Vaccination

Being ready: On vaccination and India’s third COVID-19 wave (The Tribune: 20220308)


Vaccination was shown to have been a life saver during the third wave of the pandemic. The COVID-19 pandemic is on a discernible wane. Just a month ago, India was reporting around 1,70,000 cases a day and the latest numbers suggest it has plummeted to around 6,000. India is now contributing to only 0.7% of global cases. Last year, cases were below 5,000 a day, encouraging several States and the Centre to claim that the pandemic was over, though within a matter of weeks there was a resurgence fuelled by the Delta variant which birthed a summer of catastrophe. There is, however, a crucial distinction between then and now in that over 75% of those over 15 years are now fully vaccinated in India. A small and growing number of those over 60 have had the third dose. Reports suggest that over 90% of Indians have been exposed to the virus over the last two years and, therefore, combined with the vaccination, are sufficiently protected against disease — but not infection — for many more months ahead. What bears emphasis is that avoiding vaccination makes one, particularly the elderly, vulnerable to serious infection. Balram Bhargava, Director-General, ICMR, said at a press conference this week that 92% of those who died of COVID-19 since January this year were unvaccinated, and underlined that vaccines and the wide vaccination coverage had played an important role in protecting hundreds of lives.

India is fortunate in that it does not have to battle vaccine hesitancy in a large measure. The initial scepticism regarding the vaccines not having passed the typical stages of vaccine approval saw a certain degree of hesitation, but very soon it emerged, in April and May last year, that India’s main problem was an insufficient number of vaccines. Though India today has administered nearly 178 crore vaccine doses and has several indigenously developed vaccines that have been approved in emergency mode by authorities, there are still serious questions on supply. Currently, vaccine demand is low and the vaccination drive is in ‘mop up mode’ and administering second doses. But were the pandemic situation to suddenly turn for a fourth wave to take shape, there would be a spike in demand for vaccinations for children, particularly those below 15, as well as booster doses for adults. The experience of Covaxin’s manufacturer being unable to ramp up vaccinations in time during the crisis months ought to be a persistent reminder to other biotechnology companies that having vaccines is very
different from being ready with a seamless supply chain. The Indian government has still not made public a timeline for when vaccines from Biological E, Gennova and Zydus Cadila will be practically available for mass use. Though the world is occupied with a different crisis, India must not let its guard down and should insist on companies being ready with a measurable timeline.

Pandemic

Care informed by data: On children orphaned by the pandemic (The Tribune: 20220308)


India must pursue schemes for rehabilitation of children orphaned by the pandemic

Numbers can often be hustled to tell many tales; but it is the story that is picked on the basis of the desire to do what is morally right that sets the course for meaningful action. The recent Lancet estimates of COVID-19-associated orphanhood, which put the number at over 19 lakh children orphaned as a result of COVID-19, has raised India’s hackles. The Lancet study generated numbers based on modelling, and therefore only estimates and not actual numbers are available. Globally, it estimated that 52 lakh children had been rendered orphans by the pandemic. The study, in its original period, March 1, 2020 to April 30, 2021 was revised, with updates based on excess mortality and fertility data used to model increases in estimates of COVID-19- associated orphanhood between May 1 and October 31, 2021 for 21 countries. Orphanhood was defined as the death of one or both parents; or the death of one or both custodial grandparents. The authors claimed their findings showed that numbers of children orphaned by COVID-19 had almost doubled in six months compared with the data after the first 14 months of the pandemic. India has objected strongly to the estimate of 19 lakh, terming it as “sophisticated trickery intended to create panic among citizens”. As per data collected by the National Commission for Protection of Child Rights and collated on the Bal Swaraj portal, the number of children orphaned during COVID-19 in India was far lower, at 1.53 lakh.

