ICMR issues guidance - diabetics

150% rise in diabetics in 3 decades, ICMR issues guidance
Asks patients to restrict daily carbs to 50-55% of total calories (The Tribune: 20220607)


With India witnessing 150 per cent increase in the number of diabetics over three decades, the Indian Council of Medical Research (ICMR) on Monday issued guidance on type 1 diabetes, which principally affects children and adolescents.

Incidence of type 1

4.9 cases/1,00,000 per year

3%, 5% and 8% risk when mother, father and sibling, respectively, have the disease

Differences between conditions

Type 1: The body’s immune system mistakenly targets its pancreatic tissues, interrupting insulin production and leading to high blood sugar. It is not caused due to lifestyle issues and does not go away on its own. Previously called juvenile diabetes, it requires lifelong management
Type 2: It is the most common form of diabetes. The body’s cells are unable to use insulin properly leading to high blood sugar and diabetes. This is caused by factors, including genetics and lifestyle and is easier to manage

The guidance comes at a time when the SARS-CoV-2 pandemic has disproportionately affected people with diabetes, exposing them to a high risk for severe illness and mortality. Globally, diabetes caused over four million deaths in 2019 and was the leading cause of end-stage kidney disease, adult-onset blindness and cardiovascular diseases.
“India houses the world’s second largest adult diabetes population and every sixth person with diabetes in the world is an Indian. The past three decades have witnessed a 150 per cent increase in the number of people with diabetes in India. The growing prevalence of pre-diabetes indicates a further increase in diabetes in the near future,” ICMR DG Balram Bhargava said, adding diabetes was now traversing from high to the middle income and underprivileged sections.

ICMR experts say a matter of immense concern is the progressive lowering of age at which type 2 diabetes is happening in 25–34 year olds.

Estimates from the International Diabetes Federation suggest that over one million children and adolescents in the world have type 1 diabetes and India has the highest number of incident and prevalent cases of type 1 diabetes in the world.

That explains the guidance, which covers a range of issues, including diet and exercise plans and available insulin regimens for affected patients.

All children and adults with type 1 diabetes (T1DM) require insulin as soon as they are diagnosed and continuously thereafter throughout life.

**WHO**

**780 cases of monkeypox reported or identified as of June 2: WHO**

Preliminary data from polymerase chain reaction assays indicates that virus strains detected in Europe and other non-endemic areas belong to West African clade *(The Tribune: 20220607)*


780 cases of monkeypox reported or identified as of June 2: WHO

While the West African clade of the virus has been identified from samples of cases so far, most confirmed cases with travel history reported travel to countries in Europe and North America, rather than West or Central Africa where the monkeypox virus is endemic. AP/PTI file

A total of 780 laboratory-confirmed cases of monkeypox have been reported or identified since May 13 and as of June 2 from 27 countries across four WHO regions that are not endemic for the monkeypox virus, the World Health Organisation has said.

The UN’s health agency said that while epidemiological investigations are ongoing, most reported cases so far have been presented through sexual health or other health services in primary or secondary health care facilities and have involved mainly, but not exclusively, men who have sex with men (MSM).
While the West African clade of the virus has been identified from samples of cases so far, most confirmed cases with travel history reported travel to countries in Europe and North America, rather than West or Central Africa where the monkeypox virus is endemic.

“The confirmation of monkeypox in persons who have not travelled to an endemic area is atypical, and even one case of monkeypox in a non-endemic country is considered an outbreak. While most cases are not associated with travel from endemic areas, Member States are also reporting small numbers of cases in travellers from Nigeria, as has been observed before,” it said on Sunday.

Monkeypox endemic countries are Cameroon, the Central African Republic, the Democratic Republic of the Congo, Gabon, Ghana (identified in animals only), Cote d’Ivoire, Liberia, Nigeria, the Republic of the Congo, and Sierra Leone. Benin and South Sudan have documented importations in the past. Countries currently reporting cases of the West African clade are Cameroon and Nigeria, the WHO said.

The sudden and unexpected appearance of monkeypox simultaneously in several non-endemic countries suggests that there might have been undetected transmission for some unknown duration of time followed by recent amplifier events.

WHO assesses the risk at the global level as moderate considering this is the first time that many monkeypox cases and clusters are reported concurrently in non-endemic and endemic countries in widely disparate WHO geographical areas.

WHO said it continues to receive updates on the situation in endemic countries. As of June 2, 780 laboratory-confirmed cases have been notified to WHO under the International Health Regulations (IHR) or identified by WHO from official public sources in 27 non-endemic countries in four WHO Regions. This represents an increase of 523 laboratory-confirmed cases (+203%) since the Disease Outbreak News of 29 May, when a total of 257 cases were reported.

As of June 2, there have been no deaths associated with the current monkeypox outbreak in non-endemic countries, however, cases and deaths continue to be reported from endemic countries.

While investigations are ongoing, preliminary data from polymerase chain reaction (PCR) assays indicate that the monkeypox virus strains detected in Europe and other non-endemic areas belong to the West African clade.

The majority of cases were reported from the WHO European Region (20 Countries). Confirmed cases have also been reported from the Region of the Americas, Eastern Mediterranean Region and Western Pacific Region.

