Amid Omicron concerns

PM Modi to hold review meet today amid Omicron concerns (The Tribune: 202101223)


Delhi bans Xmas, New Year parties to check Covid surge

Prime Minister Narendra Modi will on Thursday review the emerging Covid situation in the country amid rising Omicron cases and take stock of national preparedness to deal with another potential surge.

Top officials of the PMO, Health Ministry and Home Ministry along with national experts guiding the Indian response on Covid will be present in the meeting, which will look at infection trends. Around 19 districts of concern still remain where the weekly positivity rate is more than 5 per cent as against less than 1 per cent nationally.

Further, the PM will review the status of utilisation of Covid emergency relief package, which the Centre has distributed to states to help them create district-level and paediatric infrastructure, keep buffer stocks of essential medicines ready and also install medical oxygen facilities.

India's Omicron tally crossed 213 today with Delhi recording 57 cases, Maharashtra 54, Telangana 24, Karnataka 19, Rajasthan 18, Kerala 15 and Gujarat 14.

India saw 6,317 new Covid cases nationally in 24 hours with the total now standing at 3,47,58,481.

Active Covid cases are down to 78,190, the lowest in 575 days. Toll has reached 4,78,325 after 318 deaths in 24 hours.
With Delhi reporting majority of India’s 213-plus Omicron cases as of Wednesday, the Delhi Disaster Management Authority (DDMA) today banned New Year and Christmas gatherings to prevent further surge.

The Delhi Disaster Management Authority directed district magistrates to ensure no Christmas and New Year events happened. This on a day when Delhi saw 125 Covid cases, the highest in six months. Overall, the country has seen 213 Omicron cases across 15 states and Union Territories.

No vaccination, no pay, Punjab tells its staff

Punjab Government has asked its employees to furnish details of their full vaccination against Covid to draw next salary.

In Haryana, access to public places only if jabbed

Haryana has banned the entry of those not fully vaccinated in crowded places such as malls, cinemas, restaurants and offices.

3 test positive for Omicron in Haryana

A 33-year-old Karnal resident and a 22-year-old Panipat woman and her father, who returned from the UK, are Omicron positive.

**WHO**

**WHO chief: Blanket booster drives risk prolonging pandemic (The Tribune: 202101223)**

‘No country can boost its way out of the pandemic’

WHO chief: Blanket booster drives risk prolonging pandemic

Customers are seen inside a private Covid-19 testing clinic in a busy shopping area, amid the coronavirus disease outbreak in London, December 22, 2021. Reuters

The head of the World Health Organisation warned Wednesday that blanket booster programmes in rich countries risk prolonging the world’s battle with Covid-19 and said “no country can boost its way out of the pandemic

WHO Director-General Tedros Adhanom Ghebreyesus said the priority must be to reduce deaths and help all countries meet minimum vaccination targets that many still haven’t reached. And he noted that “the vast majority of hospitalisations and deaths are in unvaccinated people, not unboosted people”.

"No country can boost its way out of the pandemic”
Tedros said while vaccines have saved many lives this year, their unequal sharing “has cost many lives”.

In 2021, 3.5 million people were lost to COVID-19, he said, and “all of us need to take extra precautions” as the new omicron variant advances.

The WHO chief has previously called for a moratorium on boosters for healthy adults until the end of this year to counter unequal global vaccine distribution. He said at an online news conference Wednesday that about 20% of vaccine doses being given every day are currently boosters or additional doses.

“Blanket booster programmes are likely to prolong the pandemic rather than ending it, by diverting supply to countries that already have high levels of vaccination coverage, giving the virus more opportunity to spread and mutate,” Tedros added.

He said it’s “frankly difficult to understand” that three-quarters of health workers in Africa remain unvaccinated, and distortions in global supply mean that only half of WHO’s member countries have been able to meet a target of vaccinating 40% of their populations by the end of this year.

Tedros renewed a call for manufacturers and other countries to prioritize the COVAX program to get doses to needier nations and “work together to support those who are furthest behind.”

