



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Thursday 20201210

Heart disease

Heart disease now killing more people than ever before: WHO (The Tribune: 20201210)

<https://www.tribuneindia.com/news/health/heart-disease-now-killing-more-people-than-ever-before-who-182352>

Heart disease now killing more people than ever before: WHO

Heart disease, which has remained the leading cause of death at the global level for the last 20 years, is now killing more people than ever before, according to the World Health Organization.

The WHO said diabetes and dementia are also among the world's top 10 causes of death.

The WHO's 2019 Global Health Estimates, released on Wednesday, said non-communicable diseases now make up 7 of the world's top 10 causes of death, an increase from 4 of the 10 leading causes in 2000. The new data cover the period from 2000 to 2019.

“Heart disease has remained the leading cause of death at the global level for the last 20 years. However, it is now killing more people than ever before,” the organisation said.

Heart disease now represents 16 per cent of total deaths from all causes and the number of deaths from heart disease increased by more than two million since 2000 to nearly 9 million in 2019. Diabetes and dementia enter the top 10 causes of death.

Alzheimer's disease and other forms of dementia are now among the top 10 causes of death worldwide, ranking 3rd in both the Americas and Europe in 2019. Women are disproportionately affected: globally, 65 per cent of deaths from Alzheimer's and other forms of dementia are women.

Deaths from diabetes increased by 70 per cent globally between 2000 and 2019, with an 80 per cent rise in deaths among males. In the Eastern Mediterranean, deaths from diabetes have more than doubled and represent the greatest percentage increase of all WHO regions.

The WHO said the estimates reveal trends over the last 2 decades in mortality and morbidity caused by diseases and injuries, clearly highlighting the need for an intensified global focus on preventing and treating cardiovascular diseases, cancer, diabetes and chronic respiratory diseases, as well as tackling injuries, in all regions of the world, as set out in the agenda for the UN Sustainable Development Goals.

“These new estimates are another reminder that we need to rapidly step up prevention, diagnosis and treatment of non-communicable diseases,” Director-General of WHO Dr Tedros Adhanom Ghebreyesus said.

“They highlight the urgency of drastically improving primary health care equitably and holistically. Strong primary health care is clearly the foundation on which everything rests, from combatting non-communicable diseases to managing a global pandemic.” While more non-communicable diseases are now causing deaths worldwide, there has been a global decline in deaths from communicable diseases, which however still remain a major challenge in low- and middle-income countries.

In 2019, pneumonia and other lower respiratory infections were the deadliest group of communicable diseases and together ranked as the fourth leading cause of death. However, compared to 2000, lower respiratory infections were claiming fewer lives than in the past, with the global number of deaths decreasing by nearly half a million, WHO said adding that this reduction is in line with a general global decline in the percentage of deaths caused by communicable diseases.

HIV/AIDS dropped from the 8th leading cause of death in 2000 to the 19th in 2019, reflecting the success of efforts to prevent infection, test for the virus and treat the disease over the last two decades. While it remains the fourth leading cause of death in Africa, the number of deaths has dropped by more than half, falling from over 1 million in 2000 to 435 000 in 2019 in Africa.

WHO said Tuberculosis is also no longer in the global top 10, falling from 7th place in 2000 to 13th in 2019, with a 30% reduction in global deaths. Yet, it remains among the top 10 causes of deaths in the African and South-East Asian regions, where it is the 8th and 5th leading cause respectively.

The new estimates also emphasise the toll that communicable diseases still take in low-income countries: 6 of the top 10 causes of death in low-income countries are still communicable diseases, including malaria (6th), tuberculosis (8th) and HIV/AIDS (9th).

Meanwhile, in recent years, the WHO reports highlight an overall concerning slow-down or plateauing of progress against infectious diseases like HIV, tuberculosis and malaria.

The new projections state that people are living longer – but with more disability.

The estimates further confirm the growing trend for longevity: in 2019, people were living more than 6 years longer than in 2000, with a global average of more than 73 years in 2019

compared to nearly 67 in 2000. But on average, only 5 of those additional years were lived in good health.

Disability, however, is on the rise.

“To a large extent, the diseases and health conditions that are causing the most deaths are those that are responsible for the greatest number of healthy life-years lost. Heart disease, diabetes, stroke, lung cancer and chronic obstructive pulmonary disease were collectively responsible for nearly 100 million additional healthy life-years lost in 2019 compared to 2000,” WHO said.

Injuries are another major cause of disability and death, with the African region recording a significant rise in road traffic injuries since 2000.

Globally, deaths from road traffic injuries are 75 per cent male.

Assistant Director-General for the Division of Data, Analytics and Delivery for Impact at WHO Dr Samira Asma said robust health data are critical to address inequalities, prioritize policies and allocate resources to prevent disability and save lives.

"We call upon governments and stakeholders to urgently invest in data and health information systems to support timely and effective decision-making," Asma said. PTI

COVID-19 vaccines

Rich countries have bought too many COVID-19 vaccines: Amnesty (The Tribune: 20201210)

<https://www.tribuneindia.com/news/health/rich-countries-have-bought-too-many-covid-19-vaccines-amnesty-182042>

‘Canada has bought enough doses to vaccinate every citizen five times’

Rich countries have bought too many COVID-19 vaccines: Amnesty

A mock vial of the Pfizer vaccine for the coronavirus disease is shown during a staff vaccine training session at UW Health in Madison, Wisconsin, US, on December 8, 2020. Reuters

Rich countries have secured enough coronavirus vaccines to protect their populations nearly three times over by the end of 2021, Amnesty International and other groups said on Wednesday, possibly depriving billions of people in poorer areas.

Britain approved Pfizer’s COVID-19 vaccine this month, raising hopes that the tide could soon turn against a virus that has killed nearly 1.5 million globally, hammered the world economy and upended normal life.