In addition to the cases reported from or identified in non-endemic countries, WHO continues to receive updates on the status of ongoing monkeypox outbreaks in endemic countries in the African region through established surveillance mechanisms (Integrated Disease Surveillance and Response). From January to June 1, 2022, 1408 suspected and 44 confirmed cases including 66 deaths were reported from seven endemic countries.

WHO said it continues to support sharing of information about this outbreak of monkeypox. Clinical and public health incident response has been activated at WHO and in many Member
States to coordinate comprehensive case findings, contact tracing, laboratory investigation, clinical management, isolation, and implementation of infection and prevention and control measures.

**Breast cancer drug**

**Breast cancer drug could help more patients: Researchers**
In the new study, the drug lengthened the time patients lived without their cancer progressing and improved survival compared with patients given standard chemotherapy (The Tribune: 20220607)


For the first time, a drug targeting a protein that drives breast cancer growth has been shown to work against tumours with very low levels of the protein.

It’s not a cure. But this latest gain for targeted cancer therapy could open new treatment possibilities to thousands of patients with advanced breast cancer.

Until now, breast cancers have been categorized as either HER2-positive — the cancer cells have more of the protein than normal — or HER2-negative. Doctors reporting the advance Sunday said it will make “HER2-low” a new category for guiding breast cancer treatment.

About half of patients with late-stage breast cancer formerly categorized as HER2-negative may actually be HER2-low and eligible for the drug.

The drug is Enhertu, an antibody-chemotherapy combo given by IV. It finds and blocks the HER2 protein on cancer cells, while also unloading a powerful cancer-killing chemical inside those cells. It belongs to a relatively new class of drugs called antibody-drug conjugates.

The drug was already approved for HER2-positive breast cancer, and in April the Food and Drug Administration granted it breakthrough status for this new group of patients.

In the new study, the drug lengthened the time patients lived without their cancer progressing and improved survival compared with patients given standard chemotherapy.

The study compared Enhertu to standard chemo in about 500 patients with HER2-low breast cancer that had spread or could not be treated with surgery. The drug stopped the progress of
cancer for about 10 months compared with about 5 ½ months in the group getting regular care. The drug improved survival by about six months (from 17.5 months to 23.9 months).

“It’s a practice-changing study,” said Dr. Sylvia Adams, who directs breast cancer care at NYU Langone Health and enrolled several patients in the study. “It addresses a major unmet need for patients who have metastatic breast cancer.” Now, it will be important to define the HER2 gray area to make sure the right patients receive the treatment and then to monitor them closely, experts said.

The drug, which costs about USD 14,000 a month, can have severe complications.

Three patients in the study died of a lung disease that’s a known hazard of the drug. Doctors need to make sure patients report breathing problems right away so the drug can be stopped and patients treated with steroids.

The findings were featured Sunday at the annual meeting of the American Society of Clinical Oncology in Chicago and published by the New England Journal of Medicine. Funding for the study came from Tokyo-based Daiichi Sankyo and UK-based AstraZeneca, which jointly developed the drug.

Patients take the drug until they can no longer tolerate it.

“A lot of people, including a lot of patients, will not have heard of HER2-low breast cancer before,” said the study’s lead author, Dr. Shanu Modi of Memorial Sloan Kettering Cancer Center in New York.

“We finally have a HER2-targeted drug that for the first time can target that low level of HER2 expression,” Modi said. “This drug actually helps to define HER2-low breast cancer. It makes it, for the first time, a targetable population.” AP

Food and Nutrition (The Asian Age: 20220607)

A rainbow on my plate

Pride Month has found an echo in diets and menus. Chefs talk about the aesthetic and health aspects of this colourful trend

NIVI SHRIVASTAVA

I

ey Pride Month and to celebrate the spirit of LGBTQIA, many interesting activities have been planned up. The rainbow flag that represents the community is usually reflected in creative ways in food, fashion, and pop culture. This season, a rainbow-inspired diet is gaining steam. Different chefs and food experts explain the mass appeal of this trend and why they are choosing to slay it with rainbow platters.

A rainbow diet includes foods of many colours — represented by different kinds of fruits, vegetables, and meats, explains Chef Bhumish Tyagi of Papaya. Fruits and vegetables of varied hues are not only good for health but have specific antioxidants that prevent diseases. Speaking of the conscious use of colours in the menu, he says, “We serve rainbow sushi maki rolls, both veg and non-veg. The veg variety contains avocado, asparagus, beetroot, cucumber, carrots, and bell pepper, while the non-veg rolls are made using prawns, salmon, tuna, and avocado.

The delightful combination of colours and flavours makes them very popular. And we often use beetroot, wasabi, red, green, and yellow bell peppers in the platter to add more colour to the platter”.

Dish Chef Executive Chef at Olivo Delhi, is focused on rainbow shades this summer. He has created a special dish inspired by this theme, and calls it the Rainbow Roll. It’s made of a Kerala vanilla bean-infused Genoa sauce and served with phalous (a fruit found predominantly in Varannasi) dipped in cream. To celebrate the spirit of Pride Month, he will be serving “Pride in the Cloud” to our guests. And for the upcoming full menu, we have used some colourful ingredients like honeydew and cantaloupe. We have a Pulihara rice salad with butterfly pea flower feta whip and a rose dressing and hibiscus marmalade to make the menu more colourful and bright.”

