



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Tuesday 20201103

Abnormal BP

Abnormal BP while sleeping can increase stroke risk: Study (The Tribune: 20201103)

<https://www.tribuneindia.com/news/health/abnormal-bp-while-sleeping-can-increase-stroke-risk-study-164934>

Nighttime blood pressure is increasingly being recognised as a predictor of cardiovascular risk, says researchers

People who experience high blood pressure while sleeping are more likely to experience future cardiovascular disease especially heart failure, even when their daytime blood pressure is within normal ranges, warn researchers.

"Nighttime blood pressure is increasingly being recognised as a predictor of cardiovascular risk," said study lead author Kazuomi Kario from Jichi Medical University in Japan.

The study, published in the journal *Circulation*, provides in-depth information about the cardiovascular risk associated with high nighttime blood pressure.

For the findings, the research team rolled 6,359 patients from across Japan between 2009 and 2017 and measured daytime and nighttime levels using an at-home, wearable, ambulatory monitor.

Blood pressure was measured during daily activities and sleep for at least 24 hours at a time, and device data were periodically downloaded at a health care clinic.

Almost half of the study participants were male, and more than half were over the age of 65 years.

The patients all had at least one cardiovascular risk factor, and three-quarters of them were taking blood pressure medications, and none had symptomatic cardiovascular disease when the study began.

The study participants were instructed to rest or sleep during nighttime hours and maintain their usual daytime activities.

Their daily activities and sleep and wake times were self-reported in a diary. Almost every participant recorded 20 daytime and seven nighttime automated blood pressure measurements.

To determine nighttime measurements, patients self-reported the time they fell asleep and woke up. All other readings were defined as daytime.

Follow-up occurred annually via phone or clinic visit, with total follow up ranging from two to seven years.

Researchers analysed the rates of cardiovascular disease events, including heart attacks, strokes, heart failure and death, among the participants.

Study participants experienced a total of 306 cardiovascular events, including 119 strokes, 99 diagnoses of coronary artery disease and 88 diagnoses of heart failure.

The analysis showed increased levels during sleep – a systolic blood pressure measuring 20 mmHg above a person's daytime systolic reading – was significantly associated with the risk of atherosclerotic cardiovascular disease and heart failure.

The participants who had an abnormal circadian pattern, which is when sleep blood pressure exceeds daytime readings, were at particular risk of developing heart failure and had a greater risk of experiencing any cardiovascular disease events.

"Results indicate that nighttime systolic blood pressure was a significant, independent risk factor for cardiovascular events," said Kario. IANS

CureVac's COVID-19 vaccine

CureVac's COVID-19 vaccine triggers immune response in Phase I trial 'Inoculation appears to also generate T cells against coronavirus' (The Tribune: 20201103)

<https://www.tribuneindia.com/news/health/curevacs-covid-19-vaccine-triggers-immune-response-in-phase-i-trial-164922>

CureVac's COVID-19 vaccine triggers immune response in Phase I trial

Professor Gottfried Kremsner injects a vaccination against the coronavirus disease from German biotechnology company CureVac to a volunteer at the start of a clinical test series at his tropical institute of the university clinic in Tuebingen, Germany, June 22, 2020. Reuters file

CureVac's experimental COVID-19 vaccine triggered an immune response in humans, it said on Monday, putting the German biotech company on track to start mass testing this year as the race to end the pandemic heats up.

"We are very encouraged by the interim Phase I data," Chief Executive Officer Franz-Werner Haas said in a statement, The biotech firm is using the so-called messenger RNA (mRNA) approach, the same as Moderna as well as BioNTech and its partner Pfizer, although they started mass testing on humans in late July.

CureVac said its potential vaccine, known as CVnCoV, was generally well tolerated and results strongly supported the company's plans to launch the final stage of testing on humans before the end of the year.

CureVac - backed by German biotech investor Dietmar Hopp, the Gates Foundation and GlaxoSmithKline - said volunteers developed a level of neutralising antibodies on par with people who had recovered from a serious case of COVID-19.

The pandemic, which has claimed more than 1.1 million lives globally, has triggered a scramble to develop a vaccine with about 45 experimental compounds being tested on humans.

Britain's AstraZeneca, working with the University of Oxford, is also among leading contenders with late-stage trial results expected this year but their candidate is based on another virus, rather than mRNA, to deliver genetic instructions into the body for an immunisation effect.

Anthony Fauci, the top U.S. infectious diseases expert, said on Thursday that the first doses of a safe and effective coronavirus vaccine will likely become available to some high-risk Americans in late December or early January.

CureVac's hopes of offering a vaccine at much lower doses than its mRNA competitors may have been dented as it has picked the highest concentration of five dosages - from 2 to 12 microgrammes per shot - for its prospective Phase III trial.

BioNTech and Pfizer have said the 30 microgramme shot they opted for in their late-stage trial had previously been shown to produce antibody levels above those registered in people who recovered from COVID-19.

Moderna, which like BioNTech expects to have first efficacy data from its mass trial this month, is testing a 100 microgramme shot that has also been shown to trigger an antibody response above that of recovered patients.

CureVac, which went public on the Nasdaq exchange in August, said its Phase I study has so far enrolled more than 250 healthy individuals aged 18 to 60 years in Germany and Belgium.

It said its inoculation appears to also generate T cells against the coronavirus, another key indicator of an effective immune system arsenal, but more analysis of this was ongoing.

It said side effects occurred mostly after the second injection of its two-dose regimen and included fatigue, headache, chills, muscle pain and, to a lesser extent, fever.

These conditions "resolved rapidly, usually within 24 to 48 hours", it said. — Reuters

Coronavirus mutation may have made it more contagious

SARS-CoV-2 is the coronavirus that causes Covid-19(The Tribune: 20201103)

<https://www.tribuneindia.com/news/health/coronavirus-mutation-may-have-made-it-more-contagious-164879>

Coronavirus mutation may have made it more contagious
Photo for representational purpose only

The virus that causes Covid-19 is accumulating genetic mutations, one of which may have made it more contagious, says a study involving more than 5,000 patients in the US.

That mutation, called D614G, is located in the spike protein that pries open our cells for viral entry, according to the paper published in the peer-reviewed journal mBIO.

The patients involved in this study of SARS-CoV-2 genome sequences were from Houston, Texas.

