.com/news/health/microsoft-partners-social-alpha-to-accelerate-growth-of-healthtech-startups-in-india-172675>

Microsoft partners Social Alpha to accelerate growth of healthtech startups in India
Tech giant Microsoft on Thursday said it has partnered with startup incubator Social Alpha. Reuters photo.

Tech giant Microsoft on Thursday said it has partnered with startup incubator Social Alpha and launched a programme for health-tech startups to help them scale with advanced technology and joint go-to-market support.

The COVID-19 pandemic has impacted every aspect of the healthcare system, disrupting the continuity of healthcare delivery practices and patient access to high-quality medical care, Microsoft said in a statement.

"Committed to address the most prevalent and persistent health and business challenges, Microsoft for HealthTech Startups aims to help entrepreneurs with technical support as well as resources for co-selling and co-building tech tools to achieve better outcomes across healthcare," it added.

Microsoft Cloud for Healthcare enables startups to access a portfolio of released and new healthcare capabilities tailored to the unique requirements of health data in the cloud.

"Being forced by the global pandemic to rethink how healthcare services across the world operate, startups in this industry are reimagining solutions for some of the most pressing healthcare challenges," Microsoft India Director – Startup Ecosystem Sangeeta Bavi said.

Technology innovation with advanced data and analytics capabilities is a critical enabler as trusted and reliable solutions are built at scale, Bavi added.

"The Microsoft for Healthtech Startups program deepens our focus on specific industries and is aimed to accelerate the growth journeys of startups with the best tech enablement and business resources," she said.

Social Alpha has supported over 20 health-tech startups working across devices, diagnostics, treatment and access.

The collaboration with Social Alpha will provide health-tech startups programmatic support through product innovation labs, sandbox pilots and structured incubation initiatives that offer knowledge services, bootcamps and masterclass sessions with mentors as well as tech and industry experts, the statement said.

As the startups accelerate, they receive access to go-to-market resources, ecosystem networking, angel networks and investor forums, it added. PTI

Health care workers

Health care workers, people above 65 will be given priority for Covid vaccine: Harsh Vardhan
Vardhan said COVID-19 vaccine will be available in the next few months
(The Tribune: 20201120)

<https://www.tribuneindia.com/news/health/health-care-workers-people-above-65-will-be-given-priority-for-covid-vaccine-harsh-varadhan-172672>

Noting that it is natural to prioritise the COVID-19 vaccine distribution process, Health Minister Harsh Vardhan on Thursday said healthcare workers and people aged above 65 years would be given coronavirus vaccine on priority.

Addressing the FICCI FLO's National Webinar on 'The Shifting Healthcare Paradigm During and Post-COVID', Vardhan said coronavirus vaccine would be available in a couple of months and it was estimated that by July-August, 400 to 500 million vaccine doses would be made available for 25 to 30 crore people.

"I am confident that the COVID-19 vaccine will be ready in the next three-four months," he said.

"It is natural that the vaccine distribution would have to be prioritised. As you know the healthcare workers, who are corona warriors, will be prioritised. Then, people who are above 65 years of age, they have been prioritised, and then those from 50 to 65 years of age have been prioritised. Then those below 50 years who have other diseases," he said.

Vardhan said everything is being decided by experts with a scientific point of view.

"We have made a very detailed meticulous plan on this. What we would have to do in March-April next year, we have started planning for it from now only," he said.

The minister said: "We have also initiated an integrated response system against COVID-19 and will also host clinical trials for all the major vaccines. About 20 vaccines are in different stages of development."

He said about 90 to 99 per cent tackling of COVID-19 was only through protecting and motivating others.

"You can protect yourself from this deadly virus with small precautions such as wearing a good quality mask properly, maintaining social distance and taking care of hand-hygiene," he noted.

The phase-3 trial of the Oxford vaccine of the Serum Institute is almost near completion, while the phase-3 clinical trial of the indigenously-developed vaccine candidate of the Bharat Biotech and the Indian Council of Medical Research (ICMR) has already started.