ALL FOR COLOURS

Food without colours can look boring, and colourful ingredients are also rich in vitamins and antioxidants, stresses Chef Nishant Chouhey, founder of Street Storys, Bangalore. He says, “The Rainbow food trend is popular among foodies because of its appeal, visual appeal and health benefits. In our menu, we use edible reductions

AS SUMMER IS A SEASON OF COLOURFUL FRUITS AND VEGETABLES, THIS IS A GOOD TIME TO EXPERIMENT BY MIXING THEM ON A COMMON PLATTER. RAINBOW FOOD IS A CYCLIC FOOD FAD, AND HAS PAVED THE WAY FOR EARTHLY AND NATURAL FOOD PREPARATIONS HIGH ON NUTRITION, FLAVOUR AND REFRESHING AROMA.”

RAINBOW FLAG THAT REPRESENTS THE COMMUNITY IS USUALLY REFLECTED IN CREATIVE WAYS IN FOOD, FASHION, AND POP CULTURE. THIS SEASON, A RAINBOW INSPIRED DIET IS GAINING STEAM.

from vegetables, fruits, and naturally colourful ingredients like beetroot, mesclun flowers, and blue pea rice. This year, the blue pea flower is very popular and we do some very interesting things to set the table with it. As soon as we add lemon to the food or beverage with blue pea extract, it turns purple, so dishes and cocktails using that are hit on Instagram.”

Supporting the idea of Pride Month and sharing the love for the community, Chitrangada Gupta, co-founder at Roji’s Kitchen, says, “There is so much that you can do with food and colours. We have some colourful dishes called the “Sadako Menno” and “Sadako Wai Wai” which bring out a burst of flavours and look very pretty. We mix raw Wai Wai with red and yellow bell peppers along with coriander and spring onions — it is one of our best-sellers.

SEASONAL LOVE

As summer is a season of colourful fruits and vegetables, this is a good time to experiment by mixing them on a common platter. Rainbow food is a cyclic food fad, and has paved the way for earthy and natural food preparations high on nutrition, flavour and refreshing aroma.”

“We try to keep to natural colours as much as possible and don’t use excessive spices or gravies. We source regional and organic ingredients to present the colourful food platters.”
Highly contagious norovirus

Two cases of the highly contagious norovirus confirmed in Kerala: Know how it is different from coronavirus
According to ministry officials, prima facie it is believed that students got food poisoning after consuming the mid-day meals served at school (The Indian Express:20220607)


norovirusNorovirus spreads through contaminated water and food (Source: Getty Images/Thinkstock)
The Kerala government has confirmed two cases of norovirus infection in two primary school students. According to the state health department, the virus, which is similar to the diarrheainducing rotavirus, spreads through contaminated water and food.

According to ministry officials, it is believed students got food poisoning after consuming the mid-day meals served at school.

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Here’s everything to know about the infection

Dr Manoj Sharma, senior consultant, Internal Medicine, Fortis Hospital Vasant Kunj said that norovirus is a “highly contagious” virus that causes gastroenteritis — nausea, vomiting, and diarrhea. “The mode of transmission is through the fecal-oral route, which means one can get infected if they come in contact with contaminated food, water, or even fecal matter, said Dr Sharma.

A person usually develops symptoms 12 to 48 hours after being exposed to Norovirus.

Experts say it can also spread in the absence of adequate hand hygiene.

Treatment

With viral gastroenteritis, the treatment is primarily symptomatic and supportive. “So, antibiotics do not play any role. It is mainly about maintaining hydration — having ORS. Viral gastroenteritis tends to last for five to six days or maybe longer. The key is to prevent dehydration,” said Dr Sharma.

Prevention
People should drink plenty of liquids to replace fluid lost from vomiting and diarrhea thus preventing dehydration. Severe dehydration may require management in the hospital, said Dr Trupti Gilada, infectious disease specialist, Masina Hospital.

Like many infectious diseases, hand hygiene is the pillar of Norovirus prevention. Washing hands thoroughly with soap and water after using the toilet and before eating, preparing, or handling food or medicines, added the expert.

Also Read | Keep those germs away: Six easy steps to hand hygiene
How are norovirus and coronavirus different?

While Covid is transmitted via air, norovirus is transmitted the orofecal way. “The virus has to be ingested for one to be infected by it. While maintaining hand hygiene is crucial in both cases, masking is mainly for Covid. That is because the route of transmission is different in each case,” Dr Sharma explained.

Is it a cause of worry?

Most people with norovirus illness get better within 1 to 3 days and the mortality rate is very low, Dr Gilada added.