While the study does include revised estimates for all the nations, the message that it seeks to convey is the absolute urgency with which governments must incorporate childcare into any COVID-19 management programme. The state should proactively draw such children into the umbrella of care to save them from numerous adversities — poverty, violence, destitution, and lack of access to education and health care. The Indian government, to its credit, announced a grand plan of support for children forced into orphanhood by COVID-19. Many States announced rehabilitation plans, including provisions for adoption, foster care, education and health care; some admittedly more progressive than others, but the momentum was certainly built up in the country. It is time to update the status of such programmes, and information on the number of cases where intervention has occurred, and where it is pending, must be put out in the public realm. Well begun is half done, but the Centre and the States must expand efforts. The Government would do well to allow interventions for children to be informed by a ‘whole-
life” care paradigm, and fresh data from time to time, especially in a pandemic that is not only rapidly evolving, but by all accounts, is nowhere near ending.

**Global health disasters**

**WHO’s pandemic treaty to prevent future global health disasters (The Tribune: 20220308)**


The COVID-19 pandemic has exposed the deep cracks in global health systems, and members of the World Health Organisation are now working towards being better prepared for any similar disasters in the future.

The story so far: Members of the World Health Organisation (WHO) held the first round of negotiations towards the pandemic treaty on February 24, 2022. The meeting was aimed at agreeing on ways of working and timelines for a “convention, agreement or other international instrument” to prevent further pandemics and to improve the preparedness and response in case of its occurrence.

What is the pandemic treaty?
In December 2021, the World Health Assembly agreed to start a global process to draft the pandemic treaty. The need for an updated set of rules was felt after the COVID-19 pandemic exposed the shortcomings of global health systems. The Health Assembly adopted a decision titled “The World Together” at its second special session since it was founded in 1948.

Under the decision, the health organisation established an intergovernmental negotiating body (INB) to draft and negotiate the contents of the pandemic treaty in compliance with Article 19 of the WHO Constitution.

The pandemic treaty is expected to cover aspects like data sharing and genome sequencing of emerging viruses and equitable distribution of vaccines and drugs and related research throughout the world. Solutions to the COVID-19 pandemic have seen an inequitable distribution of vaccines so far, with poorer countries at the mercy of others to receive preventive medication. Most countries have followed the “me-first” approach which is not an effective way to deal with a global pandemic, WHO Director-General Dr. Tedros Adhanom Ghebreyesus said in a statement.

The European Union (EU) also wants a ban on wildlife markets to be included in the treaty. A widely-accepted theory points that the novel coronavirus may have jumped from animals to humans in a wildlife market of China.
While the EU wants the treaty to be legally binding, the U.S., Brazil and India have expressed reservations about the same. The legal nature of the treaty is yet to be defined.

What is Article 19 of the WHO Constitution?
Article 19 of the WHO Constitution gives the World Health Assembly the authority to adopt conventions or agreements on matters of health. A two-thirds majority is needed to adopt such conventions or agreements.

The WHO Framework Convention on Tobacco Control was set up under Article 19 and it came into force in 2005.

What has been the impact of the COVID-19 pandemic so far?
More than 437 million COVID-19 cases have been globally reported so far, and more than 5.9 million people have lost their lives. In India, over 34 million cases have been reported so far. Death toll stands at over five lakh.

Coronavirus live | New COVID-19 cases below 100 in Chennai after three months
What is the timeline of the treaty?
The INB held its first meeting on February 24, 2022. The second meeting, where the members are expected to discuss the progress on a working draft, is scheduled to be held by August 1, 2022. A progress report is expected to be delivered to the 76 th World Health Assembly in 2023, and its outcome will be submitted to the 77 th World Health Assembly in 2024 for consideration. Intermittent public hearings are also planned.

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vaccination programme

Explained | India’s vaccination programme for minors (The Tribune: 20220308)

https://www.thehindu.com/sci-tech/health/indias-vaccination-programme-for-minors/article38046602.ece
What is the status of clinical trials on those aged below 18 years? Which other countries have approved COVID vaccinations for children?