Amnesty and other organisations including Frontline AIDS, Global Justice Now and Oxfam, urged governments and the pharmaceutical industry to take action to ensure intellectual property of vaccines is shared widely.

The World Health Organisation (WHO) has also called on governments repeatedly this year to make a vaccine protecting against COVID-19 a “public good”.

The WHO has backed a global vaccine programme scheme known as COVAX, which seeks to ensure equitable distribution of vaccines and 189 countries have joined. But some countries such as the United States have not signed up, having secured bilateral deals.

COVAX hopes to deliver some 2 billion doses by the end of 2021 but that would still only represent about 20% of the populations of countries that are part of the mechanism.

“Nearly 70 poor countries will only be able to vaccinate one in ten people against COVID-19 next year unless urgent action is taken,” Amnesty International said, based on recent calculations.

“Updated data shows that rich nations representing just 14% of the world’s population have bought up 53% of all the most promising vaccines so far,” it said.

Amnesty said Canada was the country that had bought the most shots when considering the size of its population with enough doses to vaccinate every Canadian five times.

The organisation urged support for a proposal made by South Africa and India to the World Trade Organisation Council to waive intellectual property rights for COVID-19 vaccines, tests and treatments. Reuters

Oxford/AstraZeneca vaccine

Oxford/AstraZeneca vaccine safe and effective, latest study confirms (The Tribune: 20201210)

<https://www.tribuneindia.com/news/health/oxford-astrazeneca-vaccine-safe-and-effective-latest-study-confirms-181594>

Oxford/AstraZeneca vaccine safe and effective, latest study confirms

There are still important questions about what dose would be best, as well as the age group it will protect the most. Reuters

Researchers from the University of Oxford and pharmaceutical major AstraZeneca on Tuesday presented a pooled analysis of phase 3 trials of their vaccine against COVID-19 across two different dose regimens, which showed that the vaccine is safe and has an average efficacy of 70.4 per cent.

The university said the new study published in the 'Lancet' medical journal is the first peer-reviewed publication of phase 3 data from studies of a vaccine against the coronavirus.

The paper, assessed by independent scientists, sets out the full results from advanced trials of over 20,000 people. Regulators will be weighing up this same data and are considering the jab for emergency use.

“Today, we have published the interim analysis of the phase 3 trial and show that this new vaccine has a good safety record and efficacy against the coronavirus,” said Professor Andrew Pollard, Director of the Oxford Vaccine Group and Chief Investigator of the Oxford Vaccine Trial.

There are still important questions about what dose would be best, as well as the age group it will protect the most.

When the interim trial results were made public in a press release last month, the researchers reported three efficacy levels for the vaccine – an overall effectiveness of 70 per cent, a lower one of 62 per cent and a high of 90 per cent -- due to different doses of the vaccine being mistakenly used in one part of the trial.

Tuesday's 'Lancet' report reveals 1,367 people -- out of many thousands in the trial -- received the half dose followed by a full dose, which gave them 90 per cent protection against getting ill with COVID-19. The relatively small numbers means it is hard to draw firm conclusions.

"We have known for many years that adenoviral vectored vaccines fulfil the requirements for use against outbreak or pandemic diseases. They are safe, highly immunogenic, can be manufactured in large quantities at low cost and do not require frozen storage," said Sarah Gilbert, Professor of Vaccinology at the University of Oxford.

"Following the demonstration of vaccine efficacy in many preclinical studies, we now have clear evidence of efficacy in the trial results presented in a peer-reviewed publication today. Now under regulatory review, we hope that this vaccine will shortly be in use to start saving lives," she said.

The researchers also investigated the potential for the vaccine to prevent asymptomatic disease, through the use of weekly swabbing by UK trial volunteers.

This data indicates that the low dose/standard dose vaccine may provide a protection against asymptomatic infection, but stress that the data is at an early phase, with too high a level of uncertainty to be certain that this vaccine will protect against asymptomatic infection.

Pascal Soriot, Chief Executive Officer of AstraZeneca, said: 'Today's peer-reviewed publication enables a full disclosure of the Oxford programme interim analysis. The results show that the vaccine is effective against COVID-19, with in particular no severe infections and no hospitalisations in the vaccine group, as well as safe and well tolerated.

"We have begun submitting data to regulatory authorities around the world for early approval and our global supply chains are up and running, ready to quickly begin delivering hundreds of millions of doses on a global scale at no profit." In terms of safety, there was one severe

adverse event potentially related to the vaccine and another one -- a high temperature -- that is still being investigated. Both these participants are recovering and are still in the trial.

The UK's independent regulator, the Medicines and Healthcare products Regulatory Agency (MHRA), has been tasked by the government to assess all this data to decide if the jab can be cleared for rollout as protection against COVID-19.

The latest results come on so-called V-Day, or Vaccine Day, in the UK when the first set of people in the high-risk groups received the first of two doses of the Pfizer/BioNTech vaccine against the deadly virus. PTI

Oxford vaccine

India may wait for UK nod before Oxford vaccine call (Hindustan Times 20201210)

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

: India may need to wait till authorities in the United Kingdom clear the coronavirus vaccine developed by University of Oxford and AstraZeneca as experts from India's drug regulators sought this data before proceeding with an assessment of their own, according to details of discussions at the first meeting to review options for the country.

The vaccine candidate, being manufactured and tested in India by the Serum Institute of India (SII), is among three that have applied for an emergency approval. The others include Pfizer-BioNTech's mRNA vaccine that last week became the first to be approved following late-stage trials anywhere in the world, and an indigenously developed shot called Covaxin by Hyderabad's Bharat Biotech.

“After detailed deliberation, the committee recommended that the firm should submit the following data/information for further review: 1. Updated safety data of the Phase II/III clinical trial in the country; 2. Immunogenicity data from the clinical trial in UK and India; (and) 3. The outcome of the assessment of UK-MHRA for grant of EUA (emergency use authorisation)”, according to recommendations by the Central Drugs Standard Control Organisation (CDSCO)'s Subject Expert Committee (SEC).