Healthy lifestyle

Healthy lifestyle: How you can bring your circadian rhythm back on track

Circadian rhythm tells your body when to get up and get out of bed, sleep, eat and even ovulate, says nutritionist Bhakti Kapoor (The Indian Express:20220607)

https://indianexpress.com/article/lifestyle/health/healthy-lifestyle-circadian-rhythm-on-track-internal-clock-health-7950398/

circadian rhythm, what is circadian rhythm, maintaining circadian rhythm, what you can do for circadian rhythm, healthy circadian rhythm, biological clock, internal clock, indian express news
Some people have an unhealthy circadian rhythm born of poor habits or biological differences, says an expert. (Photo: Getty/Thinkstock)
Owing to stressful lives, long working hours and the need to feel gratified by technology, we end up spending a big chunk of our sleeping time staring at screens, resulting in reduced sleep and an overall unhealthy life.

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In the long run, it can become a stressor and cause many health issues like hormonal imbalance, mood swings, fatigue, heart issues, among others.
Nutritionist Bhakti Kapoor explains in an Instagram post that all of us have a “biological clock” that is “able to adjust our biological rhythm to our environment”. This is the circadian rhythm, and some people mess up the clock by “staying up late, working on computers or smartphones, rarely getting outdoors or exercising, eating processed foods, going on drinking or food binges in the late-night hours, and drinking large volumes of caffeine to stay awake”.

“Some people have an unhealthy circadian rhythm born of poor habits or biological differences. Changing your biological clock for the benefit of your health may take time and perseverance, but you can easily do it,” Kapoor writes in the caption.

She states that circadian rhythm tells your body when to get up and get out of bed, sleep, eat and even ovulate. According to her, ways to optimise the internal clock for better health include:

* Getting sunlight exposure on a daily basis.
* Maintaining proper sleep hygiene.
* Dealing with stress in a positive way, such as by meditation, breathwork, mindful walks in nature and exercising.
* Eating at regular intervals.

**Covid-19 vaccine**

**Covid-19 vaccine misinformation still fuels fears surrounding pregnancy, a new study finds**

The misinformation is so pervasive that it has even sown doubts in segments of the population that generally believe in the coronavirus vaccines’ safety for adults, including Democratic voters and people who have been fully vaccinated. (The Indian Express:20220607)


Experts say that widespread doubts about the safety of coronavirus vaccines for pregnant women are baseless. (Credit: Kenny Holston for The New York Times)

Written by Adeel Hassan

A steady bombardment of coronavirus misinformation during the pandemic has left nearly one-third of American women who are pregnant or who plan to become pregnant believing at least one falsehood about coronavirus vaccinations and pregnancy, according to a new study. A higher share were unsure whether to believe the myths.
The research, conducted in May by the Kaiser Family Foundation, considered three widespread false statements about the vaccines and concluded that about 6 in 10 US adults, as well as 7 in 10 women who are pregnant or planning to become pregnant, either believed or were unsure about at least one of the false statements.

Also Read | Six ways to prepare for pregnancy after miscarriage

The study’s findings were published last week and based on polling of more than 1,500 American adults, including 900 women, in English and Spanish. More than 600 women ages 18-49 participated. Its conclusions were in line with other experts’ expectations.

“Pregnancy is a time where a lot of women are seeking information on a variety of pregnancy-related topics, but many pregnancy forums are filled with misinformation,” said Tara Kirk Sell, a senior scholar at the Johns Hopkins Center for Health Security, who was not involved in the study. She said she had done similar online searches before her first pregnancy.

One reason misinformation about the vaccines and pregnancy may have gained so much traction, experts say, is that the earliest clinical trials of the coronavirus vaccines excluded pregnant women. (Source: Pixabay)

The misinformation is so pervasive that it has even sown doubts in segments of the population that generally believe in the coronavirus vaccines’ safety for adults, including Democratic voters and people who have been fully vaccinated. Fewer than half of these survey respondents in those groups told Kaiser’s pollsters that they were “very confident” that immunisation was safe for pregnant women, despite long-running campaigns by health officials across the country to reassure the population that they are.

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The three false statements used in the Kaiser survey were:

— “Pregnant women should not get the Covid-19 vaccine.”

— “It is unsafe for women who are breastfeeding to get a Covid-19 vaccine.”

— “The Covid-19 vaccines have been shown to cause infertility.”

“There are certain things that increase perception of risks,” Sell said. “One of these is risks to future generations. So rumours related to pregnancy are particularly gripping.

Also Read | How air pollution causes cancer

“I’ve personally seen friends and family members just say that in a situation where they are already struggling or high-risk, they don’t want to do anything that might tip the scale in a negative way.”
Health experts, including the Centres for Disease Control and Prevention, recommend that pregnant women get vaccinated against the coronavirus as soon as possible, to protect both maternal and foetal health. Scientists have found that it is safe for breastfeeding women to get immunised. And there is no evidence that vaccine doses cause infertility.

Other studies show that pregnant women who develop Covid-19 face a higher risk of needing intensive care or mechanical ventilation. And despite the relative youth of pregnant women, they face a higher risk of dying.

About 30% of pregnant women in the United States remain unvaccinated, according to estimates from the CDC.

“"We know pregnant individuals are at an increased risk when it comes to Covid-19, but they absolutely should not and do not have to die from it,” said Dr. Christopher Zahn, chief of clinical practice and health equity and quality at the American College of Obstetricians and Gynaecologists.