The story so far: Prime Minister Narendra Modi announced that beginning January 3, vaccines would be available for those who are 15 years of age. Boosters would also be available for health-care workers, frontline workers and those over 60 with co-morbidities on a doctor’s prescription.

**Brachial plexus**

**After sustaining brachial plexus injury, youth regains near-normal movement** *(The Hindu: 20220308)*


Arunuga Kamalesh, 19, who underwent surgery for brachial plexus injury, with the doctors of the Tamil Nadu Government Multi Super Speciality Hospital in Chennai.

The 19-year-old State-level gymnast from Madurai suffered shoulder dislocation twice. A 19-year-old gymnast, who sustained a left brachial plexus injury, regained near-normal movement in five months after undergoing surgery at the Tamil Nadu Government Multi Super Speciality Hospital (TNGMSSH). Doctors of the Department of Hand and Reconstructive Microsurgery of the hospital performed neurolysis and nerve transfer that was followed by physiotherapy to help him regain full range of motion.

Arunuga Kamalesh, a resident of Madurai, was a State-level gymnastic champion. He sustained a shoulder dislocation during practice in November 2020. Though his coach had reduced the dislocation, he again suffered a dislocation while carrying a pot of water, R. Sridhar, associate professor of the department, said.

Surgery went wrong

He sought treatment at a private hospital where an arthroscopy surgery was performed. “He had sustained nerve injury during the shoulder dislocation. The surgery worsened it. He had a brachial plexus injury. Three nerves in the neck and thoracic spine segment were affected and two were functional. He took up physiotherapy and exercises for eight months but his condition did not improve,” he said.

In August 2021, he came to TNGMSSH where doctors evaluated him and suggested surgery. A surgery for nerve transfer was performed on September 1. “We performed neurolysis and nerve transfer (Oberlin I and Somsak procedure) in which we joined the branches of the two functioning nerves to the three affected nerves,” he said.
There was significant improvement post-surgery, he said. “He followed up on physiotherapy and exercises, and in five months has regained near normal movement. We have advised him to go slowly and not to be hasty, and take up graded exercises,” Dr. Sridhar said.

On follow-up, doctors saw that he had regained near-normal movement. He would require physiotherapy for five to six more months, he said. The entire procedure was covered under the Chief Minister’s Comprehensive Health Insurance Scheme.

Dr. Sridhar along with G. Karthikeyan of the department of Hand and Reconstructive Microsurgery performed the surgery. Apart from them, Magesh and L. Parthasarathy of the Department of Anaesthesiology were part of the team.

Dr. Sridhar said that such brachial plexus injuries were common in two-wheeler accidents and need to be recognised as such properly.

**Covid infection**

**Can drinking cow milk help fight Covid infection? (The Hindu: 20220308)**


Cow milk contains proteins with virus inhibiting properties that can help prevent Covid from replicating in a person's body and cause infection, says study

Cow milk contains proteins with virus inhibiting properties that can help prevent Covid-19 from replicating in a person's body and cause infection, according to a study.

The protein lactoferrin is found in the milk of most mammals.

Researchers from the University of Michigan found that bovine lactoferrin, from cow milk, has bioactive characteristics against many microbes, viruses, and other pathogens.

It has also been found to inhibit SARS-CoV-2 infection under experimental conditions by blocking the ability of the virus to enter target cells, as well as by supporting cells' antiviral defense mechanisms.

"Bovine lactoferrin has shown antiviral activity in human clinical trials," said lead investigator Jonathan Sexton, from the varsity's Department of Internal Medicine.

"For example, orally administered bovine lactoferrin has been shown to improve the severity of viral infections, including rotavirus and norovirus. Given the broad antiviral efficacy and safety, minimal side effects, and commercial availability of bovine lactoferrin, several review papers have suggested using it as a preventive or post-exposure treatment for SARS-CoV-2 infection," he added.
The findings are detailed in the Journal of Dairy Science.