HT has seen the document.

The SEC's assessments will be sent as recommendations to the CDSCO, which will take the final call.

The committee also asked Bharat Biotech, which presented Phase I/2 data, to present data from its Phase 3 trials. “After detailed deliberation, the committee recommended that the firm should present the safety and efficacy data from the ongoing Phase III clinical trial in the country for further consideration,” the committee recommended.

Wednesday's meeting marks the formal beginning of assessments of Covid-19 vaccine candidates that may have derived enough data to judge its safety and efficacy. This data is usually available only in Phase 3 studies and once enough infections are recorded to reach a particular checkpoint.

At present, Bharat Biotech's trial is far from this milestone – its enrolment began on November 11 and protective antibodies develop only 42 days from the date of the first shot.

The third manufacturer, Pfizer, sought more time to appear before the committee. Pfizer's vaccine candidate, developed in partnership with Germany's BioNTech, was approved by UK's MHRA last week. But on Wednesday, health authorities in the UK advised caution after two people given the dose developed non-serious allergic reactions.

"Pfizer sought and was granted some more time before it could make a presentation before the committee. The other two manufacturers explained the data gathered so far and were asked to provide some additional information, which they have promised to submit," said an official from the health ministry. A second official in the government, who asked not to be named, said Pfizer has been told they can approach whenever they are ready. The next SEC meeting is likely to be scheduled once the two manufacturers submit their data.

The second official quoted above, who asked not to be named, said the committee has already received "thousands of pages of data" and a decision is likely "very soon" once the information sought is provided.

"The panel, comprising of domain experts who are not government officials, sought additional clarifications from both manufacturers which are technical and scientific in nature. Both SII and Bharat Biotech have promised to come back with the additional clarifications. The next meeting is expected to happen as soon as they are ready with the information," this person said, asking not to be named.

Oxford University's Sarah Gilbert and UK's Medicines and Healthcare products Regulatory Agency (MHRA) chief executive June Raine told ITV that it was still not clear when the Oxford-AstraZeneca shot can be cleared. Raine said MHRA was still receiving data, and no timeline could be given on when a decision was expected, ITV reported on Wednesday. Both of the Indian government officials cited above said the approval process is likely to involve thorough reviews and the process could take at least a couple of weeks.

"A decision cannot be taken on whether a vaccine is to be approved or not within two hours. This is a routine procedure. If you take for example Pfizer, it had applied for an emergency use authorisation with the US FDA on November 24 and they have had only two meetings of their committee so far. They had applied to the UK authorities on November 20 and it has just been approved. It will take time for the committee to go over the data," said the health ministry official the cited above.

Both SII and Bharat Biotech declined to comment.

Pfizer's vaccine is the furthest along, having completed clinical trials in entirety and showing 95% efficacy. However, there has been no trial in India for the vaccine. The Oxford-AstraZeneca, to be manufactured and marketed by the Serum Institute of India, is currently conducting a phase III trial in India with 1,600 participants across 15 sites. The vaccine has

shown an efficacy of 62% when volunteers were given two full doses of the vaccine. A half dose followed by full dose regimen — which was initially given by accident during UK testing of the vaccine — was found to be 90 effective.

Bharat Biotech, which has developed Covaxin in collaboration with the government's Indian Council of Medical Research, has just completed phase I and II trials, the data for which hasn't been made public yet. The phase III trials that started in mid-November has so far only enrolled about 5,000 of the total 26,000 sample needed. Most volunteers have only received the first dose of the vaccine, with the second to be administered 28-days later.

Vaccine boost

Sensex surges past 46k, riding on vaccine boost (Hindustan Times: 20201210)

BSE Sensex, India's benchmark stock market index, reached an all-time high of 46,103.5 on December 9, up 495 points from the previous day's close. It then fell to 25,981.24 points on March 23, a day before the Narendra Modi government declared a nationwide lockdown to prevent the spread of the Covid-19 virus. Here are four charts which explain this recovery.

© 2020 All Rights Reserved. Powered by Summit

Disclaimer: The contents of this website is the copyright of HT Digital Streams Limited and any downloadable version thereof, including but not limited to electronic or digital version of newspaper (e-paper) in any format, is intended for personal consumption only. Dissemination, distribution, circulation and/ or publication of any content or e-paper (pdf or otherwise) through any mode and/or on any social media platform without prior authorization/ permission/ license, is strictly prohibited.

Covid-19: What you need to know today (Hindustan Times 20201210)

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

India's drugs regulator met on Wednesday to consider applications by Serum Institute of India (SII) and Bharat Biotech for approval of the Covid-19 vaccines developed by them — the first on the basis of trial data of Phase 3 trials conducted outside India, and the second on Phase 1/2 trials conducted in India.

The vaccine developed by AstraZeneca/Oxford and made locally by SII will likely be India's first line of defence against a disease that, till Tuesday night, had infected 9.7 million people and killed 141,415 in the country. On Tuesday, The Lancet published a peer reviewed paper

detailing the findings of trials showing the vaccine's efficacy and safety. Given this vaccine's importance to India, it makes sense to take a close look at this.

Neither Moderna, nor Pfizer/BioNTech has published a peer-reviewed paper on the findings of the Phase 3 trials of their vaccines. The UK approved the Pfizer/BioNTech vaccine last week and started its vaccination drive on Tuesday. The UK will also likely approve the AstraZeneca/Oxford vaccine shortly. The US FDA indicated on Tuesday that it would likely approve the Pfizer/BioNTech vaccine soon. As for the AstraZeneca/Oxford one, confusion surrounding the results of its own Phase 3 trials will probably mean that the US FDA awaits the results of an ongoing Phase 3 trial in the US before signing off on it.