Kaiser researchers found that among women who were pregnant or planning to become pregnant: 60% believed that pregnant women should not get the vaccine, or were unsure if this was true; and about the same number believed, or were unsure, whether the vaccines had been shown to cause infertility. Although only 16% said they believed the false infertility claim outright, another 44% said they were unsure if it were true.

Torrents of misinformation during the pandemic have repeatedly disrupted public health campaigns. Previous spikes in falsehoods spread doubts about vaccines, masks and the severity of the virus, and undermined best practices for controlling the spread of the coronavirus, health experts said, noting that misinformation was a key factor in vaccine hesitancy. US Surgeon General Dr. Vivek Murthy has demanded information from tech companies about the major sources of Covid-19 misinformation.

One reason misinformation about the vaccines and pregnancy may have gained so much traction, experts say, is that the earliest clinical trials of the coronavirus vaccines excluded pregnant women. The lack of trial data led the CDC and World Health Organisation to initially give different recommendations to pregnant women, although neither explicitly forbade, nor encouraged, immunising pregnant women. Other health organisations chose to wait for more safety data from later trials before making an official recommendation for pregnant women to get vaccinated.

“"Unfortunately, in the interim, the information gap was filled with a lot of misinformation, particularly on social media, and that has been an uphill battle to combat,” Zahn said. “While we have made a lot of progress with uptake among pregnant individuals in the last year, there was also a lot of time lost.”

Researchers have pointed for years to the proliferation of anti-vaccine misinformation on social networks as a factor in vaccine hesitancy and in the lower rates of Covid-19 vaccine adoption in more conservative states.
“At the root of this problem is trust, or really, it’s a lack of trust,” Sell said. “Trusted doctors need to help support women in understanding the importance of vaccination against Covid as well as its safety. But when people don’t have trust in authorities, no provider to go to, or generally don’t feel like they have a place to get good information, this misinformation can fill that void.”

ICMR:

**ICMR: India fully prepared to deal with nose-bleed fever virus**

Considering that the Crimean Congo Haemorrhagic Fever (CCHF) has been detected here in the past and Iraq is reporting a jump in cases and deaths, the ICMR is geared up, having developed a surveillance protocol over the last decade, Dr Samiran Panda, Addl DG, ICMR, tells Anuradha Mascarenhas (The Indian Express:20220607)


Why should a recent outbreak of a nosebleed-causing fever in Iraq worry us back in India? That’s because the Crimean Congo Haemorrhagic Fever (CCHF) has claimed 19 lives, according to the WHO, and it has been detected here in the past.

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While India has been considered a hotspot for many emerging and re-emerging infectious diseases, Dr Samiran Panda, additional Director-General, Indian Council of Medical Research (ICMR), told The Indian Express that the Government was fully prepared to deal with any possible outbreak. The Pune-based Indian Council of Medical Research and the National Institute of Virology (ICMR-NIV) have done extensive research and surveillance in humans, animals and ticks to understand the disease burden and transmission dynamics, he added.

**HOW IS INDIA PREPARED**

h, owing to its wide distribution and infectivity, can lead to high mortality rates. “Since 2011, the laboratory screening of CCHF for humans, animals and ticks has been under way. A state-of-the-art containment BSL-4 facility of ICMR at Pune in 2012 made it possible to quickly develop indigenous serological assays for diagnosis of IgM and IgG for humans and IgG for the livestock. These indigenous technologies not only helped in timely diagnosis of suspected CCHF cases but also in surveillance of CCHF in human, livestock and ticks in the country,” senior ICMR scientists said.

**WHAT IS THE VIRUS BEHAVIOUR?**
CCHF was first identified in 1944 in the West Crimean region of the former Soviet Union. The virus was subsequently isolated in 1956 from a human carrier. It is a member of the genus, Orthonairovirus, family Nairoviridae. The average case-fatality rate is 30–50 per cent. This varies between 5 per cent and 80 per cent in various outbreaks. Humans contract it through infected tick bites or by coming into contact with infected blood or animal carcasses. The secondary infection in humans is due to close contact with secretions of the CCHF-infected patient, including blood, vomit, stool, urine and fluids.

The incubation period is short (3–14 days). The pre-haemorrhagic period is characterised by the sudden onset of fever, headache, myalgia, dizziness and further symptoms of pain in abdomen, diarrhoea, nausea and vomiting.

**Surrogacy Act**

**The debates around the Surrogacy Act (The Hindu:20220607)**


What are the various provisions under the Act which dictate who can commission a surrogacy? Are the laws too restrictive?

The story so far: Petitioners in the Delhi High Court questioned why marital status, age, or gender were the criteria for being allowed to commission or not commission surrogacy in India. The female petitioner said that she already had a child but the trauma of the first childbirth experience and her need to juggle work with child care persuaded her that surrogacy would be a better option for the second child. But under the provisions of the Surrogacy Act, she was denied a chance at commissioning surrogacy.