With the goal of improving clinical relevance and translatability, the team tested bovine lactoferrin against some of the most common SARS-CoV-2 variants of concern from around the world, including the WA1 variant representative of the US outbreak in 2020, the B.1.1.7, B.1.351, and P.1 variants, and the Delta variant.

"Each of these variants includes modifications to the SARS-CoV-2 spike protein that reduce the efficacy of newly produced vaccines. Furthermore, each of these strains shows reduced neutralisation by vaccination sera," Sexton explained.

A key benefit of the broad antiviral efficacy of lactoferrin is its potential for the prevention or treatment of emerging diseases.

"This is especially important when there are limited treatment options, or when the treatment options are too costly for widespread use. An orally available therapeutic that covers emerging strains would be ideal for treating SARS-CoV-2 in areas without widespread vaccination or if new strains escape the vaccine," Sexton said.

Happy International Women’s Day 2022:
Happy International Women’s Day 2022: Wishes Images, Whatsapp Messages, Status, Quotes and Greetings (The Indian Express: 20220308)


Happy International Women's Day 2022 Wishes Images, SMS, Messages, Status: This special day is celebrated annually on March 8 to raise awareness about gender equality and women empowerment

Happy Women's Day 2022 Wishes Images: Happy Women's Day. (Designed by Gargi Singh) Happy International Women’s Day 2022 Wishes Images, Messages, Status, Photos, Quotes: Every year, March 8 is celebrated as International Women’s Day across the world to promote women’s rights and honour their achievements across the political, economic, social and cultural spheres. The origins of International Women’s Day can be traced back to the many socialist movements witnessed in the early 20th century.

Adopted by the United Nations in the year 1977 and aided by the second and third waves of Feminism, this day is a reminder of the grit and determination of women all across the world.

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Over the years, the UN has celebrated the day on the basis of different themes centered on women’s rights and issues. The theme for International Women’s Day 2022 is, “Gender equality today for a sustainable tomorrow.”

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*There is no force more powerful than a woman’s determination to rise.

Also Read [This International Women’s Day, let’s break the burnout cycle
*The question isn’t who’s going to let me; it’s who is going to stop me.

Happy International Women’s Day 2022 Wishes: “She believed she could, so she did.” (Photo: Pixabay/ Designed by Gargi Singh)
*Happy Women’s Day. I wish you all my luck. May the universe conspire to make things happen for you.

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*Always keep your face forward to the sunshine with pride and dignity. Happy Women’s Day 2021.

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Also Read |Towards a gender-sensitive post-pandemic world
*Having you in my life makes me grateful and inspired every day! Happy Women’s Day

Happy International Women’s Day 2022 Wishes: Little girls with dreams become women with vision.
*Every life begins with a woman. Respect and encourage every woman for what she is. Woman, you are always loved and appreciated. Happy Women’s Day!

women's day, women's day 2021, happy womens day, happy womens day 2021, happy women's day, happy women's day 2021, women's day images, women's day wishes images, happy women's day images, happy women's day quotes, happy women's day status, happy womens day quotes, happy womens day messages, happy womens day status, international women's day, international women's day quotes, happy international women's day, happy international women's day quotes, happy international women's day status, happy women's day sms, happy women's day images, happy women's day quotes
Scientists are now beginning to unravel the biological mechanisms, which have been something of a mystery: The neurons that detect odors lack the receptors that the coronavirus uses to enter cells, prompting a long debate about whether they can be infected at all.

The ability of the olfactory receptors to send and receive messages is disrupted. But the neurons don’t die, and so the system can recover after the illness resolves. (Source: Getty Images/Thinkstock)

Written by Roni Caryn Rabin

Few of COVID-19’s peculiarities have piqued as much interest as anosmia, the abrupt loss of smell that has become a well-known hallmark of the disease. COVID patients lose this sense even without a stuffy nose; the loss can make food taste like cardboard and coffee smell noxious, occasionally persisting after other symptoms have resolved.