The paper published in *The Lancet* combines the results of four trials — a Phase 1/2 one in the UK; a Phase 2/3 one also in the UK; a Phase 3 one in Brazil; and a Phase 1/2 one in South Africa — to show the vaccine's safety. Of the around 23,700 people covered in these studies, three developed adverse effects, including one who developed transverse myelitis, a neurological disorder that involves the inflammation of the spinal cord. The trials were halted because of this, but later allowed to resume.

So far, so good.

The efficacy bit is more complex.

This is based on two of the four trials listed above — the Phase 2/3 one in the UK and the Phase 3 one in Brazil. Together, these involved around 11,600 people. It is irregular to combine two trials for the purpose of analysis of efficacy, but it can be done. It is also irregular to combine two trials with different protocols — the placebo used in one was saline and in another a meningitis vaccine. And finally, one of the studies, the UK one, involved a subset of people who were given a smaller first dose (by mistake), and then a very late booster second dose (almost three months later in most cases). This mistake was then written into the revised trial protocol; all the participants in this subset were 18-55 years old. It is in this (much smaller) subset that the vaccine was 90% effective.

There were two other subsets in the UK leg of the study — 18- to 55-year-olds who were given two standard doses; and people between the ages of 56 and 69, who were given two standard doses.

The results of these were combined with those of the Brazil study, covering health workers and those with a high risk of being exposed to the infection, and all older than 18. These people were given two standard doses, 12 weeks apart.

It is the combined reading of these two subsets of the UK study and the Brazilian study that showed that the vaccine is 62% effective in preventing infections.

Since the trials are still ongoing, these results are interim, but it is on their basis that the UK, and India, will grant the vaccine approval. SII is conducting its own Phase 3 trials of the vaccine, but that data hasn't been released yet.

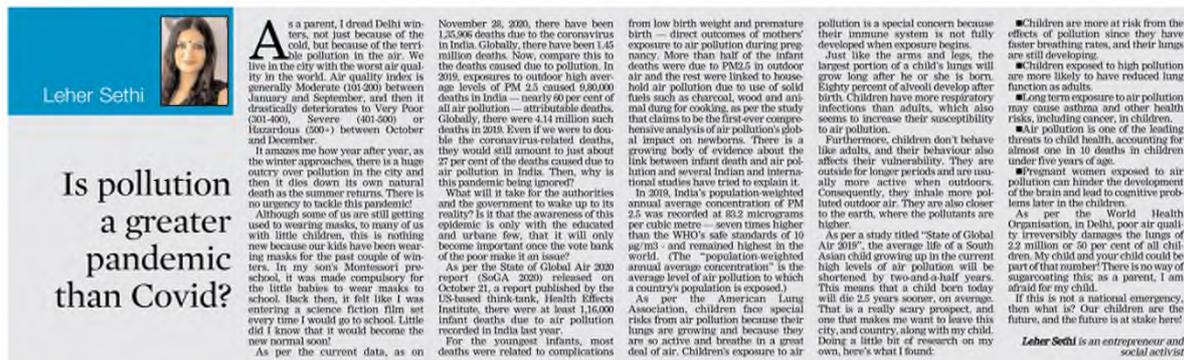
A 62% efficacy level exceeds the 50% floor set by the US FDA and would have likely been cheered in any other context other than the one in which the AstraZeneca/Oxford vaccine trial

results were announced — in the wake of announcements by Pfizer/BioNTech and Moderna that showed a 95% effectiveness of their own vaccine candidates.

But what the AstraZeneca/Oxford vaccine lacks in effectiveness it makes up for in terms of cost and ease of storage and transportation (it doesn't require the sub-zero temperatures of the other two).

Pollution (The Asian Age: 20201210)

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=15273003>



Leher Sethi

Is pollution a greater pandemic than Covid?

As a parent, I dread Delhi winters, not just because of the cold, but because of the terrible pollution in the air. We live in the city with the worst air quality in the world. Air quality index is generally Moderate (101-200) between January and September, and then it drastically deteriorates to Very Poor (301-400), Severe (401-500) or Hazardous (500+) between October and December.

It amazes me how year after year, as the winter approaches, there is a huge outcry over pollution in the city and then it dies down its own natural death as the summer returns. There is no urgency to tackle this pandemic!

Although some of us are still getting used to wearing masks, to many of us with little children, this is nothing new because our kids have been wearing masks for the past couple of winters. In my son's Montessori preschool, it was made compulsory for the little babies to wear masks to school. Back then, it felt like I was entering a science fiction film set every time I would go to school. Little did I know that it would become the new normal soon!

For the youngest infants, most deaths were related to complications

November 28, 2020, there have been 1,25,906 deaths due to the coronavirus in India. Globally, there have been 1.45 million deaths. Now, compare this to the deaths caused due to pollution. In 2019, exposures to outdoor high average levels of PM 2.5 caused 9,80,000 deaths in India — nearly 80 per cent of all air pollution — attributable deaths. Globally, there were 4.14 million such deaths in 2019. Even if we were to double the coronavirus-related deaths, they would still amount to just about 37 per cent of the deaths caused due to air pollution in India. Then, why is this pandemic being ignored?

What will it take for the authorities and the government to wake up to its reality? Is it that the awareness of this epidemic is only with the educated and urban few, that it will only become important once the vote bank of the poor make it an issue?

As per the State of Global Air 2020 report (SoGA 2020) released on October 21, a report published by the US-based think-tank, Health Effects Institute, there were at least 1,16,000 infant deaths due to air pollution recorded in India last year.

For the youngest infants, most deaths were related to complications from low birth weight and premature birth — direct outcomes of mothers' exposure to air pollution during pregnancy. More than half of the infant deaths were due to PM2.5 in outdoor air and the rest were linked to household air pollution due to use of solid fuels such as charcoal, wood and animal dung for cooking, as per the study that claims to be the first-ever comprehensive analysis of air pollution's global impact on newborns. There is a growing body of evidence about the link between infant death and air pollution and several Indian and international studies have tried to explain it.