The paper shows "the virus is mutating due to a combination of neutral drift-which just means random genetic changes that don't help or hurt the virus-and pressure from our immune systems," said Ilya Finkelstein, Associate Professor at The University of Texas at Austin and co-author of the study.

During the initial wave of the pandemic, 71 per cent of the novel coronaviruses identified in patients in Houston had this mutation.

When the second wave of the outbreak hit Houston during the summer, this variant had leaped to 99.9 per cent prevalence, said the study, adding that this mirrors a trend observed around the world.

A study published in July based on more than 28,000 genome sequences found that variants carrying the D614G mutation became the globally dominant form of SARS-CoV-2 in about a month.

SARS-CoV-2 is the coronavirus that causes Covid-19.

The good news is that this mutation is rare and does not appear to make the disease more severe for infected patients.

"The virus continues to mutate as it rips through the world," Finkelstein said.

"Real-time surveillance efforts like our study will ensure that global vaccines and therapeutics are always one step ahead." The scientists noted a total of 285 mutations across thousands of infections, although most do not appear to have a significant effect on how severe the disease

HIV/AIDS

Researchers identify new cause of inflammation in HIV patients (The Tribune: 20201103)

<https://www.tribuneindia.com/news/health/researchers-identify-new-cause-of-inflammation-in-hiv-patients-164873>

After infection, HIV becomes a part of an infected person's DNA forever, and in most cases, infected cells are silent and do not replicate the virus.

Researchers identify new cause of inflammation in HIV patients

In a major study, researchers have identified the important factors which could be contributing to the chronic inflammation in people living with HIV.

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While current antiretroviral treatments for HIV are highly effective, data has shown that people living with HIV appear to experience accelerated ageing and have shorter lifespans -- by up to five to 10 years -- compared to people without HIV.

These outcomes have been associated with chronic inflammation, which could lead to the earlier onset of age-associated diseases, such as atherosclerosis, cancers, or neurocognitive decline.

The research team examined what factors could be contributing to this inflammation, and identified the inability to control HIV RNA production from existing HIV DNA as a potential key driver of inflammation.

Published in *The Journal of Infectious Diseases*, the results underscore the need to develop new treatments targeting the persistent inflammation in people living with HIV in order to improve outcomes.

According to the study, after infection, HIV becomes a part of an infected person's DNA forever, and in most cases, infected cells are silent and do not replicate the virus.

Occasionally, however, RNA is produced from this HIV DNA, which is the first step towards virus replication.

Antiretroviral treatments help prevent HIV and AIDS-related complications, but they do not prevent the chronic inflammation that is common among people with HIV and is associated with mortality.

"Our study set out to identify a possible association between HIV latently infected cells with chronic inflammation in people with HIV who have suppressed viral loads," said study author Nina Lin from the Boston University in the US.

For this study, researchers had a cohort of 57 individuals with HIV who were treated with antiretroviral therapy.

They compared inflammation in the blood and various virus measurements among younger (age less than 35 years) and older (age greater than 50 years) people living with HIV.

They also compared the ability of the inflammation present in the blood to activate HIV production from the silent cells with the HIV genome.

Their results suggest that an inability to control HIV RNA production even with antiretroviral drugs correlates with inflammation.

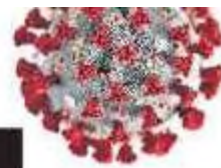
"Our findings suggest that novel treatments are needed to target the inflammation persistent in people living with HIV," said the study authors "Current antiretroviral drugs prevent new infection, but they do not prevent HIV RNA production, which our results point as a potential key factor driving inflammation in people living with HIV," they noted.

Virus (Hindustan Times: 20201103)

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

Centre, Delhi huddle as third wave gets steeper Focus on RT-PCR tests, health infra as positivity rate soars, bigger spike feared in festive season

Tracking the virus



WORLD

47,059,708

CASES

1,208,048

DEATHS

INDIA

CASES 8,265,014 (+35,747) DEATHS 123,079 (+435)

WORST-HIT STATES

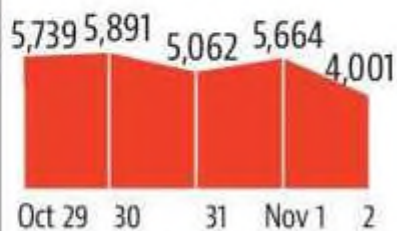
Maharashtra	1,687,784
Karnataka	829,640
Andhra Pradesh	827,882
Tamil Nadu	729,507
Uttar Pradesh	485,609

DELHI

CASES 396,371 (+4,001)

DEATHS 6,604 (+42)

CASES LAST 5 DAYS



India data compiled by covid19india.org and cross-checked from inputs by HT's correspondents and news agencies

Delhi's worrying situation

Sunday numbers reflect how badly things are going for the Capital — single-day cases have doubled in the past week

NEW COVID-19 CASES ON PAST FIVE SUNDAYS



ALARMING RISE IN POSITIVITY RATE

◆ Positivity rate
— 7-day average

Delhi's positivity rate has been spiralling out of control in the past month

10.3%

of all samples tested in the last week in Delhi have returned positive



Sweta Goswami, Saubhadra Chatterji, Jamie Mullick and Neeraj Chauhan

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New Delhi : Delhi broke its record for the highest number of Covid-19 cases to be added on a weekend, data released on Monday showed, as alarm grows over the scale of the outbreak in the Capital, forcing top officials from the Union and the Delhi governments to meet on Monday and discuss a recalibration of testing, treating and surveillance strategies.

In a meeting of top bureaucrats from the Union home ministry, Union health ministry, Niti Aayog, the Delhi government, and Delhi Police, to review the situation, the central officials stressed on the need to make testing more pinpointed, and called new awareness campaigns targeted at people in the 20-40 age bracket at a time when people have started moving about more freely and “pandemic fatigue” has started to set in.

Several indicators now reinforce the fact that Delhi is in the grip of its third and worst wave of infections yet. In the past week, there were 5,269 cases on average every day, the highest this number has been since the first case was recorded on March 2. Peak seven-day average was at 4,174 at the height of the second wave on September 17 and 3,446 at the height of the first, which was on June 26.

Similarly, the proportion of tests that turned positive was at 10.91%, according to Monday's data. Taken as an average over the week, the test positivity rate is 10.3% – a jump of 5 percentage points in less than a month (it was 5.3% on October 8) as the proportion of more accurate molecular RT-PCR tests has increased.