Scientists are now beginning to unravel the biological mechanisms, which have been something of a mystery: The neurons that detect odors lack the receptors that the coronavirus uses to enter cells, prompting a long debate about whether they can be infected at all.

Insights gleaned from new research could shed new light on how the coronavirus might affect other types of brain cells, leading to conditions like “brain fog,” and possibly help explain the biological mechanisms behind long COVID — symptoms that linger for weeks or months after the initial infection.

The new work, along with earlier studies, settles the debate over whether the coronavirus infects the nerve cells that detect odors: It does not. But the virus does attack other supporting cells that line the nasal cavity, the researchers found.

ALSO READ | Long Covid: The science shows how little we know

The infected cells shed virus and die, while immune cells flood the region to fight the virus. The subsequent inflammation wreaks havoc on smell receptors, proteins on the surface of the nerve cells in the nose that detect and transmit information about odors.

The process alters the sophisticated organization of genes in those neurons, essentially short-circuiting them, the researchers reported.

Their paper significantly advances the understanding of how cells critical to the sense of smell are affected by the virus, despite the fact that they are not directly infected, said Dr Sandeep
Robert Datta, an associate professor of neurobiology at Harvard Medical School, who was not involved in the study.

“It’s clear that indirectly, if you affect the support cells in the nose, lots of bad things happen,” Datta said. “The inflammation in the adjacent cells triggers changes in the sensory neurons that prevent them from working properly.”

Indeed, many complications of COVID appear to be caused by the immune system’s friendly fire as it responds to infection by flooding the bloodstream with inflammatory proteins called cytokines, which can damage tissue and organs.

“This might be a general principle: that a lot of what the virus is doing to us is a consequence of its ability to generate inflammation,” Datta said.

The new study is based on research carried out at Zuckerman Institute and Irving Medical Center at Columbia University in New York; the New York University Grossman School of Medicine; the Icahn School of Medicine at Mount Sinai in New York; Baylor Genetics in Houston; and the School of Medicine at the University of California, Davis. The research was published online in Cell in early February.

The scientists examined golden hamsters and human tissue specimens from 23 patients who succumbed to COVID. After the hamsters were infected with the original coronavirus, scientists tracked the damage to their olfactory systems over time.

(How do you know a golden hamster has lost its sense of smell? You don’t feed it for several hours and then bury Cocoa Puffs in its bedding, said Benjamin tenOever, a professor of microbiology at NYU Langone Health and an author of the new research. Hamsters that can smell will find the cereal in seconds.)

The virus did not invade neurons, the researchers learned, only the cells that play supporting roles in the olfactory system. But that was enough to alter the function of the nearby neurons, leading to a loss of smell.

The immune response altered the architecture of genes in the neurons, disrupting production of odor receptors, said Marianna Zazhytska, a postdoctoral fellow at the Zuckerman Institute and one of the paper’s first authors, along with a graduate student, Albana Kodra.

“It is not the virus itself causing all this reorganization — it’s the systemic inflammatory response,” Zazhytska said. “The nerve cells are not hosting the virus, but they are not doing what they did before.”

The ability of the olfactory receptors to send and receive messages is disrupted. But the neurons don’t die, and so the system can recover after the illness resolves.

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Earlier work at the Zuckerman Institute showed that neurons that detect smells have complex genomic organizational structures that are essential to the creation of odor receptors, and the receptor genes communicate among themselves very intensively, said Stavros Lomvardas, one of the paper’s corresponding authors.
“We saw early on that upon infection, the genomic organization of these neurons changes completely — they’re unrecognizable compared to how they normally are,” Lomvardas said.

“There is a signal released from the infected cells that is received by the neurons that normally detect odors, and tells them to reorganize and stop expression of olfactory receptor genes,” he said.

He suggested this may represent an evolutionary adaptation that offers a form of antiviral resistance and whose main purpose may be to prevent the virus from entering the brain. “That was a relief for us,” he said. “That was one piece of good news.”

Health Care (Dainik Bhasker: 20220308)

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