Dr Reddy's Laboratories will also soon start the combined phase 2 and 3 clinical trials of the Russian COVID-19 vaccine, Sputnik V, in India. Also, Biological E Limited has started early phase 1 and 2 human trials of its COVID-19 vaccine candidate.

Pfizer Inc and BioNTech SE have said their vaccine candidate was found to be more than 95 per cent effective in preventing COVID-19.

Moderna had on Monday said the independent National Institutes of Health-appointed Data Safety Monitoring Board (DSMB) for the Phase 3 study of mRNA-1273, its vaccine candidate against COVID-19, found it to have an efficacy of 94.5 per cent. PTI

Infections

Use of earphones for working online causing infections: Experts (The Tribune: 20201120)

<https://www.tribuneindia.com/news/health/use-of-earphones-for-working-online-causing-infections-experts-172668>

Use of earphones for working online causing infections: Experts
Photo for representation only.

With the COVID-19 pandemic forcing professionals to work from home and students to attend classes online using earphones, doctors are now getting more patients with complaints of pain, irritation and infection in the ears.

According to medical experts, use of headphones and earpods for long hours in the last seven to eight months has increased such complaints.

"All these complaints are directly linked to extensive use of headphones at higher volume," Dr Shrinivas Chavan, head of the ENT department at the government-run J J Hospital in Mumbai, told PTI.

Every day, five to 10 people are turning up at the J J Hospital's Ear, Nose and Throat (ENT) department with such complaints, he said.

"Most of them are working for more than eight hours wearing headphones. This is putting a lot of stress on their ears and unsterilised earpods or ear-plugs could spread infection. Continuous listening at higher sound volume for long hours is weakening the listening ability also," he said.

If people do not change their habits, they could face "permanent damage" to their ears, Dr Chavan warned

He said the wax inside the ear kills the bacteria naturally and prevents infection.

Use of cotton buds to clean ears removes this protective wax covering and exposes the inner part of the ear to bacterial infections. This generally leads to earaches, he said.

Asked how such infections could be avoided, he said, "We have been advising people to remove earphones from time- to-time. Fresh air should go inside the ears to keep them safe."

Dr Rahul Kulkarni, head of the ENT unit at St George Hospital here, said ear problems are not just related to working professionals, but school children who have to attend online classes are also having such complaints.

"Ideally, school children should not be using headphones at all. If they are attending classes on laptop or personal computers, then the device volume is sufficient," he said.

"Once schools resume, I fear there will be a significant number of students complaining about hearing difficulties," he said.

Dr Kulkarni said people are unaware of the etiquettes of how to converse on phone calls, conference calls and video-conferences and use loud sound volume on headphones.

"If school-going students are using headphones at the sound of more than 60 decibels, it will naturally put a strain on their hearing power," he said.

He said attention should be paid to what sound volume children are using while attending their classes. If they are listening to lectures at a higher volume on headphones, then it could lead to complications.

"Even adults are coming up with complaints of irritation in the ears. The exposure to loud sound for a longer period makes people anxious and short-tempered. Such complaints are also being seen nowadays," he said. PTI

Covid impact: TB notifications down 29 % over last year

**Covid impact: TB notifications down 29 % over last year
Only 14.5 lakh TB cases notified during January-October 2020, says Harsh Vardhan (The Tribune: 20201120)**

<https://www.tribuneindia.com/news/health/covid-impact-tb-notifications-down-29-over-last-year-172224>

Health Minister Harsh Vardhan on Wednesday said COVID-19 pandemic had disrupted the country's fight against infectious diseases and TB notifications this year had been 29 per cent less than the corresponding period last year.

Addressing the 33rd Stop TB Partnership Board meeting digitally on Wednesday, the minister said, “During the period of January-October 2020, only 14.5 lakh TB cases have been notified which is 29 per cent lower than the same period in 2019, with the decline being over 35-40 per cent in some states like Maharashtra, Tamil Nadu, Andhra Pradesh, Manipur and Goa.”

Central data, however, shows the silver lining in states like Sikkim, Telangana, Haryana, Arunachal Pradesh, Kerala, Himachal Pradesh and Odisha which have witnessed less than 20 per cent impact on TB services even during the lockdown period.