The trend is well reflected in Sunday numbers – from 1,947 new cases in the 24 hours ending October 4, this number grew to more than double for the corresponding period on November 1 to 4,001. Sundays follow a distinct pattern from other days of the week since there are fewer tests done, and though the total case load is suppressed, offer a good yardstick of the growth of the disease.

Delhi's chief secretary Vijay Dev, who was a part of Monday's meeting headed by Union home secretary Ajay Kumar Bhalla, said a revised strategy was now being devised to handle the spread of the deadly pathogen.

“The recent surge in the number of active cases was attributed to the festival season, which has witnessed greater movement of people, accompanied by laxity in adhering to the basic principles of safe Covid behaviour,” the Union home ministry said in a statement following the meeting on Monday.

“Testing, tracing, surveillance, hospital management and IEC-cum-enforcement of Covid-appropriate behaviour will be the crux of the revised strategy. Inputs of the expert panel headed by Dr (VK) Paul will also be included,” said Dev said, adding that the Delhi administration will now work on the new road map with the Union home and health ministries.

People familiar with the matter said the Delhi administration was advised to launch targeted RT-PCR testing to cover sensitive, high-risk locations such as railway stations, interstate bus terminuses, marketplaces, restaurants and salons.

“Targeted testing is already being carried out, but a revised strategy will be prepared by the MoHFW (ministry of health and family welfare), Delhi government, National Centre for Disease Control and Indian Council of Medical Research soon with suggestions from the expert panel. Delhi government officials informed in the meeting that targeted testing is being carried out at some level by setting camps at ISBTs, railway stations, markets and containment zones,” a Delhi government official said, asking not to be named.

Delhi government spokespersons did not comment on the matter.

The surge in cases is not unexpected. In early October, a report by the expert committee on Covid-19 headed by Niti Aayog's VK Paul cautioned that the Capital could face as many as 15,000 Covid-19 cases per day due to festival crowding and winter conditions.

That perfect storm of factors now appears to be here: More people are crowding markets for festival shopping, winter conditions have set in and the air has become more polluted. The Sars-Cov-2 virus that causes Covid-19 is known to survive better in the cold, and pollution is a known risk factor, often also causing symptoms similar to a coronavirus infection, making people less likely to pay attention on time.

This comes at a time when imposing another lockdown is being seen as highly unlikely given the economic damage done by the summer shutdown, although experts say there may be little else that authorities can do at this point.

“A lockdown now might be effective in bringing down cases, but it will not be well accepted by people. The only way now to protect against infection is to ensure 100% mask wearing in public. We haven’t been able to do it so far and that is because people are just told they should wear mask. I believe they will be more willing to follow through if they are explained why it is necessary to wear mask and how it would protect them and their families,” said Dr T Jacob John, former head of clinical virology at Christian Medical College, Vellore.

A second expert said the authorities must consider the option of bringing back some curbs like it has been done in other countries.

“A study recently published in the Lancet that looks at such interventions found that shutting down schools and offices can effectively control infection. So, we need to keep schools and colleges closed. We should also close non-essential services such as cinema hall, restaurants and pubs. I would say even the metro because people are not following preventive measures in there too,” said Dr Shobha Broor, former head of the department of microbiology at the All India Institute of Medical Sciences (Aiims).

According to an official who asked not to be named, home secretary Bhalla and Union health secretary Rajesh Bhushan on Monday stressed on the need for the Delhi government to “substantially augment” bed and hospital facilities. “Different hospitals earlier showed variation in death rates. We told them to identify hospitals with higher death rates and take appropriate steps. It would be more helpful,” said the official. They also pointed to Prime Minister Narendra Modi’s IEC (inform-educate-communicate) campaign, asking Delhi officials to target people in the 20-40 age bracket since they seemed to be the ones stepping out most often.

Covid-19: What you need to know today (Hindustan Times: (Hindustan Times: 20201103)

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

The US heads into elections on Tuesday having become the first country to cross 100,000 cases of the coronavirus disease (Covid-19) in a day just recently, and with the seven-day average of daily new cases at an all-time high of around 82,000.

The US has seen in excess of 9.2 million cases, and around 231,000 deaths – both are the highest for any country – and it is evident that every aspect of the country’s response to the pandemic has been mismanaged. President Donald Trump’s response to the pandemic – he himself was infected by the virus – has veered from denial to bluff-and-bluster to outrage over China, where the virus first emerged.

It isn’t clear whether Covid-19, and the US’s response to it, will affect the outcome of this election; what is clear is that the pandemic has already affected the electoral process in the

country, with a record number of mail-in ballots, the counting of which could mean a delay in results, prompting lawsuits – Trump has already said his team will challenge the process and his campaign has claimed (wrongly) that votes counted after November 3 are illegitimate or invalid. Trump and his supporters have also attacked the US’s top expert on infectious diseases Dr Anthony S Fauci, and over the weekend the President hinted that he may “fire Fauci” as a crowd at the rally he was addressing in Florida suggested he do. Whichever way you look at it, this is an election whose story, when it is told, will be inextricably linked to the story of the virus itself, its impact on lives and the economy, and the country’s response to it.

Interestingly, on Monday, even as the World Health Organization’s (WHO) director general Tedros Adhanom Ghebreyesus said he was going into self-quarantine after coming in touch with a person who tested positive for Covid-19, details emerged that the organisation may have mismanaged the process of tracing the provenance of the virus, which first emerged in China’s Wuhan. WHO’s initial response to the pandemic has already come under criticism for several reasons – including accepting Beijing’s narrative of there being no human transmission of the virus, delaying the process of declaring the coronavirus disease a pandemic, and dragging its feet on admitting that the virus could be transmitted by air – but it is likely the new revelations, in an article in the New York Times will prove even more damning. These concern the contours of the investigation WHO will conduct into the origin of the virus, and the terms it has negotiated with Beijing, which has been its usual opaque self when it comes to sharing information on what really happened in Wuhan, and also initially opposed attempts for an international investigation. NYT reports details of the terms negotiated by WHO with China for its investigation in its Monday article, citing “documents, which have never been made public” that “show that WHO experts will review and ‘augment, rather than duplicate’, studies undertaken by China”. The article goes on to add that a key phase of the investigation, which will look for and interview early patients and infected people (going back to those affected in December), and also trace the “supply chain” of “wildlife sold at the Wuhan market”, will be “led by Chinese scientists, with outsiders reviewing their work remotely”.