In 2019, India's population-weighted annual average concentration of PM 2.5 was recorded at 83.2 micrograms per cubic metre — seven times higher than the WHO's safe standards of 10 µg/m³ — and remained highest in the world. (The "population-weighted annual average concentration" is the average level of air pollution to which a country's population is exposed.)

As per the American Lung Association, children face special risks from air pollution because their lungs are growing and because they are so active and breathe in a great deal of air. Children's exposure to air pollution is a special concern because their immune system is not fully developed when exposure begins.

Just like the arms and legs, the largest portion of a child's lungs will grow long after he or she is born. Eighty per cent of alveoli develop after birth. Children have more respiratory infections than adults, which also seems to increase their susceptibility to air pollution.

Furthermore, children don't behave like adults, and their behaviour also affects their vulnerability. They are outside for longer periods and are usually more active when outdoors. Consequently, they inhale more polluted outdoor air. They are also closer to the earth, where the pollutants are higher.

As per a study titled "State of Global Air 2019", the average life of a South Asian child growing up in the current high levels of air pollution will be shortened by two-and-a-half years. This means that a child born today will die 2.5 years sooner, on average. That is a really scary prospect, and one that makes me want to leave this city, and country, along with my child. Doing a little bit of research on my own, here's what I found:

- Children are more at risk from the effects of pollution since they have faster breathing rates, and their lungs are still developing.
- Children exposed to high pollution are more likely to have reduced lung function as adults.
- Long term exposure to air pollution may cause asthma and other health risks, including cancer, in children.
- Air pollution is one of the leading threats to child health, accounting for almost one in 10 deaths in children under five years of age.
- Pregnant women exposed to air pollution can hinder the development of the brain and lead to cognitive problems later in the children.
- As per the World Health Organisation, in Delhi, poor air quality irreversibly damages the lungs of 2.2 million or 50 per cent of all children. My child and your child could be part of that number! There is no way of shortening this: as a parent, I am afraid for my child.
- If this is not a national emergency, then what is? Our children are the future, and the future is at stake here!

Leher Sethi is an entrepreneur and social activist

AstraZeneca vaccine 70.4%

AstraZeneca vaccine 70.4% effective at preventing Covid-19 (New Kerala: 20201210)

<https://www.newkerala.com/news/2020/213316.htm>

Results of an interim analysis of the Phase III programme conducted by Oxford University with AZD1222, peer-reviewed and published in The Lancet on Wednesday demonstrated that the vaccine is safe and effective at preventing symptomatic COVID-19 and that it protects against severe disease and hospitalisation.

The interim analysis for efficacy was based on 11,636 participants accruing 131 symptomatic infections from the Phase III UK and Brazil trials conducted by Oxford University.

As announced on November 23, the primary efficacy endpoint of the programme statistical plan, based on the pooling of two dosing regimens, showed that the vaccine is 70.4 per cent

effective at preventing symptomatic COVID-19 occurring more than 14 days after receiving two doses of the vaccine. A secondary efficacy endpoint of prevention of severe disease demonstrated no cases of severe infections or hospitalisations in the vaccine group.

A further analysis of the efficacy regimens showed that when the vaccine was given as two full doses, vaccine efficacy was 62.1 per cent and 90.0 per cent in participants who received a half dose followed by a full dose.

Vaccine efficacy was also assessed on the secondary endpoint of early prevention of severe disease after the first dose. There were no hospitalisations or severe cases of COVID-19 more than 21 days after the first dose of the vaccine. Ten participants in the control group were hospitalised due to COVID-19, among whom two were assessed as severe, including one fatal case.

More data will continue to accumulate as part of the upcoming primary analysis and further follow-up, refining the efficacy reading and characterising vaccine efficacy over a longer period of time.

The safety data published so far is from over 20,000 participants enrolled across four clinical trials in the UK, Brazil and, in addition, from South Africa (COV005). The Lancet publication confirmed that AZD1222 was well tolerated and that there were no serious safety events confirmed related to the vaccine.

The participants were from diverse racial and geographic groups who are healthy or have stable underlying medical conditions. This analysis provides safety data on 74,434 person-months of follow-up after first dose (median 3.4 months) and 29,097 person-months of follow-up after two doses (median 2.0). The overall reported rates of serious adverse events were 0.7 per cent in the vaccine group and 0.8 per cent in the control group.

Andrew Pollard, Director of the Oxford Vaccine Group and Chief Investigator of the Oxford Vaccine Trial, said "Today, we have published the interim analysis of the Phase III trial and show that this new vaccine has a good safety record and efficacy against the coronavirus. We are hugely grateful to our trial volunteers for working with us over the past eight months to bring us to this milestone."

Pascal Soriot, Chief Executive Officer, said "Today's peer-reviewed publication enables a full disclosure of the Oxford programme interim analysis. The results show that the vaccine is effective against COVID-19, with in particular no severe infections and no hospitalisations in the vaccine group, as well as safe and well tolerated. We have begun submitting data to regulatory authorities around the world for early approval and our global supply chains are up and running, ready to quickly begin delivering hundreds of millions of doses on a global scale at no profit."

Submission of the data to regulatory authorities around the world has already begun, as part of their ongoing rolling reviews of the vaccine data for temporary use or conditional approval during this health crisis. The Company is also seeking Emergency Use Listing from the World Health Organization for an accelerated pathway to vaccine availability in low-income countries.

The Company is also making rapid progress in manufacturing with a capacity of up to 3 billion doses of the vaccine in 2021 on a rolling basis, pending regulatory approval. The vaccine can be stored, transported and handled at normal refrigerated conditions (2-8 degrees Celsius/ 36-46 degrees Fahrenheit) for at least six months and administered within existing healthcare settings.