“These states strategised to integrate their TB case finding activities with COVID preventive measures,” said Vardhan.

Acknowledging that COVID-19 has turned the clock back by many years, if not decades, in the fight against infectious diseases, Vardhan said, “The deadly virus has derailed our painstaking efforts of many decades and diverted scientific attention from many infectious killer diseases like TB.”

“The lockdowns have raised insurmountable barriers for patients and people are still living in fear of the coronavirus. We all know that the last 10 months have seen treatment interruptions, hindered availability of drugs, shrinking supply of diagnostic tests, delays in diagnosis, interrupted supply chains, diversion of manufacturing capacity and imposition of physical barriers for patients who must travel to distant clinics to pick up the medications,” he said.

The minister said systems created for Covid-19 would be repurposed in the future to fight TB.

India has committed to eradicating TB by 2025, ahead of the WHO’s 2030 target. The country houses one in four TB cases globally.

‘Vaccine for general public in April-May

‘Vaccine for general public in April-May if targets met’ (Hindustan Times: 20201120)

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



Serum Institute of India CEO Adar Poonawalla at the 18th edition of the HT Leadership Summit. HT



The Oxford-AstraZeneca vaccine for the coronavirus disease could become available for the general public by April-May next year and is likely to cost around ₹500-600 for a dose, Serum Institute of India CEO Adar Poonawalla said on Thursday, adding that he expects the much-awaited efficacy results (from an ongoing UK trial of the vaccine) to be reported in the coming three-four weeks.

These efficacy results will pave the way for the companies to seek an emergency use licence – the government approval that will ultimately allow the first batch of shots to be given to people. This will likely be for health workers and vulnerable people by as early as January or February, said Poonawalla, while speaking over video at the 18th Hindustan Times Leadership Summit.

“The Oxford-AstraZeneca vaccine is proving to work very well, even in the elderly which was a concern early on. It elicits a good T-cell response and a good antibody response as well,” said Poonawalla. “In about 2-3 weeks, we are told that the efficacy results of the vaccine will be in and the trial will be unblinded.”

The vaccine is India’s best hope for an early access to a Covid-19 shot since it is among the earliest front-runners in clinical trials, has largely turned out to be safe, can be stored and distributed with relative ease and, most crucially, is being manufactured by SII, an Indian company, which has committed to reserving half of the doses for the country.

But, Poonawalla warned, vaccinating all of India will be mammoth challenge and the process is unlikely to be completed till 2024. His remarks come on a day when Union health minister Harsh Vardhan said the government was in a position to “confidently tells Indians that in a couple of months, we should be able to deliver a vaccine to the people of India”.

Since November 9, there has been a flurry of good news regarding coronavirus vaccines with two American pharma companies, Pfizer (with Germany partner BioNTech) and Moderna, announcing that their candidates have shown a better-than-expected 95% efficacy. India,

however, does not yet have a deal with either of these companies, whose products are expected to be costlier and harder to store.

“As soon as the UK authorities and European authorities approve it for emergency use, we will apply for permission in India,” Poonawalla said while referring to the Oxford-AstraZeneca candidate. The initial permission, he added, “would be for health care workers and vulnerable population like the elderly since that is how emergency use licensing works. For general public, it will take another 3-4 months”.

The vaccine candidate is one of five in clinical trials in India. SII, founded in 1966 and now the world’s largest vaccine maker by volume, has a licence from Oxford-AstraZeneca to produce a billion doses for low and middle income countries including India, with 400 million doses committed by the end of the year.

Earlier, while speaking at the opening session of the Leadership Summit, Dr Ashish Jha, the dean of Brown University School of Public Health, and Dr Randeep Guleria, the director of All India Institute of Medical Sciences (AIIMS), said the recent developments on the vaccine front were better than expected and the challenge will now be to vaccinate the billions of people around the world.

Poonawalla said SII is producing around 50 million doses a month at present, with a doubling in capacity expected by February. Talks with the Indian government for procurement are underway, he said, while adding: “They want 300 million doses by July. We are gearing up to offer that sort of volume to India and have few hundred million for Covax.”