The revelations are likely to increase criticism of WHO and Dr Tedros. The US has already exited WHO but continues to rail against the organisation; many other countries have asked for reforms in WHO, whose deal with China – which has recorded a total of 86,021 cases, a number the US is recording every day now -- may well mean that the world never finds out how it all began.

New Cases (The Asian Age: 20201103)

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=15201731>

City records 4,001 cases, death toll 6,604

AGE CORRESPONDENT
with agency inputs
NEW DELHI, NOV. 2

The national capital recorded 4,001 fresh Covid cases on Monday, taking the infection tally to over 3.96 lakh, even as the positivity rate hovered around 11 per cent, authorities said.

These fresh cases came out of the 36,665 tests conducted the previous day.

Delhi had recorded over 5,000 daily cases for five days on the trot, ending Sunday when 5,664 new cases were recorded.

The highest single-day spike till date here — 5,891 cases — was recorded on Friday.

Forty-two new fatalities were recorded, pushing the death toll to 6,604, according to the latest bulletin issued by the Delhi health department on Monday.

The tally of active cases on Monday stood at 33,308, as per the bulletin.

The bulletin said the

Kejriwal should call an all-party meeting to fight Covid: Bidhuri

AGE CORRESPONDENT
NEW DELHI, NOV. 2

Leader of Opposition in Delhi Assembly Ramvir Singh Bidhuri has expressed concern over the growing cases of corona in the city and demanded that chief minister Arvind Kejriwal should call an all-party meeting immediately to discuss ways to control the pandemic in time.

In a letter to Mr Kejriwal, Mr Bidhuri pointed out that before the Delhi Disaster Management Authority

total number of cases has climbed to 3,96,371 and the positivity rate stands at 10.91 per cent.

Meanwhile, ICU beds with ventilators at most top private hospitals in Delhi have been fully

(DDMA) the Delhi government has said that in November the number of corona patients in Delhi will reach about 12,000 per day and for their treatment more than 20,000 beds may be required.

"For the last two-three days, about 5,000 patients of corona have been identified every day. This situation is very worrying, so it is necessary that a meeting of all the parties should be called and the government should tell what preparations it has made to prevent this pandemic.

occupied amid a massive surge in Covid cases in the last few days, according to official data.

The online Corona Dashboard of the Delhi government showed that at 5:20 pm on Monday, out

of 1,244 ICU beds with ventilator facility, only 394 were vacant.

At Max hospitals at Saket (51 total ICU beds with ventilators) and Shalimar Bagh (15), Fortis hospitals at Vasant Kunj (seven) and Shalimar Bagh (five), Apollo Hospital, BLK Hospital (seven), the vacancy showed nil.

At the Delhi government-run LNJP Hospital, a dedicated Covid facility, out of the 200 ICU beds with ventilators, only eight were vacant, according to the dashboard.

However, at Rajiv Gandhi Super Speciality Hospital (RGSSH), another dedicated Covid facility, 196 of the 200 such beds were vacant as at 5:20 pm.

The number of vacant ICU beds with ventilators again ran low at Safdarjung Hospital (one out of 54) and AIIMS Trauma Centre (five out of 50), RML Hospital (six out of 28), the data showed.

IVF

Improve your chances for a successful IVF (New Kerala: 20201103)

<https://www.newkerala.com/news/2020/191878.htm>

Lifestyle factors are behavioural factors, circumstances and habits that are generally modifiable all affect the success rate of an IVF procedure. These factors are age, smoking, weight, diet, exercise, psychological stress, caffeine, smoking, alcohol consumption, and exposure to environmental pollutants. They not only contribute to subfertility but also affects overall health of the individual.

Life style modification is the first line treatment for the patients trying either naturally or with ART.

How does age impact fertility?

Fertility decreases considerably with age in both females and males. As more and more people shift to metros, they become career oriented, and choose late marriages and delay planning pregnancy. In men, the testosterone hormone reduces with age thereby reducing sperm count and motility. After the age of 40, significant DNA damage in sperm and decline in viability has been reported.

Age has a greater impact on women compared to men, because women are born with a fixed number of eggs, their number keeps on depleting every cycle. With increase in age woman take more time to conceive.

A marked difference is seen in fertility by the time a woman reaches 35 years of age, due to the decrease in the number of eggs along with the deterioration in the quality of oocytes. In addition, there is an increase in the incidence of genetic abnormalities, that is risk of having abnormal baby and miscarriages. Over all, fertility significantly reduces as age advances.

Healthy weight boosts fertility

Obesity is associated with a range of adverse effects on health. Obesity and low body weight can impact the reproductive function by causing a hormonal imbalance, irregular cycles, ovulatory dysfunction and metabolic syndrome. Body Mass Index should be maintained between 19 and 25. Healthy weight can be maintained with balanced diet and regular exercise.

Healthy well balanced diet is very important for good tissue function. One is advised to include fresh fruit, vegetables, good proteins in their diet and to avoid junk and processed food. There are certain vitamins and food groups which have a greater impact on reproductive health than others. Antioxidants cause an increase in pregnancy rates by improving the egg quality and significant improving sperm parameters.

Fitness and fertility

Regular exercise or any kind of physical activity for at least 45 minutes to 60 minutes provides protection from obesity, cardiovascular disease, hypertension, diabetes, osteoporosis and psychological stress and also increases insulin sensitivity which improves ovarian function and the chances of conception.

Moderately physically active men have significantly better sperm morphology. However excessive exercise can negatively alter energy balance and affect the reproductive system.

Reduce stress while trying to conceive

Stress may affect the hormones, immune system and the autonomic nervous system. Couples who undergo counselling and have family support generally have a higher rate of conception.

Activation of the hypothalamic - pituitary adrenocortical axis results increased secretion of cortisol. Elevated levels of cortisol have been associated with suppression of immune function, facilitation of central fat deposition and major depression.

Physical activity plays a key role in reducing and preventing the effects of stress. Exercise releases endorphins which elevate the mood and make one feel good.

Social engagement is the most quickest and efficient way to combat stress. One of the most effective ways to calm the mind is to communicate with someone.

Avoid unnecessary stress, alter the situation by expressing your feelings instead of bottling them up. Accept the things you can't change, take out time for fun and relaxation, adapt to a healthy lifestyle.