AstraZeneca continues to engage with governments, multilateral organisations and collaborators around the world to ensure broad and equitable access to the vaccine at no profit for the duration of the pandemic.

Immunotherapy drugs

Study reveals cancer patients receiving immunotherapy drugs have a higher risk of heart problems (New Kerala: 20201210)

<https://www.newkerala.com/news/2020/213123.htm>

A study of over a thousand cancer patients treated with immunotherapy drugs has found these patients are at greater risk of heart problems, including death from a heart attack or stroke

The patients had either lung cancer or malignant melanoma (a type of skin cancer), for which immune checkpoint inhibitors such as a programmed cell death-1 (PD1) inhibitors or cytotoxic T-lymphocyte-associated protein-4 (CTLA-4) inhibitors are used. The study, which is published today (Wednesday) in the European Heart Journal [1], found that the risks of heart problems in patients were higher than shown by previous safety data for these drugs.

The study was led by Dr Maria D'Souza, a medical doctor and postdoctoral research fellow in the Department of Cardiology at Herlev og Gentofte Hospital, Hellerup, Denmark. She and her colleagues found that one year after starting treatment with immune checkpoint inhibitors, nearly 10% of 743 lung cancer patients on PD1 inhibitors (either pembrolizumab or nivolumab) experienced some sort of heart problem, ranging from heart failure, irregular heart beat (arrhythmia), inflammation of the heart (myocarditis or pericarditis) or heart-related death, such as a heart attack.

Among 13,568 patients with malignant melanoma, 145 were treated with PD1 inhibitors and 212 were treated with the CTLA-4 inhibitor ipilimumab. One year after starting treatment, 6.6% and 7.5% respectively experienced a heart problem.

The researchers found that patients treated with immune checkpoint inhibitors had a higher risk of heart problems compared to those who were not being treated in this way. Within six months of starting treatment, patients with lung cancer on PD1 inhibitors had double the risk of heart problems; malignant melanoma patients had a 4.3-fold increased risk if they were being treated with PD1 inhibitors and a nearly five-fold risk if they were receiving the CTLA-4 inhibitor.

After six months, the risk of heart problems increased slightly for lung cancer patients receiving PD1 inhibitors to a 2.3-fold risk. However, the risk was not statistically significant for melanoma patients on PD1, and decreased slightly to a 3.5-fold risk for those receiving the CTLA-4 inhibitor.

The study analysed nationwide information from Danish national registries on 25,573 consecutive patients diagnosed with lung cancer or malignant melanoma between 2011, when immune checkpoint inhibitor treatment was introduced, and 2017.

Dr D'Souza said "We believe this is the first study of this size, based on nationwide data on hospital admissions and drug administrations, to investigate the risk of heart problems in lung and melanoma patients treated with immune checkpoint inhibitors. We have been able to quantify the one-year absolute risks of heart problems in patients with lung cancer treated with PD1 inhibitors and in patients with malignant melanoma treated with either PD1 or CTLA-4 inhibitors. We found that these risks were higher than previously estimated by drug safety studies, which have suggested that around 0.03-1% of people treated with immune checkpoint inhibitors develop myocarditis or pericarditis within one year; our results show that 1.8% will.

"We also found that in comparison to patients who were not receiving immune checkpoint inhibitors, those who were being treated with them were at greater risk of heart problems. Previous studies have shown that most adverse side effects that affect the heart occur early after treatment has started, within the first few weeks or months. However, our results suggest that an increased risk of heart problems continues beyond the initial six months.

"We hope that this information may be useful for making doctors aware that extra attention needs to be given to patients treated with immune checkpoint inhibitors.

"Although these drugs will have been tested rigorously in randomised controlled clinical trials before being approved for clinical use, they may still have an impact on organs, causing both common and very rare side effects. Large scale epidemiological studies like ours may contribute to our knowledge on this with more accurate estimates of how often these side effects occur when the drugs are used for clinical treatment."

The researchers say they need to find out more about the side effects of immune checkpoint inhibitor treatment, and they have launched an observational clinical study of patients receiving these drugs in order to monitor heart function. They hope this may help them to understand and predict which patients will develop serious or, occasionally, life-threatening side effects.

As this was an observational study, based on data from registries, treatment with immune checkpoint inhibitors was not randomised. The researchers took account of factors that could affect their results, such as age, sex and time with cancer; however, they did not have information on whether or not the patients smoked, the cancer stage and other clinical factors that could affect the results. Another limitation was that the study was not able to analyse reliably the risk of blood vessel problems, such as stroke, because these can take longer to develop than the average follow-up time in the study (164-326 days). Nor was it possible to look at the association between heart problems and different intensities of treatment and different combinations of treatments.

In an accompanying editorial [2], Dr Tomas Neilan, director of the cardio-oncology program at Massachusetts General Hospital (Boston, USA), and colleagues write "Perhaps it is time for

a broader description of ICI [immune checkpoint inhibitors]-induced cardiovascular complications to include the term 'ICI-related cardiovascular disease' and this is supported by the important insights presented by D'Souza and colleagues. Immediate steps include increasing our awareness for a broader range of potential cardiac toxicities related to ICI treatment "

"Longer-term steps include broadening collaborations with our oncology and pharmaceutical partners, and expanded clinical research efforts in parallel and based on innovative basic experimental insights. These and other steps are needed to move this forward so we can improve cardiovascular outcomes among our cancer patients treated with an ICI."

Weight Loss Surgery

Exercise may protect bone health after weight loss surgery: Stud (New Kerala: 20201210)

<https://www.newkerala.com/news/2020/213060.htm>

Although weight loss surgery is a highly effective treatment for obesity, it can be detrimental to bone health, say researchers, adding that exercise may help address this shortcoming.