“Unless we vaccinate the whole world ... I don’t think we can end this pandemic,” Tedros said. But he added that authorities now know the virus better and have effective tools to fight it; “we need to add to that comprehensive implementation and equity, and hope 2022 will end this pandemic.” AP

Human Cell

Omicron has a greater capacity to bind with human cells: Study(The Tribune: 202101223)

Omicron has a greater capacity to bind with human cells: Study

Photo for representation.

Even as the newly reported Omicron variant is poised to replace Delta as the dominant variant across the world, a study led by an Indian-origin researcher shows that many mutations in the variant allow it to bond with human cells far more efficiently than previous strains.
The Omicron variant was first identified in South Africa in late November, and has since spread rapidly to 106 countries. The variant is now the dominant strain in many countries including the US, the UK, Denmark among others.

Of all the variants of coronaviruses so far, Omicron is the most heavily mutated with more than 30 mutations on its spike protein, which the virus uses to enter human cells. The variant also harbours a high number of mutations in regions of the spike protein that antibodies recognise, potentially dampening their potency.

Researchers from the University of British Columbia, Canada, studied Omicron using cryo-electron microscopy -- a technique that provides images of the virus at incredibly high resolution.

The results, published pre-print and not peer-reviewed yet, showed that "Omicron has far greater binding affinity than the original SARS-CoV-2 virus" due to new bonds created between the virus and human cell receptors, Dr Sriram Subramaniam, lead scientist, was quoted as saying to the Daily Mail.

In addition, the researchers tested Omicron against human and monoclonal antibodies, finding that the variant is more resistant to these immune system particles than other variants.

"The Omicron variant is unprecedented for having 37 spike protein mutations - that's three to five times more mutations than any other variant," Subramaniam, a biochemistry professor at the University, was quoted as saying in a statement.

According to Subramaniam, the increased mutations on the spike protein are important for two reasons: "Firstly, because the spike protein is how the virus attaches to and infects human cells. Secondly, because antibodies attach to the spike protein in order to neutralise the virus." The team probed Omicron's mutations through microscopic imaging, and found that some of the mutations create additional bonds between the virus and ACE2 receptors - a human cell receptor located throughout the body, the report said.

These new mutations appear to "increase binding affinity", Subramaniam said, indicating that Omicron can attach more strongly to human cells.

The researchers compared Omicron's binding affinity to that of the Delta variant and the original strain of the coronavirus.

"Overall, the findings show that Omicron has far greater binding affinity than the original SARS-CoV-2 virus, with levels more comparable to what we see with the Delta variant," Subramaniam said.

Subramaniam's team also examined the Omicron spike protein's ability to evade both human antibodies and antibodies from monoclonal antibody treatments.

This analysis confirmed real-world data, showing that Omicron is more capable of evading antibodies than previous variants - meaning that treatments are less successful, the report said.
"Notably, Omicron was less evasive of the immunity created by vaccines, compared to immunity stemming from natural infection in unvaccinated Covid patients," Subramaniam said, adding "this suggests that vaccination remains our best defence against the Omicron variant." Both the Omicron variant's increased binding affinity and its capacity to evade antibodies are "likely contributing factors to its increased transmissibility," Subramaniam said. IANS

Pollution

Delhi’s air crisis: Who pollutes, who suffers? ( Hindustan Times: 202101223)

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

ChakrabortyMonu, a 13-year-old living in a Delhi slum near the Yamuna river, was exposed on a particular day to an average of 150 micrograms per cubic metre (very poor) of PM2.5 while it is 35 (satisfactory) for 11-year-old Aamya, who resides in an apartment in a colony in GK-II in Delhi. Thus ran a multimedia story by The New York Times in December 2020. Aamya and her family have access to air purifiers at home and in school even as her exposure to outdoor pollution is limited by air-conditioned cars, while the same doesn’t hold true for Monu.
The chart here shows the exposure to PM2.5 for both these children over 24 hours. As a result, Monu risks losing almost 5 years of his life, while Aamya half a year of hers. Both are avoidable. But how? The next three charts look at the problem of pollution from the lens of class and discuss possible ways out.