Effect of smoking, alcohol, and caffeine

In males smoking negatively affects sperm production, movement and morphology and is associated with an increased risk of DNA damage. In the females, the follicular environment is affected and there is reduction in ovarian reserve with the deterioration in the quality of oocytes. Menopause has been reported to occur 1-4 years earlier in chronic smokers due to rapid depletion of egg number. There may be an increase in the thickness of covering of the egg making it more difficult for sperm penetration. There may be a significant delay in conception in case of both active and passive smoking.

Alcohol is a known teratogenicity. It may be associated with rise in estrogen hormone which in turn reduces FSH secretion, suppressing egg formation and ovulation. Moderate levels of alcohol consumption have been associated with an increased risk of spontaneous abortion. In men, intake of excess alcohol causes testicular atrophy and loss of libido.

Large consumption of caffeine (500mg per day) has been associated with an increased risk of subfertility. It has also been associated with tubal factors and endometriosis and increased risk of spontaneous abortion.

Therefore, by adopting healthy lifestyle one can improve and have the optimum chances of conception.

Cancer

Drug doubles immune response against cancer in clinical trial: Study (New Kerala: 20201103)

<https://www.newkerala.com/news/2020/191872.htm>

In a new clinical trial, a drug induced an integrated immune response in the tumours of patients with cancer types that do not usually respond to immunotherapy, say researchers.

According to the study, published in the journal Proceedings of the National Academy of Sciences, the team hopes the potential treatment might make such tumours more responsive to the class of drugs known as immune checkpoint inhibitors.

"Checkpoint inhibitors release natural brakes on the immune system, freeing it to find and destroy cancer cells. But they generally have not been effective against cancer cells with low

levels of genetic mutation," said study author Tobias Janowitz from the University of Cambridge in the UK.

Cancer immunotherapies, which empower patients' immune systems to eliminate tumours, are revolutionizing cancer treatment. Many patients respond well to these treatments, sometimes experiencing long-lasting remissions.

But some cancers remain difficult to treat with immunotherapy, and expanding the impact of the approach is a high priority.

In this clinical trial, the research team interrupted that immunosuppressive pathway with a drug called plerixafor.

The drug was administered continuously by intravenous therapy (IV) for one week to 24 patients with either pancreatic cancer or colorectal cancer with a low tumor mutational burden.

All patients had advanced disease, and biopsies were collected from metastatic tumours before and after treatment.

When the team analyzed those patient samples, they found that critical immune cells had infiltrated the tumours during the time patients received plerixafor, including a cell type known to summon and organize key players in the anti-cancer response.

The finding was encouraging because the team detected changes that have also been observed in patients whose cancers responded well to checkpoint inhibitors, the authors wrote.

Aspirin

Aspirin use reduces risk of death in hospitalised COVID-19 patients (New Kerala: 20201103)

<https://www.newkerala.com/news/2020/191865.htm>

Hospitalised COVID-19 patients who were taking a daily low-dose aspirin to protect against cardiovascular disease had a significantly lower risk of complications and death compared to those who were not taking aspirin, according to a new study led by researchers at the University of Maryland School of Medicine (UMSOM).

Aspirin takers were less likely to be placed in the intensive care unit (ICU) or hooked up to a mechanical ventilator, and they were more likely to survive the infection compared to hospitalised patients who were not taking aspirin.

The study, published in the journal *Anesthesia and Analgesia*, provides "cautious optimism," the researchers say, for an inexpensive, accessible medication with a well-known safety profile that could help prevent severe complications.

"This is a critical finding that needs to be confirmed through a randomized clinical trial. If our finding is confirmed, it would make aspirin the first widely available, over-the-counter medication to reduce mortality in COVID-19 patients," said study leader Jonathan Chow, MD, Assistant Professor of Anesthesiology at UMSOM.

To conduct the study, Dr Chow and his colleagues culled through the medical records of 412 COVID-19 patients, age of 55 on average, who were hospitalized over the past few months due to complications of their infection.

They were treated at the University of Maryland Medical Center in Baltimore and three other hospitals along the East Coast. About a quarter of the patients were taking a daily low-dose aspirin (usually 81 milligrams) before they were admitted or right after admission to manage their cardiovascular disease.

The researchers found aspirin use was associated with a 44 per cent reduction in the risk of being put on a mechanical ventilator, a 43 per cent decrease in the risk of ICU admission, and -- most importantly -- a 47 per cent decrease in the risk of dying in the hospital compared to those who were not taking aspirin. The patients in the aspirin group did not experience a significant increase in adverse events such as major bleeding while hospitalised.

The researchers controlled for several factors that may have played a role in a patient's prognosis including age, gender, body mass index, race, hypertension, and diabetes. They also accounted for heart disease, kidney disease, liver disease, and the use of beta blockers to control blood pressure.

COVID-19 infections increase the risk of dangerous blood clots that can form in the heart, lungs, blood vessels, and other organs. Complications from blood clots can, in rare cases, cause heart attacks, strokes, and multiple organ failure as well as death.

Doctors often recommend daily low-dose aspirin for patients who have previously had a heart attack or stroke caused by a blood clot to prevent future blood clots. Daily use, however, can increase the risk of major bleeding or peptic ulcer disease.

"We believe that the blood thinning effects of aspirin provides benefits for COVID-19 patients by preventing microclot formation," said study co-author Michael A. Mazzeffi, MD, Associate Professor of Anesthesiology at UMSOM.

"Patients diagnosed with COVID-19 may want to consider taking a daily aspirin as long as they check with their doctor first," added Mazzeffi.

Those at increased bleeding risk due to chronic kidney disease, for example, or because they regularly use certain medications, like steroids or blood thinners, may not be able to safely take aspirin, he added.

Researchers from Wake Forest School of Medicine, George Washington University School of Medicine, Northeast Georgia Health System, and Walter Reed National Military Medical Center also participated in this study.

"This study adds to the tremendous work our researchers are doing in the School of Medicine to help find new treatments against COVID-19 and save patients' lives," said E. Albert Reece, MD, PhD, MBA, Executive Vice President for Medical Affairs, UM Baltimore, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine.

"While confirmatory studies are needed to prove that aspirin use leads to better outcomes in COVID-19, the evidence thus far suggests that patients may want to discuss with their doctor whether it is safe for them to take aspirin to manage potentially prevent serious complications," added Reece.