Exercise has been suggested as a therapeutic approach to attenuate bone loss induced by bariatric surgery (BS), but its effectiveness remains unclear.

The study, published in the Journal of Bone and Mineral Research, aimed to determine if an exercise-training programme could induce benefits on bone mass after bariatric surgery.

"These findings showed that a structured exercise programme may be a valid treatment option to minimize weight loss surgery-induced bone loss, which may be particularly important since many patients undergo surgery in early adulthood or even at pediatric ages," said lead author Florencio Diniz-Sousa from the University of Porto in Portugal.

The research team randomised 84 patients undergoing weight loss surgery to an exercise group or a control group for 11 months.

The exercise group performed high impact, balance, and resistance exercises three times per week.

Twelve months after surgery, participants in the exercise group had higher bone mineral density measurements at the lumbar spine and the forearm compared with those in the control group.

Also, participants who attended at least half of the exercise sessions had higher bone mineral density at the femoral neck than those in the control group.

The findings suggest that an exercise programme is an effective strategy to ameliorate bone health in post-bariatric surgery patients.

"As stated in recently released World Health Organization physical activity guidelines, regular exercise should be a priority for everyone, including patients who have undergone weight loss surgery," Diniz-Sousa added.

New method to detect Covid-19

Researchers found new method to detect Covid-19 in less than five minute (New Kerala: 20201210)

<https://www.newkerala.com/news/2020/212649.htm>

The researchers of University of Illinois Grainger College of Engineering claimed to have developed an ultrasensitive test using a paper-based electrochemical sensor which is capable of detecting the presence of the coronavirus in mere five minutes.

As the Covid-19 pandemic continues to spread across the world, the researchers from various laboratories have been coming up with the different strategies that can help to track the virus.

The new study shows the possibility of detecting the virus through a rapid method with the use of a graphene biosensor which is adaptable to other viruses.

A team led by professor Dipanjan Pan reported their findings in ACS Nano which shows that a bioengineering graduate student, Maha Alafeef from the University of Illinois Grainger has co-developed a rapid, ultrasensitive test using a paper-based electrochemical sensor that can detect the presence of the virus in less than five minutes.

"Currently, we are experiencing a once-in-a-century life-changing event. We are responding to this global need from a holistic approach by developing multidisciplinary tools for early detection and diagnosis and treatment for SARS-CoV-2," said Alafeef.

The two broad categories of Covid-19 tests in the market either use reverse transcriptase real-time polymerase chain reaction (RT-PCR) and nucleic acid hybridization strategies to identify viral RNA, or focuses on the detection of antibodies. However, there could be a delay of a few days to a few weeks after a person has been exposed to the virus for them to produce detectable antibodies.

In recent years, researchers have had some success with creating point-of-care biosensors using 2D nanomaterials such as graphene to detect diseases. The main advantages of graphene-based biosensors are their sensitivity, low cost of production and rapid detection turnaround.

"The discovery of graphene opened up a new era of sensor development due to its properties. Graphene exhibits unique mechanical and electrochemical properties that make it ideal for the development of sensitive electrochemical sensors" said Alafeef.

There are two components to this biosensor, according to the study which is a platform to measure an electrical read-out and probes to detect the presence of viral RNA. To create the platform, researchers first coated filter paper with a layer of graphene nanoplatelets to create a conductive film. Then, they placed a gold electrode with a predefined design on top of the graphene as a contact pad for electrical readout. Both gold and graphene have high sensitivity and conductivity which makes this platform ultrasensitive to detect changes in electrical signals.

Current RNA-based Covid-19 tests screen for the presence of the N-gene (nucleocapsid phosphoprotein) on the SARS-CoV-2 virus. In this research, the team designed antisense oligonucleotide (ASOs) probes to target two regions of the N-gene. Targeting two regions ensures the reliability of the sensor in case one region undergoes gene mutation. Furthermore, gold nanoparticles (AuNP) are capped with these single-stranded nucleic acids (ssDNA), which represents an ultra-sensitive sensing probe for the SARS-CoV-2 RNA.

The researchers showed that the hybridization of the viral RNA with these probes causes a change in the sensor electrical response. The AuNP caps accelerate the electron transfer and when broadcasted over the sensing platform, results in an increase in the output signal and indicates the presence of the virus.

The team tested the performance of this sensor by using Covid-19 positive and negative samples. The sensor showed a significant increase in the voltage of positive samples compared to the negative ones and confirmed the presence of viral genetic material in less than five minutes. Furthermore, the sensor was able to differentiate viral RNA loads in these samples. "Viral load is an important quantitative indicator of the progress of infection and a challenge to measure using existing diagnostic methods", stated the researchers.

Not only this, but this platform has far-reaching applications due to its portability and low cost. The sensor, when integrated with microcontrollers and LED screens or with a smartphone via Bluetooth or wifi, could be used at the point-of-care in a doctor's office or even at home.

Coronavirus (Hindustan: 20201210)

https://epaper.livehindustan.com/imageview_502088_87219048_4_1_10-12-2020_4_i_1_sf.html

राजधानी के अस्पतालों में मर्ती कोरोना के गंभीर मरीजों की संख्या में भी एक तिहाई से अधिक की कमी आई

राहत : सक्रिय मरीज दो हफ्ते में 40 फीसदी घटे



नई दिल्ली | वरिष्ठ संवाददाता

राजधानी दिल्ली में पिछले दो सप्ताह में कोरोना के सक्रिय मरीजों की संख्या 40 फीसदी तक कम हो गई है। इसकी वजह से अस्पतालों में भर्ती कोरोना के गंभीर मरीजों की संख्या में भी एक तिहाई से अधिक की कमी आई है।