1 What pollutes?

Pollution is measured by the Air Quality Index (AQI), which is calculated separately for eight pollutants — PM10, PM2.5, nitrogen dioxide, sulphur dioxide, carbon monoxide, ground-level ozone, ammonia, and lead — and the highest of these subindices is reported as AQI for that particular day. Since these pollutants are related to each other, controlling one will help control the others too. Instead of tracking all pollutants, the policy could focus on PM2.5, which measures all aerosols under 2.5 micrometers in diameter (our hair is almost 30 times as thick) and has contributions from all the other gaseous components.

Chart 2 shows the source attribution for PM2.5. Three major contributors to pollution from the consumption side are — transport (private and public), fuel and electricity, and construction. Based on these numbers, 60% of AQI is contributed by consumption. But if these are the major sources, shouldn’t AQI remain similar through the year? It gets worse in winters not only because of stubble burning but also, among other factors, natural factors such as Delhi being shaped as a bowl, which traps pollutants for far longer as a result of the wind slowing down during the winter months.

2 Who pollutes?

It is obvious that the affluent classes, as a result of their consumption patterns, pollute more than the poor but is it possible to quantify their respective contributions? It is difficult to provide an accurate measure but an approximate one can be derived from National Sample Survey (NSS) consumption data, which provides data on consumption of different deciles. We categorise different commodities in the consumption basket from the 2011-12 Consumption Expenditure Survey of the NSS according to the above-mentioned three major sources of pollution. Based on the consumption basket of each decile and weighing them according to the shares of these three sources, we arrive at each decile’s share in total pollution. Chart 3 shows that the richest 10% of the population pollute 10 times as much as the poorest 10%.

3 Who suffers?

While all residents face the adverse health effects of pollution, the poor are more vulnerable to its ill-effects than the rich. This class difference comes out starkly in pollution-related death data. NHMS does not generally provide reasons for death but in one of its rounds — the second (1998-99) — it had a question on the cause of death and two respiratory ailments were the most frequent answers. Chart 4a and 4b present a picture of mortality based on this data.
Respiratory Health

Here’s how you can maintain respiratory health in winters (The Indian Express:202101223)

First things first, regulate body temperature by layering comfortably with warm clothes.

In winters, there is an alarming rise in pollution levels which, along with the dip in temperature, can lead to many health issues, including ailments of the respiratory system. It becomes important, therefore, to exercise caution.

Dr Sujata Chakravarti, consultant-general medicine, Hiranandani Hospital, Vashi — a Fortis Network Hospital — says that though respiratory diseases can happen at any time during the year, some of them are more prevalent during winter due to various reasons. Here are some of them

– Fog combined with higher levels of pollution (smog) irritating our airways.

– Disease transmission accelerated during winter due to poor ventilation indoors.

– People with pre-existing conditions like asthma or COPD show worsening of symptoms. The frequency of asthma attacks also increases because of the cold weather, making them more susceptible to infections. They tend to spend more time indoors where allergens like dust mites, pet hairs and mold cause the allergies to flare up.

ALSO READ |These ‘five distinct symptoms’ may help you differentiate Omicron from regular cold

According to Dr Chakravarti, the respiratory diseases that happen often during winters include:

* Common cold: Quite common and contagious. Although usually mild and self-limiting, they can lead to a lot of malaise and discomfort. A common cold can be caused by many different types of viruses.

* Influenza: Commonly known as the flu, it is a viral infection caused by specific influenza viruses, but is more severe than a common cold.
* Bronchitis: When the tubes that carry air to the lungs get inflamed and swollen. You end up with a nagging cough and phlegm.

* Pneumonia: Happens when an infection causes air sacs in the lungs to fill with fluid or pus. That can make it hard for you to breathe and for enough oxygen to reach the bloodstream.

* Acute sinusitis: The spaces inside your nose (sinuses) become inflamed and swollen. This interferes with drainage and causes mucus to build up leading to blocked nose and headaches.