Anti-Opioid addiction drugs

Anti-Opioid addiction drugs can reverse some Type 2 diabetes: IIT Mandi (New Kerala: 20201103)

<https://www.newkerala.com/news/2020/191860.htm>

The Indian Institute of Technology Mandi (IIT Mandi) on Monday said its researchers have unravelled the mechanism by which insulin overload in the body causes insulin resistance which is associated with diabetes.

They have found that the drug used in treating opioid addiction can potentially reverse this phenomenon.

According to the study, published in the Journal of Biological Chemistry, type-2 diabetes results when cells lose their ability to use insulin due to a variety of reasons.

Insulin resistance is intricately linked to a condition called hyperinsulinemia, in which there is excess insulin traversing the bloodstream.

The relationship between insulin resistance and hyperinsulinemia is cyclic -- each increases the occurrence of the other.

While it is obvious how insulin resistance leads to hyperinsulinemia -- when cells cannot use the insulin, it just remains in the blood -- the converse of how hyperinsulinemia increases insulin resistance has hitherto remained unclear.

"We wanted to find out if and how hyperinsulinemia invokes inflammation in the body, which would provide the link between the two conditions," Dr Prosenjit Mondal, Associate Professor, School of Basic Sciences, IIT Mandi, said in a statement.

The researchers identified a critical protein molecule - SIRT1 which is repressed in hyperinsulinemia.

They discovered that a decrease in SIRT1 activates another protein called NFkB, which instigates inflammation, thus providing the link between hyperinsulinemia and systemic inflammation.

The researchers found that low-dose naltrexone (LDN), a drug commonly administered for opiate addiction, can activate SIRT1, thereby reducing inflammation and increasing insulin sensitivity of cells.

"Naltrexone at low doses could potentially restore some of the diabetes-associated events in cellular and animal models", said Mondal, who is confident that this is a viable path to follow for Type-2 diabetes management.

Naltrexone is already an FDA-approved drug that is used for the treatment of opioid addiction and can easily be repurposed for inflammation reduction and diabetes control.

The research team intends to study this thread further, to understand the mechanistic aspects of LDN's effects on hyperinsulinemia-induced inflammation and resulting insulin resistance.

Vitamin D deficiency

Over 80 pc of COVID-19 patients have vitamin D deficiency, study finds (New Kerala: 20201103)

<https://www.newkerala.com/news/2020/191849.htm>

Over 80 per cent of 200 COVID-19 patients in a hospital in Spain have vitamin D deficiency, according to a new study published in the Endocrine Society's Journal of Clinical Endocrinology & Metabolism.

Vitamin D is a hormone the kidneys produce that controls blood calcium concentration and impacts the immune system. Vitamin D deficiency has been linked to a variety of health concerns, although research is still underway into why the hormone impacts other systems of the body. Many studies point to the beneficial effect of vitamin D on the immune system, especially regarding protection against infections.

"One approach is to identify and treat vitamin D deficiency, especially in high-risk individuals such as the elderly, patients with comorbidities, and nursing home residents, who are the main

target population for the COVID-19," said study co-author Jose L. Hernandez, Ph.D., of the University of Cantabria in Santander, Spain.

"Vitamin D treatment should be recommended in COVID-19 patients with low levels of vitamin D circulating in the blood since this approach might have beneficial effects in both the musculoskeletal and the immune system," added Hernandez.

The researchers found 80 per cent of 216 COVID-19 patients at the Hospital Universitario Marques de Valdecilla had vitamin D deficiency, and men had lower vitamin D levels than women.

COVID-19 patients with lower vitamin D levels also had raised serum levels of inflammatory markers such as ferritin and D-dimer.

Positive outlook

Study reveals positive outlook predicts less memory decline (New Kerala: 20201103)

<https://www.newkerala.com/news/2020/191597.htm>

People who feel enthusiastic and cheerful -- what psychologists call positive affect -- are less likely to experience memory decline as they age. This result adds to a growing body of research on positive affect's role in healthy ageing.

A team of researchers analyzed data from 991 middle-aged and older US adults who participated in a national study conducted at three time periods between 1995 and 1996, 2004 and 2006, and 2013 and 2014.

In each assessment, participants reported on a range of positive emotions they had experienced during the past 30 days. In the final two assessments, participants also completed tests of memory performance. These tests consisted of recalling words immediately after their presentation and again 15 minutes later.

The researchers examined the association between positive affect and memory decline, accounting for age, gender, education, depression, negative affect, and extraversion.

"Our findings showed that memory declined with age," said Claudia Haase, an associate professor at Northwestern University and senior author on the paper. "However, individuals with higher levels of positive affect had a less steep memory decline over the course of almost a decade," added Emily Hittner, a PhD graduate of Northwestern University and the paper's lead author.

Areas of future research might address the pathways that could connect positive affect and memory, such as physical health or social relationships.

Infection (Hindustan: 20201103)

https://epaper.livehindustan.com/imageview/424360_86489756_4_1_03-11-2020_0_i_1_sf.html

स्कूल खुलने व दफ्तरो में बढ़ती मीड के मद्देनजर विश्व स्वास्थ्य संगठन ने जारी की एडवाइजरी हर घंटे छह बार हवा नहीं बदल रही तो खतरा

नई दिल्ली | हिन्दुस्तान ब्यूरो

केवल 24 छात्रों की एक बंद कक्षा में मौजूद 12 छात्र दो घंटे के भीतर संक्रमण के दायरे में आ जाते हैं। ऐसा तब होता है जब वहां कोई एक भी संक्रमित शख्स मौजूद हो। लेकिन अगर कमरा हवादार हो तो यह खतरा कई गुना कम हो जाता है। विश्व स्वास्थ्य संगठन ने चेताया है कि ऐसी जगहों की हवा एक घंटे में कम से कम छह बार बदलनी चाहिए।

ऊपर दिया गया उदाहरण कोलोराडो विश्वविद्यालय के शोधकर्ताओं के अध्ययन का हिस्सा



है। डब्ल्यूएचओ के जन स्वास्थ्य विभाग की निदेशक, डॉ. मारिया नेरिया के मुताबिक, हर घंटे छह बार कमरे की हवा बदलने से हवा के साथ वायरस भी बाहर निकल जाते हैं। पहली कोशिश यह होनी चाहिए