Covax is a World Health Organization-led non-profit arrangement that aims to fund and procure Covid-19 vaccines for low and middle income countries.

In all, SII is producing or plans to produce five coronavirus vaccines. In addition to the Oxford-AstraZeneca candidate, the others are from Novavax and Codagenix, besides two that SII is developing.

“Next year, the first launch will likely be the Oxford-AstraZeneca candidate after which every four-five months, we plan to launch a vaccine. We will probably launch one every quarter with the one from Codagenix being the last,” Poonawalla said.

On a question by an attendee at the virtual summit, Poonawalla said India has adequate logistics infrastructure for vaccine delivery. “We already have the cold chain infrastructure that we use for the universal immunisation programme. Private players and my team will also help in extending cold chain infrastructure,” he said.

Supply chain logistics has largely been seen as a challenge, particularly since the Pfizer-BioNTech shot requires temperatures of -70 to -80 degrees Celsius.

The pharma entrepreneur also spoke on pricing, saying India’s volume requirements are likely to allow it to procure shots at a much cheaper rate than other countries.

“The vaccine will probably end up costing around \$5-6 but in India, it will likely be around \$3-4 because there are large volumes. The general public will probably have to pay around ₹500-600. This will be far cheaper than some of the cheapest vaccines we make,” he said.

He also spoke about the prices for global vaccines stabilising over time.

“Indian vaccine prices will probably be half of what we are seeing in the West. Ultimately, the prices of most coronavirus vaccines will likely come down,” he said, while adding that he expects prices to stabilise in “six months to a year”.

“Initially, there might not be an option for countries to procure expensive vaccines but once production picks up from different places, prices will come down,” he said.

Fresh Cases (The Asian Age: 20201120)

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=15233618>

7,546 fresh cases, 98 deaths in Delhi

AGE CORRESPONDENT
NEW DELHI, NOV. 19

Delhi recorded as many as 7,546 fresh coronavirus cases on Thursday. With this, the tally of Covid-19 cases has reached over 5.10 lakh, while the death toll mounted to 8,041. Ninety-eight fatalities have been recorded in the last 24 hours, according to the latest bulletin issued by the health department. According to the health bulletin, 62,437 Covid-19 tests were conducted in the last 24 hours. The case tally stands at 5,10,630, including 4,59,368 patients who have either been discharged or have

migrated or recovered. The number of active cases is 43,221.

Meanwhile, chief minister Arvind Kejriwal on Thursday visited DDU Hospital and said his government is working on a “war-footing” to expand the number of ICU beds in various hospitals. He said the doctors have agreed to expand the ICU beds count at the facility from existing 50 to 100. “I had a meeting with the doctors and medical superintendent of the DDU Hospital. Currently, 50 beds are earmarked in ICU for COVID patients, which they have agreed to double soon,” he said.

Silent hypoxia

Three reasons why coronavirus can cause silent hypoxia (New Kerala: 20201120)

<https://www.newkerala.com/news/2020/201574.htm>

November 20: Boston University biomedical engineers and collaborators from the University of Vermont have begun to crack one of the most life-threatening mysteries behind the relationship between silent hypoxia and coronavirus following different scenarios.

According to Science Daily, researchers are still unaware of the fact that tells the reason behind why the lungs of a COVID patient stop providing oxygen to the bloodstream. All the findings would be done with the help of computer models and comparisons with real patient data.

Silent hypoxia is a condition when oxygen levels in the body are abnormally low, which can cause major damage to the vital organs of the body if gone undetected for a long period of time.

Despite experiencing dangerously low levels of oxygen, many people infected with severe cases of COVID-19 sometimes show no symptoms of shortness of breath or difficulty breathing. Hypoxia's ability to quietly inflict damage is why it's been coined "silent."

According to the research, coronavirus is believed to first damage the lungs restraining them to function properly. Those tissues then lose oxygen, causing silent hypoxia. But exactly how that effect occurs is under the table till now. "We didn't know [how this] was physiologically possible," says Bela Suki, one of the authors of the study, when many of the patients showed almost no signs of abnormalities when they were undertaken for a lung scan.