As per the Surrogacy Act that kicked in from January this year, a married couple can opt for surrogacy only on medical grounds. The law defines a couple as a

**COVID-19**

‘To say that it’s all over with COVID-19 would be premature right now’
(The Hindu:20220607)

Monkeypox is not causing a pandemic; we have to watch and be prepared: Priya Abraham, Director, ICMR-NIV

Priya Abraham, Director, Indian Council of Medical Research (ICMR)-National Institute of Virology (NIV), Pune, in an interview with The Hindu’s Bindu Shajan Perappadan, while warning that it’s premature to say COVID-19 is over, assures that the country is prepared to face monkeypox. Dr. Abraham explains that with human beings pushing into wildernesses and coming into closer contact with animals, the chances of pathogens spilling over from animals to humans become more likely.

India has lowered its guard against COVID-19 as far as travel restrictions, opening up of the economy, and mandatory testing is concerned. What then is the current danger with pockets around the world still in COVID’s red zone? Also, does India need to worry about monkeypox? India has been in a fairly good space over the past few months as far as the COVID pandemic is concerned. We have a large section of the society that’s double vaccinated, there is fair amount of immunity following natural immunity, and Omicron doesn’t seem to be registering the large number of fatalities that was seen with the previous COVID variants. Vaccines are certainly preventing serious disease, hospitalisation, and death.

But to say that it’s all over would be premature right now. We are seeing now an uptick in cases in Mumbai over the last few days. We don’t know how this virus will behave in the coming months and how or when a virulent variant may appear.

India’s laboratory strength has been scaled-up during this pandemic and currently we have more trained staff and the required equipment to perform tests. The surveillance network in the country has been reinforced and is fairly robust, and on the medical side, doctors (both in the government and private sector) have seen the benefits of recognising and registering any worrying trends promptly.

As for monkeypox, we know that it spreads through large droplets, close contact, etc. Monkeypox is not causing a pandemic. However, as of June 1, over 500 cases have been reported across 26 countries. We have to watch and be prepared. The Ministry of Health and Family Welfare has published guidelines for the management of monkeypox.

Also, during the COVID-19 pandemic, India has become broadly prepared in terms of laboratory strength, training and diagnostic equipment. Monkeypox is to be treated as a biosafety risk level 3 pathogen. Therefore, it will be handled only in a high containment laboratory. ICMR-NIV is that only laboratory that will be testing suspected cases. As part of quality control, testing will be done in parallel in two separate laboratories at the institute initially, before the presence of monkeypox in the country can be declared.

Speed and accuracy are both vital when dealing with any disease. Monkeypox seems to be less transmissible and the currently circulating clade of the virus is associated with much lower fatality, yet we are prepared. Our lab will also be doing whole genome sequencing of the positive cases.
How good are repeated booster COVID-19 vaccine doses and mixed doses against the SARS-CoV-2 virus?
There is no evidence to show, as of now, that repeated booster doses [fourth and fifth doses] would help an individual. There are, however, countries where this trend is prevalent but India, so far, has not recommended this.

Is India or the world prepared for another COVID-like outbreak given that human-wildlife interface is becoming far more common and closer than ever before, and we are living in a state of climatic changes?
A change in global temperature by even one degree has far-reaching changes in terms of animal-human interface and the environment. With human beings pushing into forest spaces and coming closer in contact with animals, the chances of animal-to-human spillover becomes more likely.

We have to treat our environment and our natural resources with respect and care. The pandemic has taught us that animal to human spillover [of pathogens] is possible and that it can cause devastation that is unprecedented.

India is now working towards setting up a One Health Centre in Nagpur, which should be ready in about two years time. This centre is primarily focused on a holistic approach towards detecting infections, where veterinary and medical scientists will work alongside each other to understand, anticipate and, in the long run, prevent zoonotic spillovers.

One Health is an approach calling for the collaborative efforts of multiple disciplines working locally, nationally and globally, to attain optimal health for people, animals, and our environment.

Have we been able to pin-point the specific cause or reason for the COVID-19 outbreak? What is the ‘most likely’ theory that the scientific community says is emerging?
There is no black-and-white answer as to how COVID-19 came about. International experts have looked into the possible sources and the more plausible theory is the spillover from the Huanan live animal and seafood market in Wuhan city. Now, more than ever before, we understand the risks of zoonotic spill overs. We have developed systems and a better awareness after COVID-19….now is the time to build on this foundation to keep up the momentum. We have to ensure that we stay alert and prepared and that is really the way forward.

**Miniproteins**

**IIISC scientists develop miniproteins that may prevent COVID infection** *(The Hindu:20220607)*

The miniproteins can not only block entry of viruses like SARS-CoV-2 into our cells but also clump virus particles together, reducing their ability to infect.

Researchers at the Indian Institute of Science (IISc) Bangalore have designed a new class of artificial peptides or miniproteins that they say can render viruses like SARS-CoV-2 inactive.

According to the study, published in the journal Nature Chemical Biology, the miniproteins can not only block virus entry into our cells but also clump virus particles together, reducing their ability to infect.

The researchers noted that a protein-protein interaction is often like that of a lock and a key.

This interaction can be hampered by a lab-made miniprotein that mimics, competes with, and prevents the 'key' from binding to the 'lock', or vice versa, they said.

IISc scientists report miniproteins that can fight COVID-19

Preventing entry

The team used this approach to design miniproteins that can bind to, and block the spike protein on the surface of the SARS-CoV-2 virus, which helps it to enter and infect the human cells.