घर में तेजी से संक्रमण

मॉर्बिडिटी एंड मोर्टैलिटी में प्रकाशित रिपोर्ट के मुताबिक, शोधकर्ताओं ने टेनेसी और विस्कॉन्सिन में एक जगह रह रहे 191 लोगों पर अध्ययन किया। सात दिनों में ही इनमें से 102 लोग संक्रमित हो गए। 53% लोग एक शख्स से संक्रमित हुए।

कि यह प्राकृतिक रूप से हो जाए। ऐसा न हो तो मशीनों का इस्तेमाल करके हवा को बदलना चाहिए। अध्ययन के मुताबिक, अगर परिवार के छह लोग एक कमरे में बैठे आपस में बात कर रहे हैं तो महज चार घंटे

स्थिर गर्म हवा से आफत

कैंब्रिज यूनिवर्सिटी के शोधकर्ता डॉ. राजेश भगत के मुताबिक, बंद जगह जब ज्यादा लोग बैठते हैं तो शरीर से गर्मी निकलती है, जिससे वहां हवा गर्म होकर छत के पास जमा हो जाती है। यही स्थिर गर्म हवा संक्रमण का कारण बनती है।

में पूरा परिवार संक्रमण की जद में आ सकता है। डॉ. मारिया ने कहा, खिड़की या दरवाजा न खुला रहे तो वायरस वहीं कमरे में घूमता रहता है। नमी के चलते जल्दी खत्म नहीं होता।

➤ दो घंटे में घातक पेज 02

Air Pollution (Hindustan: 20201103)

https://epaper.livehindustan.com/imageview/424361_86478062_4_1_03-11-2020_2_i_1_sf.html

शोध : बंद कमरे की हवा इस तरह महज दो घंटे में हो जाती है घातक

अमेरिका के कोलोराडो विश्वविद्यालय के शोधकर्ताओं ने हवा में कोराना वायरस के संचरण को लेकर विशेष तरह का मॉडल विकसित किया है, जिसमें स्कूल, टपतर, घर में वायरस फैलने के तरीकों की जानकारी दी गई है। उनके मुताबिक, स्पेन में करीब 31 फीसदी लोग इसी तरह से संक्रमित हुए।



घर के भीतर लगा सकते हैं ये छह पौधे

- इनेक**
यह पौधा हवा में मौजूद खतरनाक तत्व फॉर्मिलाल्डिहाइड को फिल्टर करता है। इसे अनास धूप की जलकल नहीं होती और यह रात में कार्बन डाई ऑक्साइड गैस अवशोषित करके ऑक्सीजन बाहर निकालता है इसलिए इसे कमरे में रख सकते हैं।
- बांस**
इसे लगाने से घर की हवा शुद्ध होती है क्योंकि यह वातावरण से कार्बन मोनोऑक्साइड, बेजिन और क्लोरोफ्लोरोम जैसे तत्वों को नाश करता है। इसे भी बहुत अधिक धूप दिखाने की जरूरत नहीं होती इसलिए इसे घर के अंदर रखा जा सकता है।
- एलोवेरा**
सूरज की थोड़ी सी रोशनी में भी पनपने वाला यह पौधा औषधीय गुणों से भरपूर है। यह पौधा वातावरण से मौजूद खतरनाक तत्व फॉर्मिलाल्डिहाइड और बेजिन रासायन को दूर करता है इसलिए इसे प्राकृतिक एयर प्यूरिफायर भी कहा जाता है।
- स्पाइडर**
अमर आपके पास पौधों के रखरखाव को समझ नहीं है तो यह पौधा घर पर लगाएं जो आसानी से उग जाता है। यह पीपल, जाइलीन, बेजिन, फॉर्मिलाल्डिहाइड और कार्बन मोनोऑक्साइड जैसे प्रतिकूल एयर वातावरण को शुद्ध कर देता है।
- फिलोडेन्ड्रोन**
यह पौधा भी हवा में मौजूद जहरीले तत्वों को नष्ट करने में सहायक है। इसे कम से कम दो घंटे रोशनी पर रखने से इसके विकास पर कोई अमर नहीं होता और इसकी देखभाल भी आसान है। नुकीली पतियां होने के कारण इसे बच्चों से दूर रखें।
- रबर**
इसे ऑफिस या बेडरूम में रख सकते हैं क्योंकि यह सफाई से निकलने वाले हानिकारक ऑर्गेनिक कंपाउंड फॉर्मिलाल्डिहाइड से वातावरण को मुक्त रखने की क्षमता रखता है। यह पौधा थोड़ी सी धूप में भी जीवित रह सकता है।

Infection ((Hindustan: 20201103)

https://epaper.livehindustan.com/imageview_424363_86472652_4_1_03-11-2020_4_i_1_sf.html

छह से बढ़कर 12 फीसदी तक पहुंची, दिल्ली में घटी कोरोना की जांच भी चिंता का सबब बन रही

आफत : 10 दिन में संक्रमण दर दोगुनी

नई दिल्ली | विश्व संवाददाता

दिल्ली में ठंड और प्रदूषण में इजाफा होने के साथ कोरोना संक्रमण की दर भी तेजी से बढ़ी है। हालांकि, पिछले दो दिनों से राजधानी में जांच की संख्या भी बेहद कम है। राजधानी में जांच के हिसाब से पिछले 10 दिनों में कोरोना के संक्रमण की दर लगभग दोगुनी तक बढ़ गई है।

दिल्ली में अभी कोरोना की वजह से मृत्युदर 1.68 फीसदी दर्ज की गई है, जो राष्ट्रीय औसत 1.45 फीसदी से ज्यादा है। आंकड़ों के अनुसार, पिछले एक हफ्ते से लगातार पांच हजार से ज्यादा संक्रमित मरीज मिले हैं।

हर दस लाख की आबादी पर 2.48 लाख जांच: दिल्ली में 10 दिन पहले 22 अक्टूबर को कुल जांचें गए नमूनों में से सिर्फ 6.24 फीसदी ही पॉजिटिव मिले थे। 10 दिन बाद रविवार को जांच के हिसाब से संक्रमण दर बढ़कर 12.69% फीसदी तक पहुंच गई। इसका मतलब है कि रविवार को कोरोना जांच के लिए गए 44,623 नमूनों में से 12,69 फीसदी नमूनों में कोरोना संक्रमण की पुष्टि हुई। दिल्ली में रविवार तक 47,253, 18 सैपल की जांच हो चुकी है। दिल्ली में प्रति 10 लाख की आबादी पर 2,48,700 लोगों की जांच हो चुकी है।