The results of the research, attained after a deep study with the help of a computer model is been published in Nature Communications which unveils the study by the lead author of the new study Jacob Herrmann. It states, "Silent hypoxia is likely caused by a combination of biological mechanisms that may occur simultaneously in the lungs of COVID-19 patients."

The good thing that researchers revealed is the ability of the lungs to constrict the blood vessels in absence of sufficient oxygen caused by an infection which then forces blood to flow through lung tissue crammed with oxygen, throughout the body.

According to Herrmann, "Preliminary clinical data have suggested that the lungs of some COVID-19 patients had lost the ability to restrict blood flow to already damaged tissue, and in contrast, were potentially opening up those blood vessels even more, which is hard to measure on a CT scan."

The second scenario observed by the researchers with the help of a computer model found that silent Hypnoxia can provoke when the lining of blood vessels are inflamed from the COVID-infection

The last step was to find if COVID-19 interferes with the normal ratio of air-to-blood flow, vital for lungs to function normally. The researchers found that the mismatched air-to-blood flow ratio is a common symptom in many respiratory illnesses, like asthma and this mismatch doesn't appear injured or abnormal on lung scans.

In all, the researchers concluded that a combination of all three factors can contribute to abnormal oxygen in some COVID-19 patients, and to attain perfection in making choices about

treating patients, the clinical are suggested using measures like ventilation and supplemental oxygen.

According to the report provided by Science Daily, a number of interventions are currently being studied to have a more informed study about the combinations varying from patient to patient. One of them is a low-tech intervention called prone positioning that flips patients over onto their stomachs, allowing for the back part of the lungs to pull in more oxygen and evening out the mismatched air-to-blood ratio.

BP drug

BP drug may ease recovery in alcoholics with withdrawal symptoms (New Kerala: 20201120)

<https://www.newkerala.com/news/2020/201290.htm>

Researchers, including one of Indian-origin, have revealed that drug once used to treat high blood pressure (BP) can help alcoholics with withdrawal symptoms reduce or eliminate their drinking.

In the study, published in the American Journal of Psychiatry, the research team gave the drug prazosin or a placebo to 100 people entering outpatient treatment after being diagnosed with alcohol use disorder.

All of the patients had experienced varying degrees of withdrawal symptoms prior to entering treatment.

"There has been no treatment readily available for people who experience severe withdrawal symptoms and these are the people at highest risk of relapse and are most likely to end up in hospital emergency rooms," said study author Rajita Sinha from Yale University in the US.

According to the researchers, participants with more severe symptoms -- including shakes, heightened cravings and anxiety, and difficulty sleeping -- who received prazosin significantly reduced the number of heavy drinking episodes and days they drank compared to those who received a placebo.

The drug had little effect on those with few or no withdrawal symptoms.

Prazosin was originally developed to treat high blood pressure and is still used to treat prostate problems in men, among other conditions.

Previous studies conducted at Yale have shown that the drug works on stress centres in the brain and helps to improve working memory and curb anxiety and craving.

Sinha's lab has shown that stress centres of the brain are severely disrupted early in recovery, especially for those with withdrawal symptoms and high cravings, but that the disruption decreases the longer the person maintains sobriety.

Prazosin could help bridge that gap by moderating cravings and withdrawal symptoms earlier in recovery and increasing the chances that patients refrain from drinking, she said.

One drawback is that in its current form prazosin needs to be administered three times daily to be effective, Sinha noted.

Heart disease

Cellular pathway of genetic heart disease similar to neurodegenerative disease (New Kerala: 20201120)

<https://www.newkerala.com/news/2020/201153.htm>

A recent research on a genetic heart disease has uncovered a new and unexpected mechanism for heart failure.

This landmark discovery found a correlation between the clumping of RNA-binding proteins long linked to neurodegenerative disease and the aggregates of protein found in the heart tissue of patients with RBM20 dilated cardiomyopathy.