ALSO READ |Should you cover your head during winter to prevent cold, cough? Here’s what Ayurveda says

Keep the following points in mind so maintain your respiratory health:

1. Regulate body temperature by layering comfortably with warm clothes.
2. Keep your hands clean and free of germs. Avoid touching your mouth, nose, or eyes with dirty hands.
3. If the air quality is bad around your place, avoid morning jogs as toxic pollutants are at a peak during this time. You can instead do indoor aerobic activities.
4. Incorporate some breathing exercises in order to enhance your lung capacity.
5. Keep your home clean of dust, mold, and allergens. Clean your bedding, carpets, rugs, and sofas regularly.
6. Do not smoke, and avoid crowded places.
7. Have good ventilation at home; you could try using an air purifier or a humidifier.
8. Stay hydrated. Take steam as suggested by your doctor, but do not try random home remedies that may further aggravate the problem.
9. Consume a nutritious diet with plenty of fruits, vegetables and lean protein. Citrus fruits, turmeric and ginger can help build immunity.
10. Avoid processed, junk, fried, oily, and canned food that are loaded with preservatives, additives, and artificial flavours. They may cause throat irritation.
11. When advised by your doctor, do take vaccines for flu and pneumonia.
12. Those with pre-existing lung conditions or senior citizens should have follow-ups with their doctor and ensure their prescriptions are updated.
effective mask practices

Effective face mask practices to reduce spread of Covid-19, including new variants (The Indian Express:202101223


Notably, even as vaccinations continue to be administered, the only way to fight the condition is through precautions and preventive measures. The best way to do that, apart from handwashing and hygiene, is wearing masks properly.

A new study notes some effective mask practices that can help reduce the spread of Covid-19 and its variants. Published in the American Journal of Infection Control, and the Journal of the Association for Professionals in Infection Control and Epidemiology (APIC), the study mentioned how the reduction in the spread of respiratory infectious pathogens can reduce Omicron cases too.

As per the paper’s lead author Francoise M Blachere, MSc., Research Biologist, of the National Institute for Occupational Safety and Health (NIOSH), the performance of face masks as devices that control infection spread depends upon both the ability of the mask material to filter aerosols, and on how well the mask fits the wearer.

ALSO READ |How to wear a mask correctly? Dr Shriram Nene shares

Conducting a variety of experiments that simulated coughs and exhalations, researchers measured the efficiency of masks at blocking respiratory aerosols. Notably, face masks help reduce the transmission of respiratory aerosols and droplets produced during activities such as talking, breathing and coughing. The US Centers for
Disease Control and Prevention (CDC) recommended a mask that is multi-layered, covers the nose and mouth and forms a tight seal against the face.
The study concluded that a three-ply cloth mask over a medical mask (double masking), or securing a medical mask with an elastic brace provided the best protection against respiratory aerosols.
The results showed that while medical masks without modification blocked less than 56 per cent of cough aerosols and less than 42 per cent of exhaled aerosols, placing a cloth mask over a medical mask blocked more than 85 per cent of cough aerosols and more than 91 per cent of exhaled aerosols. Whereas, adding a brace over a medical mask blocked more than 95 per cent of cough aerosols and more than 99 per cent of exhaled aerosols.
“Since the start of the Covid-19 pandemic, there has been considerable confusion about the most effective use of face masks, especially among the general public, to reduce the spread of infection,” said Ann Marie Pettis, BSN, RN, CIC, FAPIC, and APIC 2021 president.

The study also noted how earloop strap, or knotting and tucking the mask, also increased effectiveness as compared to medical masks without modification.
Notably, even as vaccinations continue to be administered, the only way to fight the condition is through precautions and preventive measures. The best way to do that apart from handwashing and hygiene is wearing masks properly.
In an Instagram Reel, Dr Shriram Nene, cardiothoracic surgeon and healthcare innovator, demonstrated how to wear the different types of masks properly.
“Two cloth masks worn one over the other, or one N95 mask,” he said while stating that “do not put the masks under the nose, or just cover the mouth, and certainly not over your eyes.”

According to Dr Jyoti Mutta, senior consultant, Microbiology, Sri Balaji Action Medical Institute, while an N-95 mask with proper fitting can ensure adequate level of safety, a double-layered mask is considered a good option. “That is also because we have witnessed that the masks many people are wearing are either quality compromised or they are too loose and hanging down from their nose,” she said.