37 अस्पतालों में आईसीयू बेड फुल: दिल्ली के 37 अस्पतालों में कोरोना मरीजों के लिए उपलब्ध सभी आईसीयू बेड फुल हो चुके हैं। कोरोना के लिए 1927 आईसीयू बेड उपलब्ध हैं। इनमें से 1321 बेड फुल हो चुके हैं। वहीं, 606 कोविड-19 बेड अब भी खाली हैं।

इन अस्पतालों में एक भी आईसीयू बेड कोरोना के मरीजों के लिए खाली नहीं है। इन अस्पतालों में लेडी हार्डिंग, दीनदयाल उपाध्याय जैसे सरकारी अस्पतालों से लेकर अपोलो, मैक्स, गंगाराम जैसे बड़े निजी अस्पताल भी शामिल हैं।



दिल्ली क्रिकेट एसोसिएशन के कर्मचारी का सैपल लेता स्वास्थ्यकर्मी। • प्रेंट

44
60

हजार जांच औसतन हो रही है पिछले दो दिनों से दिल्ली में
हजार जांच औसतन रोज हो रही थी इससे पहले दिल्ली में

ठंड भी एक कारण

प्रदूषण बढ़ने और तापमान में गिरावट से संक्रमण दर में बढ़ोतरी हुई है। डॉक्टरों का कहना है प्रदूषित हवा में यह वायरस ज्यादा समय तक जिंदा रह सकता है। कम तापमान में भी यह काफी देर तक जिंदा रह सकता है। बाजारों में लोग बड़ी संख्या में निकल रहे हैं।

प्रदूषण बढ़ने पर बढ़ेगा खतरा : गुलेरिया

एमएस के निदेशक डॉक्टर गुलेरिया ने चिंता व्यक्त की है कि प्रदूषण बढ़ने से संक्रमण खतरनाक रूप ले सकता है। यूरोपीय देशों के कई अध्ययनों में यह बात सामने आई है कि प्रदूषित इलाकों में कोरोना संक्रमण अधिक फैला है और इससे यहां मौत की दर भी अन्य इलाकों से थोड़ी अधिक रही है। इटली में हुए अध्ययन में देखा गया है कि प्रदूषण से प्रभावित उत्तरी इटली में दक्षिणी हिस्से के मुकाबले कोरोना से दोगुनी मौतें हुईं। इसी तरह प्रदूषण बढ़ने पर भारत में भी यही स्थिति बन सकती है।

कोरोना के 4001 नए मामले

दिल्ली में सोमवार को 4001 लोगों में कोरोना की पुष्टि हुई है, जबकि 42 की मौत हो गई। 4824 मरीज एक दिन में ठीक भी हो गए। 15 दिन बाद संक्रमितों से ज्यादा संख्या ठीक होने वाले मरीजों की रही। कोरोना के कुल 3,96,371 मामले हो गए हैं।

इस तरह बढ़े कोरोना संक्रमित

(आंकड़े प्रतिशत में)



(नोट : इस दिन इतने फीसदी सैपल में संक्रमण की पुष्टि हुई।)

राहत: शुरुआती 72 घंटे में मौत के मामले आधे हुए

नई दिल्ली | विश्व संवाददाता

कोविड संक्रमण से 72 घंटे के गोलडन आवर में मरने वाले मरीजों की संख्या लगभग आधी रह गई है। पहले कोविड से होने वाली कुल मौत में 57 फीसदी से अधिक मरीज ऐसे थे जो संक्रमण के 72 घंटे में मर जाते थे। अक्टूबर में यह आंकड़ा 26.5 फीसदी पर आ गया है। सरकार इसके पीछे होम आइसोलेशन से लेकर कंटेनमेंट जोन बनाने में तेजी, कांटेक्ट ट्रेसिंग का दायरा और जांच बढ़ाने को कारण मानती है।

होम आइसोलेशन में मौत न के बराबर : होम आइसोलेशन में मरने वालों की संख्या न के बराबर रह गई है। बीते साढ़े तीन महीने में ऐसे महज चार

57.3 फीसदी मरीजों की पहले शुरुआती 72 घंटे में मौत होती थी
26.5 % तक अक्टूबर में रह गया आंकड़ा

- 4 मौत हुईं होम आइसोलेशन में साढ़े तीन महीने में हुईं
- 35% मरीज कंटेनमेंट जोन में हैं, पहले 20 फीसदी तक थे

लोगों की मौत हुई है। इसका कारण है कि होम आइसोलेशन में लक्षण वाले बुजुर्ग को नहीं रखा जा रहा है। अक्टूबर में 1200 मरीजों की मौत हुई। प्रदूषण और सर्दी के चलते संक्रमण दर भी बढ़ी है। सरकार का कहना है कि इसका कारण रोजाना 60 हजार जांच है।

ऐसे आई कमी

1 कांटेक्ट ट्रेसिंग रणनीति
अक्टूबर से पहले एक संक्रमित के पीछे 2-3 लोगों को ट्रेस किया जा रहा था। अक्टूबर में यह संख्या 13 तक पहुंच गई यानी एक संक्रमित से संपर्क में आने वाले 13 लोगों पहचान कर आइसोलेट किया गया।

3 जांच भी बढ़ाई
सरकार ने जांच की संख्या भी बढ़ा दी। वर्तमान समय में रोजाना 60 हजार जांच हो रही है। आरटीपीसीआर जांच दोगुनी कर दी गई है। 5 अक्टूबर तक 9 हजार आरटीपीसीआर होती थी जो अब 16 हजार के पार पहुंच गई है।

2 कंटेनमेंट जोन बढ़ाए
कंटेनमेंट जोन की संख्या में तेजी से इजाफा दिया, जिससे संक्रमण को आगे बढ़ने से रोका जा सके। दिल्ली में जहां पहले 15 से 20 फीसदी मरीज ही कंटेनमेंट जोन में थे। अक्टूबर में यह संख्या 35 फीसदी तक पहुंच गई है।

4 निगरानी तेज
सरकार ने लक्षण वाले, बुजुर्ग मरीज को होम आइसोलेशन के बजाए कोविड केयर सेंटर, कोविड हेल्थ केयर और अस्पताल में भर्ती कराया। इससे होम आइसोलेशन के साथ 72 घंटे में होने वाली मौत कम हुई।