This binding was further characterised extensively by cryo-electron microscopy (cryo-EM) and other biophysical methods.

These miniproteins are helical, hairpin-shaped peptides, each capable of pairing up with another of its kind, forming what is known as a dimer. Each dimeric ‘bundle’ presents two ‘faces’ to interact with two target molecules.

The researchers hypothesised that the two faces would bind to two separate target proteins locking all four in a complex and blocking the targets’ action.

"But we needed proof of principle," said Jayanta Chatterjee, Associate Professor in the Molecular Biophysics Unit (MBU), IISc, and the lead author of the study.

Targeting SARS-CoV-2 spike protein interaction

The team decided to test their hypothesis by using one of the miniproteins called SIH-5 to target the interaction between the spike protein of SARS-CoV-2 and ACE2 protein in human cells.

The spike protein is a complex of three identical polypeptides, each of which contains a Receptor Binding Domain (RBD) that binds to the ACE2 receptor on the host cell surface, facilitating viral entry into the cell.

The SIH-5 miniprotein was designed to block the binding of the RBD to human ACE2.
When a SIH-5 dimer encountered an S protein, one of its faces bound tightly to one of the three RBDs on the S protein trimer, and the other face bound to an RBD from a different S protein.

This ‘cross-linking’ allowed the miniprotein to block both S proteins at the same time.

"Several monomers can block their targets. (But) cross-linking of S proteins blocks their action many times more effectively," said Chatterjee.

Under cryo-EM, the S proteins targeted by SIH-5 appeared to be attached head-to-head, the researchers said.

“We expected to see a complex of one spike trimer with SIH-5 peptides. But I saw a structure that was much more elongated,” said Somnath Dutta, Assistant Professor at MBU and one of the corresponding authors of the study.

Effective miniprotein
Dutta and others realised that the spike proteins were being forced to form dimers and clumped into complexes with the miniprotein.

This type of clumping can simultaneously inactivate multiple spike proteins of the same virus and even multiple virus particles.

The miniprotein was also found to be stable for months at room temperature without deteriorating.

Tested for toxicity
To test if SIH-5 would be useful for preventing COVID-19 infection, the team first tested the miniprotein for toxicity in mammalian cells in the lab and found it to be safe.

Next, in experiments carried out in the lab of Raghavan Varadarajan, Professor at MBU, hamsters were dosed with the miniprotein, followed by exposure to SARS-CoV-2.

These animals showed no weight loss and had greatly decreased viral load as well as much less cell damage in the lungs, compared to hamsters exposed only to the virus.

The researchers noted that with minor modifications and peptide engineering, this lab-made miniprotein could inhibit other protein-protein interactions as well.

Health Ministry guidelines on monkeypox

Explained | What are the Health Ministry guidelines on monkeypox? (The Hindu:20220607)
https://www.thehindu.com/sci-tech/health/explained-what-are-the-health-ministry-guidelines-on-monkeypox/article65493818.ece

Why is India on alert? What are the likely origins, symptoms and modes of transmission? The story so far: India’s Health Ministry has issued guidelines on the management of monkeypox disease. So far, no cases of the virus have been confirmed in India but reports of the virus’ spread in non-endemic countries have led to guidelines being issued.

Precaution dose’ of COVID-19 vaccine

Explained | Why India administers ‘precaution dose’ of COVID-19 vaccine, and not ‘booster dose’ (The Hindu:20220607)


A medical staff member seen showing Corbevax vaccine during covid 19 vaccination drive in progress at a centre in Daryaganj , in New Delhi. | Photo Credit: SUSHIL KUMAR VERMA

As India gears up to administer ‘precaution doses’ of COVID-19 vaccine to eligible population above 18 years from Sunday, the debate over ‘booster’ vs ‘precaution’ doses has arisen. On December 25, Prime Minister Narendra Modi announced that healthcare, frontline workers and those who are above 60 years and have comorbidities will be eligible for a ‘precaution dose’ from January 21. The use of ‘precaution’ doses had arisen as the question is to why Centre had not termed it ‘booster’ doses as is the global norm.

What are India’s ‘precautionary doses’?
As per Ministry of Health and Family Welfare (MoHFW)’s guidelines, beneficiaries above 18 years who have received two doses, are eligible to receive another dose of COVID-19 vaccine. The prioritisation and sequencing of this precaution dose would be based on the completion of 9 months, or 39 weeks, from the date of administration of the second dose. Co-WIN system will send SMS to such beneficiaries for availing the precaution dose when the dose becomes due.

The details of administration of the precaution dose will be suitably reflected in the vaccination certificates. Private vaccination centres can charge up to a maximum of Rs 150 as service charge for vaccination, over and above the cost of the vaccine. Precaution dose will be of same vaccine which has been used for administration of first and second dose.

ICMR on ‘booster doses’
Technically, the ‘precaution dose’ is effectively a ‘booster dose’, differing only in nomenclature. As late as December 12, 2021, the Indian Council of Medical Research (ICMR)
maintained that the “need for a booster or additional COVID-19 vaccine dose” was being examined.