Dilated cardiomyopathy is a disease of the heart muscle that makes it harder for the heart to pump blood to the rest of the body. A decade ago, Timothy Olson, M.D., a pediatric cardiologist at Mayo Clinic, traced the disease to a genetic mutation in a gene called RBM20.

Unlike most heart disease, this form of cardiomyopathy can affect patients as early as young adulthood, and they are at particularly high risk for sudden cardiac death.

For the past decade, heart failure in RBM20 cardiomyopathy was attributed to abnormalities in the splicing of genes for proteins that help the heart contract.

However, the new discovery finds another way that mutant RBM20 damages heart muscle cells through accumulation of pathological ribonucleoprotein granules, affecting everything in the cells and leading to a new form of disease.

"It's important to realize that there are kids and young adults that have heart failure because of this exact mutation," said Tim Nelson, M.D., Ph.D., director of Mayo Clinic's Todd and Karen Wanek Family Program for Hypoplastic Left Heart Syndrome and lead author of the study.

"We have taken these findings back into the lab and developed cell cultures to test new therapeutics. The future of this research is focused on moving discoveries out of the lab and into clinical trials to make new therapies available to our patients. This research is a very important catalytic step to do that," added Nelsom.

Through gene editing technology, Dr. Nelson's team produced the first large animal model displaying all the typical clinical signs and symptoms of human heart failure a pig born with the human gene for RBM20 dilated cardiomyopathy.

This model allowed them to study development of the heart disease in the animal in a matter of months. It takes 20 years or more for the disease to progress in humans.

A simple staining test performed on the pig heart tissue samples discovered clumps full of RNA-binding protein. Archived tissue samples from Dr. Olson's RBM20 dilated cardiomyopathy human patient tissue confirmed this discovery.

They were likewise flooded with the same protein granules. This supports a new concept that beyond splicing caused by the gene mutation, RBM20 is an RNA-binding protein granule disease similar to diseases like Lou Gehrig's disease, or amyotrophic lateral sclerosis, and Alzheimer's disease.

"To my knowledge, this overload of protein granules in cells has only previously been seen in the brain or spinal cord, and some very rare skeletal muscle diseases. Now we have found it in the heart, a large organ that is much more accessible to study than spinal neurons or brain tissue," said Jay Schneider, M.D., Ph.D., a Mayo Clinic cardiologist and first author of the study.

"Most importantly, we can study and develop therapies to prevent the buildup of these toxic granules at the beginning of life instead of waiting 50 years or more for degenerative disease to appear clinically. This is a huge advantage that should accelerate drug discovery in ribonucleoprotein granule degenerative diseases of the heart and nervous system," Schneider added.

Insomnia

Query on insomnia surged amid Covid lockdown: Study (New Kerala: 20201120)

<https://www.newkerala.com/news/2020/201016.htm>

Researchers have found a significant increase in the number of online search queries for 'insomnia' when governments around the world implemented stay-at-home orders in response to the Covid-19 pandemic outbreak.

The results, published in the Journal of Clinical Sleep Medicine, there were 2.77 million Google searches for insomnia in the US for the first five months of 2020, an increase of 58 per cent compared with the same period from the previous three years.

While searches for insomnia trended downward from January through March 2020, consistent with prior years, they surged upward in April and May 2020.

This increase also was associated with the cumulative number of Covid-19-related deaths in the spring.

"I think it's safe to say, based on our findings as well as those from survey studies showing an increased level of insomnia symptoms in certain populations, that a lot of people were having trouble sleeping during the first months of the pandemic," said lead author Kirsi-Marja Zitting from the Brigham and Women's Hospital in the US.

Insomnia involves difficulty falling asleep or staying asleep, or regularly waking up earlier than desired, despite allowing enough time in bed for sleep.

The researchers analysed Google search data in the US and worldwide between January 1, 2004, and May 31, 2020.

Consistent with prior years, searches for insomnia in 2020 occurred most frequently during typical sleeping hours between midnight and 5 a.m., peaking around 3 a.m.

"This is the prime time for sleeping, so all these people were awake and probably wondering why they couldn't sleep," said Zitting.