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coronavirus variant

Likely order of Covid symptoms depends on coronavirus variant: Study(The Indian Express:20210122


The study, published in the journal PLOS Computational Biology, used modelling approach to predict symptom order in a set of 373,883 cases in the US between January and May 2020

Covid-19 has not come to an end just yet as the variants keep increasing. (Photo by Amit Mehra)

The most likely order of symptoms that patients with Covid-19 experience is different for different variants of the SARS-CoV-2 virus, according to a study. The researchers from the University of Southern California in the US wanted to know whether the order of Covid-19 symptoms varied in patients from different geographical regions or with various patient characteristics.

Identifying order of symptom onset of infectious diseases might aid in differentiating symptomatic infections earlier in a population thereby enabling non-pharmaceutical interventions and reducing disease spread, they said.

ALSO READ | No evidence Omicron has lower severity than Delta variant: UK study
The study, published in the *journal PLOS Computational Biology*, used modelling approach to predict symptom order in a set of 373,883 cases in the US between January and May 2020. The most likely symptom order differed between the initial outbreak in China — where fever most often preceded cough, and nausea or vomiting was a common third symptom — and the subsequent spread to the **US**. In the US, cough was most likely to be the first symptom, and diarrhoea was a more common third symptom.

By analysing additional data from Brazil, Hong Kong and Japan, the team showed that the different order of symptoms was associated not with geographic region, weather, or patient characteristics, but with SARS-CoV-2 **variants**. The presence of the D614G variant in an area — which was predominant in the US in early 2020 — was associated with a higher likelihood of cough being the first Covid-19 symptom experienced by patients. As Japan shifted from the original Wuhan reference strain to the D614G variant, symptom order shifted as well, the researchers said. The study authors hypothesise that the increased **transmission** of D614G could be linked to the symptom order.

“These findings indicate that symptom order can change with mutation in viral disease and raise the possibility that D614G variant is more transmissible because infected people are more likely to cough in public before being incapacitated with fever,” they added.

**Omicron Cases (The Asian Age: 202101223)**

125 Covid cases, no death in city in last 24 hours; positivity 0.2%

Omicron cases rise in Delhi: Kejriwal to hold review meeting today

Amid a rise in the number of Omicron cases in Delhi, chief minister Arvind Kejriwal will hold a review meeting to assess the preparedness and management as regards the new variant of the coronavirus on Thursday, according to officials.

Delhi has recorded the maximum number of 27 Omicron cases in the country, followed by Maharashtra (54), Telangana (31), Karnataka (19), Rajasthan (18), Kurnool (18) and Gujarat (14).

India has so far recorded 213 cases of the Omicron variant of the coronavirus across 15 states and Union territories and 96 of the infected people have either recovered or migrated, according to the Union health ministry's data updated on Wednesday.

Kejriwal is likely to discuss the preparations for a possible third wave of Covid-19 and the Omicron variant of the virus with cabinet ministers and officials. The meeting is also likely to see a discussion on hospital beds, medicines and home-isolation measures.

The national capital logged 125 Covid-19 cases in a day, the highest since June 22, with a positivity rate of 0.2 per cent, while no fresh death due to the viral disease was recorded, according to data shared by the Delhi health department on Wednesday. The cumulative number of coronavirus cases in the city stands at 14,42,515, while the death toll stands at 25,162.

Delhi had recorded 134 Covid-19 cases with a positivity rate of 0.2 per cent and eight deaths due to the disease on June 22. The Delhi Disaster Management Authority (DDMA) on Wednesday directed district magistrates to ensure no Christmas and New Year gatherings take place in the national capital. However, restaurants and bars will continue to operate with up to 50 per cent of the seating capacity. Marriage-related gatherings are permitted with a maximum of 500 people in attendance.

The DDMA directed the district magistrates (DMs) to identify potential Covid-19 superspreader areas ahead of Christmas and New Year.

"All social/political/cultural/religious/festival-related gatherings are prohibited throughout NCT of Delhi," the DDMA order stated.