दिल्ली के स्वास्थ्य विभाग के आंकड़ों के मुताबिक राजधानी में मंगलवार शाम तक कोरोना के कुल 22,310 सक्रिय मरीज रह गए हैं, जबकि इससे दो सप्ताह पहले 23 नवंबर को दिल्ली में कुल 37,329 सक्रिय कोरोना मरीज थे। पिछले 14 दिनों में कोरोना के 15 हजार से भी अधिक सक्रिय मरीज कम हुए हैं। यानी दो सप्ताह में 40.23 फीसदी सक्रिय कोरोना मरीज कम हुए हैं।

अस्पतालों में मरीज भी कम हुए : संक्रमण दर कम होने से अस्पताल में भर्ती कोरोना के सामान्य और गंभीर मरीजों की संख्या प्रायः 42 फीसदी तक कम हो गई है। 23 नवंबर को 9464



कोरोना मरीज दिल्ली के अस्पतालों में भर्ती थे, लेकिन दो सप्ताह बाद अस्पतालों में भर्ती कोरोना मरीजों की संख्या घटकर 5413 रह गई है।

2600 से अधिक गंभीर मरीज भर्ती : राजधानी में कोरोना के गंभीर मरीजों की संख्या भले ही कमी हुई है, लेकिन अस्पतालों में अब भी 2604 कोरोना पीड़ित गंभीर हालत में अक्सिजन सपोर्ट पर आईसीयू और वेंटिलेटर पर इलाज करा रहे हैं। इनमें 1616 आईसीयू में और 988 वेंटिलेटर सपोर्ट पर हैं। अस्पतालों में अब 1934 आईसीयू बेड और 538 वेंटिलेटर बेड खाली हैं।

आईसीयू बेड आरक्षित करने के फैसले की समीक्षा हो : अदालत

नई दिल्ली (प्र.सं.) उच्च न्यायालय ने बुधवार को दिल्ली सरकार से कहा है कि यदि कोरोना मरीजों के लिए आरक्षित 50 फीसदी आईसीयू बेड खाली पड़े हैं तो निजी अस्पतालों में 80 फीसदी आईसीयू बेड आरक्षित रखने के फैसले की तत्काल समीक्षा करने की जरूरत है।

न्यायालय ने कहा है कि जब संक्रमितों के लिए आरक्षित 5089 आईसीयू बेड में से 2360 मंगलवार को खाली थे तो 12 सितंबर के आदेश को जारी रखने का कोई औचित्य नहीं है। इस आदेश में निजी अस्पतालों के 80% आईसीयू बेड कोरोना मरीजों के लिए आरक्षित किया गया था।

जांच बढ़ने और ट्रेंसिंग बेहतर होने से कमी आई
स्वास्थ्य विभाग के मुताबिक जांच बढ़ने और बेहतर कॉन्टैक्ट ट्रेंसिंग के जरिए मरीजों को आइसोलेशन में रखने के कारण संक्रमण दर में कमी आई है। लोकनायक अस्पताल के चिकित्सा अधीक्षक डॉक्टर सुरेश कुमार के मुताबिक, कोरोना संक्रमण को कम करने का सबसे बेहतर उपाय यही है। अब इसका असर दिख रहा है। प्रदूषण और ठंड के सवाल पर उन्होंने कहा कि इसका असर भी दिखाई दे रहा है। प्रदूषण में हल्की कमी से भी मामलों में कमी आई है।

एक नवंबर के बाद सबसे कम मरीजों ने दम तोड़ा

नई दिल्ली | वरिष्ठ संवाददाता

राजधानी दिल्ली में कोरोना से हो रही मौत के आंकड़ों में बुधवार को कमी आई है। बुधवार को दिल्ली में कुल 50 कोरोना पीड़ितों की मौत हुई है। दिल्ली में 1 नवंबर के बाद बुधवार को सबसे कम मरीजों ने कोरोना के कारण दम तोड़ा। हालांकि बावजूद इसके पिछले दस दिनों में कोरोना से मृत्युदर 2.27 फीसदी रही स्वास्थ्य विभाग के अनुसार बुधवार को आए 2463 नए मामलों की पुष्टि हुई है। नए मरीजों के साथ दिल्ली में कोरोना के कुल मामले बढ़कर 5,99,575 हो गए हैं। इनमें से बुधवार को 4177 मरीजों को छुट्टी दी गई जबकि 50 मरीजों ने कोरोना के कारण दम तोड़ दिया। दिल्ली में अभी तक 569216 मरीज कोरोना से ठीक हो चुके हैं, जबकि 9813 मरीजों ने कोरोना के कारण दम तोड़ दिया। दिल्ली में कोरोना से अभी तक की मृत्युदर 1.64 फीसदी है। विभाग के अनुसार दिल्ली में कोरोना के 20546 सक्रिय

3.52 रही संक्रमण दर

दिल्ली के स्वास्थ्य मंत्री सत्येंद्र जैन का कहना है बुधवार को दिल्ली में कोरोना संक्रमण दर 3.42 फीसदी रही। पिछले 8 दिनों से दिल्ली में कोरोना से संक्रमण दर 5 फीसदी से कम है। दिल्ली में आरटीपीसीआर तरीके से बुधवार को 6.46 फीसदी संक्रमित पाए गए। पिछले 8 दिनों से यह संक्रमण दर 10 फीसदी से कम है। वहीं 12 दिनों से दिल्ली में 5000 से कम मामले सामने आ रहे हैं।

मरीज हैं। इनमें से दिल्ली के अस्पतालों में कुल 5417 मरीज भर्ती हैं। वहीं कोविड केयर 364 और कोविड मैडिकल सेंटर में 116 मरीज हैं। होम आइसोलेशन में सबसे अधिक 12186 मरीज हैं। बिहारत मिशन के तहत आए 263 मरीज भी आइसोलेशन में हैं। दिल्ली में मंगलवार को आरटीपीसीआर से 32976 व रैपिड प्वाइज 39103 टेस्ट हुए। दिल्ली में अब तक 6941407 टेस्ट हुए हैं।