Due to concern about the potential long-term impact of the pandemic on sleep quality, the researcher said that she plans to continue tracking searches for insomnia.

"While acute insomnia, typically triggered by stress or a traumatic event, will often go away on its own, I am worried that the longer this pandemic drags on, the greater the number of people who go on to develop chronic insomnia," Zitting said.

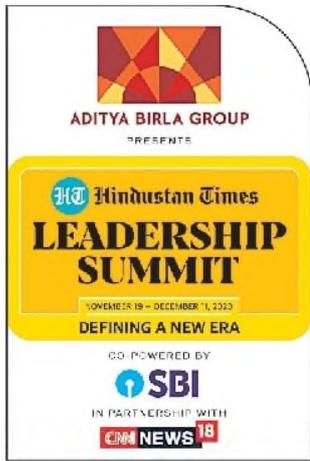
"And unlike acute insomnia, chronic insomnia can be difficult to treat," she added.

Coronavirus Vaccine (Hindustan: 20201120)

https://epaper.livehindustan.com/imageview_463489_53219156_4_1_20-11-2020_3_i_1_sf.html

उम्मीद: सीरम इंस्टीट्यूट के सीईओ ने लोगों को दिया भरोसा

भारत में चार माह के भीतर टीका मिलेगा



नई दिल्ली | विशेष संवाददाता

सीरम इंस्टीट्यूट के मुख्य कार्यकारी अधिकारी (सीईओ) अदार पूनावाला ने गुरुवार को कहा कि देश में अगले तीन-चार महीनों में कोरोना का टीका आम लोगों के लिए उपलब्ध हो जाएगा। लेकिन टीका सबको पहुंचने में चार साल और लगेगे।

पांच चीजें जरूरी: 'हिन्दुस्तान टाइम्स लीडरशिप समिट' में उन्होंने कहा कि यह सिर्फ टीके के तैयार हो जाने का मामला नहीं है। इसके लिए पांच चीजें-बजट, टीका, रखरखाव, बुनियादी इंफ्रास्ट्रक्चर तथा टीका लगाने में लोगों की दिलचस्पी जरूरी है। इसलिए पूरे देश में टीकाकरण 2024 तक ही हो पाएगा।

अनुमति मांगेंगे: सीरम इंस्टीट्यूट ऑक्सफोर्ड यूनिवर्सिटी व एस्ट्राजेनेका द्वारा विकसित टीके का देश में परीक्षण कर रहा है। पूनावाला ने कहा, ब्रिटेन में टीके को मंजूरी मिलने के बाद ड्रग कंट्रोलर से आपातकालीन इस्तेमाल की

किफायती होगी एस्ट्राजेनेका वैक्सीन



“जिन्हें टीका दिया गया उनमें बुखार, सिरदर्द और कमजोरी जैसी शिकायतें मिली हैं। यह पैरासिटामोल से ही ठीक हो जाती है। यह टीका पूरी तरह सुरक्षित है।-अदार पूनावाला, सीरम इंस्टीट्यूट के सीईओ

02 से 8⁰ पर एस्ट्राजेनेका टीके का भंडारण संभव

-70 डिग्री तक अन्य वैक्सीन के लिए चाहिए तापमान, एस्ट्राजेनेका बेहतर विकल्प

05 गुना सस्ता होगा एस्ट्राजेनेका का टीका फाइजर और मॉडर्ना की वैक्सीन से

500 रुपये के करीब रहेगी कीमत

डेढ़ से दो माह में नतीजे

दो-तीन सप्ताह में ब्रिटेन में इसकी प्रभावकारिता के नतीजे आएंगे। भारत के नतीजे डेढ़-दो महीने में आएंगे।

1 चुनौती : रखरखाव आसान नहीं

एम्स के निदेशक डॉक्टर रणदीप गुलेरिया ने कहा कि टीके को कम तापमान रखना और ग्रामीण इलाकों तक पहुंचाना बड़ी चुनौती है। वायरस का फैलाव रोकने के लिए महीनों तक टीकाकरण का कार्यक्रम चलेगा।