The national capital logged 125 cases on Wednesday, the highest since June 22, when it had reported 134 cases of the infection.

A worker pastes a sticker on a wall of a Covid-19 facility at Commonwealth Games Village in view of the rising Omicron cases in New Delhi on Wednesday. - PTI

Jain: Genome sequencing of Covid+ve samples begins

The genome sequencing of samples of all Covid-infected people in Delhi has begun from Wednesday, informed Delhi health minister Satyendar Jain. The process aims to determine if the new Omicron variant has spread in the community.

Delhi has been recording around 100-125 cases a day, while it has the capacity of genome sequencing of 400-500 samples daily. Three Omicron patients in Delhi had no travel history.

"The Delhi government-run labs at the Lok Nayak Hospital and the Institute of Liver and Biliary Sciences can sequence 100 samples each day. Two and deputy commissioners of police (DCPs) have also been directed to tighten the enforcement machinery to ensure people follow social-distancing norms and wear masks. "All district magistrates shall conduct an intensive survey of the entire area under their jurisdiction and identify those pockets, colonies, markets and crowded places which have the potential of becoming superspreaders of coronavirus and its Omicron variant," the DDMA said in the order. It said concerted action shall be taken in identified pockets according to the prescribed protocol which includes test, track and treatment, prompt and effective containment measures and enforcement of Covid-appropriate behaviour.

Centre-run labs in Delhi can sequence 200-300 samples a day. So, 400-500 samples can be analysed in a day," Jain said.

Around 100 to 125 new cases are emerging every day. Samples of all Covid-19 patients will be sequenced from Wednesday. Through this, we will be able to ascertain the number of cases from the society. Till now, the maximum number of Omicron cases have come from foreign countries (see)" added Jain.

Following a meeting of the Delhi Disaster Management Authority on Monday, Chief Minister Arvind Kejriwal had announced that samples of all Covid-positive patients would be sent for genome sequencing.

"All district magistrates shall conduct an intensive survey of the entire area under their jurisdiction and identify those pockets, colonies, markets and crowded places which have the potential of becoming superspreaders of coronavirus and its Omicron variant," the DDMA said in the order. It said concerted action shall be taken in identified pockets according to the prescribed protocol which includes test, track and treatment, prompt and effective containment measures and enforcement of Covid-appropriate behaviour.

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**Childhood obesity**

*Childhood obesity associated with mother's unhealthy diet before pregnancy* (New Kerala: 202101223)

Research London, December 22: The findings of new research led by the University of Southampton show that supporting women to eat a healthy diet pre-pregnancy could reduce th-> View it--> https://www.newkerala.com/news/2021/180150.htm

**prediabetes**

*Study finds people with high-risk prediabetes benefit from lifestyle intervention* Berlin, (New Kerala: 202101223)

A new study has found that intensive lifestyle intervention helps people with prediabetes delay or even prevent type 2 diabetes.---> View it--> https://www.newkerala.com/news/2021/180098.htm

**Booster dose**

*Omicron to dominate Europe soon, booster dose important defence: WHO* Brussels, (New Kerala: 202101223)

Omicron will dominate European countries within weeks, pushing an already stretched health system further to the brink, said head of the European office of the Wo-- View it--> https://www.newkerala.com/news/2021/180015.htm
**Antibody therapy**

**Omicron renders most monoclonal antibody therapy ineffective:** *(New Kerala: 202101223)*

Monoclonal antibody therapy, once hailed as 100 per cent effective in stopping Covid-19 in its tracks, has been defeated by the new super mutant Omicron variant. [View it](https://www.newkerala.com/news/2021/179865.htm)

**Skin infections**

**Study finds skin infections cause of rheumatic fever** *(New Kerala: 202101223)*

A research has found that skin infections are likely to be a significant cause of rheumatic fever. [View it](https://www.newkerala.com/news/2021/179660.htm)

**Stress**

**Stress triggers for children** *(New Kerala: 202101223)*

Children are as susceptible to stress as adults. While adults can process their stress better, sometimes a child may experience stress but may not be able to express themselves adequately. [View it](https://www.newkerala.com/news/2021/179353.htm)