अनुमति मांगेंगे। अनुमति मिलने पर स्वास्थ्य कार्यकर्ताओं तथा बुजुर्गों के लिए टीका उपलब्ध करा दिया जाएगा। इसके तीन-चार महीने के बाद यह आम लोगों के लिए उपलब्ध हो सकेगा।

2 चिंता: प्रतिरोधक क्षमता हमेशा के लिए नहीं

ब्राउन यूनिवर्सिटी स्कूल ऑफ पब्लिक हेल्थ के डीन डॉ आशीष के झा ने बताया कि कोरोना से इम्युनिटी हमेशा के लिए नहीं हो सकती है। लेकिन यह कम से कम 8-9 महीने तक रहती है। दोबारा संक्रमण हो सकता है, लेकिन यह बेहद सामान्य है।

बच्चों के लिए नहीं: यह टीका 18 वर्ष से अधिक उम्र के लोगों के लिए ही है। बच्चों के लिए इंतजार करना पड़ेगा। कोरोना का प्रभाव बच्चों में कम है।

➤ नए युग के निहितार्थ पेज 09

Surgery (Hindustan: 20201120)

https://epaper.livehindustan.com/imageview_463490_53211246_4_1_20-11-2020_4_i_1_sf.html

फैसला : अस्पतालों में गैर जरूरी सर्जरी टाली

नई दिल्ली | वरिष्ठ संवाददाता

मुख्यमंत्री अरविंद केजरीवाल ने गुरुवार को कहा कि दिल्ली के अस्पतालों में जो गैर-जरूरी सर्जरी हैं उसे टाला जाएगा। उन्होंने कहा कि जैसे टाउंसिल है उसका इलाज अगले महीने भी हो सकता है।

ऑपरेशन तत्काल कराना जरूरी नहीं है। यह बाद में भी हो सकता है। इसी तरह से कई सारी सर्जरी होती हैं, जिनको प्लैंड सर्जरी कहते हैं, यह सर्जरी क्रिटिकल नहीं होती हैं। इस तरह की सर्जरी का महीने-दो महीने तक ऑपरेशन नहीं हो तो कोई खतरा नहीं होता है। ऐसी नॉन क्रिटिकल प्लैंड सर्जरी को कुछ दिनों के लिए स्थगित करने के लिए सभी अस्पतालों को कहा जा रहा है। उन्होंने आगे कहा कि केंद्र और दिल्ली सरकार के नए आईसीयू बेड मिलाकर दिल्ली में करीब 1413 और नए आईसीयू बेड उपलब्ध हो जाएंगे। मुख्यमंत्री ने कहा कि दिल्ली में कॉरिडोर के अंदर मरीज नहीं पड़े हैं, सड़कों पर मरीज नहीं पड़े हैं। उन्होंने कहा कि दिल्ली में पिछले हफ्ते 7500 केस तक पहुंच गए, लेकिन हमारे डॉक्टरों, मेडिकल सुपरिटेंडेंट और मेडिकल डायरेक्टर ने इतना शानदार प्रबंधन किया कि अस्पतालों में 7500 केस होने के बावजूद भी अस्पतालों में कोई भी मरीज नहीं पड़ा।



अरविंद केजरीवाल, मुख्यमंत्री

डीडीयू में दोगुने होंगे आईसीयू बेड

नई दिल्ली (व.सं)। मुख्यमंत्री अरविंद केजरीवाल ने गुरुवार को दीनदयाल उपाध्याय अस्पताल का दौरा कर कोविड की तैयारियों की समीक्षा की। उन्होंने कहा कि उनकी मांग पर अस्पताल प्रबंधन और डॉक्टर आईसीयू बेड को 50 से बढ़ाकर 100 बेड करने पर सहमत हो गए हैं। इसके लिए मैं चिकित्सा निदेशक और डॉक्टरों का आभारी हूँ।

बेड और 450 आईसीयू बेड उपलब्ध है। साथ ही राजनीतिक दलों, सामाजिक और धार्मिक संस्थाओं से उन्होंने अपील की है कि वे अपने लोगों को सड़क पर