“There is currently no strong evidence that those who have been vaccinated will not get the virus. Also many have been vaccinated and have got the infection later. The protection that this combination [getting infected and getting vaccinated] offers is also a matter of study.”
Dr. Samiran Panda
Head, Epidemiology and Communicable Diseases, ICMR
Dr. Samiran Panda of ICMR added that there was no immediate recommendation to introduce booster or additional dose. He said from a public health point of view also more coverage is what India is looking at.

Twenty-three days later, PM Narendra Modi announced the launch of 'precautionary' doses for frontline workers and eligible population over 60 years.

How is it different from a ‘booster’ dose?
The main difference between 'precautionary' and 'booster' doses is that mixing of vaccines is not allowed in India's 'precaution' doses.

After Mr. Modi's announcement of 'precaution' doses, Dr V.K. Paul, Member-Health, NITI Aayog said that the ‘precaution dose’ of COVID-19 vaccine will be of the same vaccine which was administered previously. That is, beneficiaries who have gotten two Covishield doses, will be given a 'precaution dose' of Covishield only.

However, an ICMR study titled ‘Serendipitous COVID-19 Vaccine-Mix in Uttar Pradesh’ found that mixing of Covishield and Covaxin was safe and showed better results. The study was based on a group of Covishield recipients in Uttar Pradesh who had inadvertently received Covaxin as their second dose.

“It is observed that the neutralizing NAbs were 1.25, 3.95 and 1.30 fold reduced in the heterologous (mix dose) group for Alpha, Beta and Delta. Similarly the NAb were reduced homologous Covishield [1.33, 3.9, and 2.74], homologous Covaxin [1.4, 2.45, and 2.08] for Alpha, Beta and Delta”
ICMR
On a comparative study of this group to two groups of 40 people who had received two doses of Covishield and Covaxin respectively, ICMR found that those who received a mix of vaccines (an adenovirus vector platform-based vaccine followed by an inactivated whole virus vaccine) elicited better immunogenicity than two doses of using the same vaccines.

‘Booster’ doses across the world
In US, which is currently administering booster doses, the government allows its eligible population above 18 years to get either Pfizer-BioNTech or Moderna vaccine as booster doses, five months after getting the primary doses.

For those who got two doses of Johnson & Johnson’s Janssen vaccine, the Centre for Disease Control (CDC) recommends getting either Pfizer-BioNTech or Moderna as a booster. Similarly in UK, either Pfizer-BioNTech or Moderna are offered as booster inspite of Oxford-AstraZeneca vaccine (i.e Covishield) being the main vaccine to be administered.

WHO on ‘booster doses’
In September, The World Health Organisation (WHO) had called for a moratorium on booster vaccination for healthy adults until the end of 2021 to counter the persisting and profound inequity in global vaccine access.

“When many countries are far from reaching the 40% coverage target by the end of 2021, other countries have vaccinated well beyond this threshold, already reaching children and implementing extensive booster vaccination programmes”

Dr Tedros Adhanom Ghebreyesus
WHO director-general

The WHO prioritises Global COVID-19 Vaccination by mid-2022 and has stated “Vaccine effectiveness data for a booster dose are being published from an increasing number of countries, but remain limited in follow-up time. All studies demonstrate an improvement in protection against infection; milder disease; as well as severe disease and death”.

Coronavirus Patients (Dainik Bhasker :20220607)

https://epaper.bhaskar.com/detail/1400287/58601063697/mpcg/07062022/194/image/
कई राज्यों में टेस्ट कम, इसलिए मरीज भी कम मिल रहे

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वैक्सीन: भारत प्रमुख देशों की क्वोट में, 67% आबादी को दोनों डोज देते

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बूस्टर डोज: इसमें हम अभी पीछे, दौड़ का अमरावत में कम होने तेरा है

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विशेषज्ञ कहते हैं कि अगर संक्रमण की नई तरह आती है तो बूस्टर डोज सुरक्षा को मजबूत करेगा।

* अहम बात: राज्यों के 61% सक्रिय मरीज सिर्फ केरल-महाराष्ट्र में हैं

Maharashtra समत: 10 राज्यों में मरीज बढ़ने की संभावना ज्यादा

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हाँ, सुधार हो रहा है: पंजाब, जमैका, उत्तर प्रदेश, महाराष्ट्र और राजस्थान में सक्रिय मरीजों की संख्या घटी है।

* अम देश ने देश में सक्रिय मरीजों का दर (टेस्ट प्रविष्टि प्रति 1000 लोग) भी 1.5% से ज्यादा नहीं है।

* केरल में जो राज्यों में सक्रिय मरीजों की संख्या 20 से ज्यादा है।

* पंजाब, उत्तराखंड, गुजरात, अम, बीमार और पूरी तरह से मरीजों में राजस्थान जैसे राज्यों में टेस्ट किये गए मरीजों की संख्या 10 से ज्यादा नहीं है।

* विशेषज्ञ कहते हैं कि बुस्टर डोज सुरक्षा को मजबूत करेगा।
केजरीवाल सरकार जल्द देगी 100 और मोहल्ला क्लिनिकों की सौगात
डिप्टी सीएम ने बैठक कर मोहल्ला क्लिनिकों को जल्द शुरू करने के निर्देश

देटा का प्रयोग बीमारी के पनपने से पहले प्रयोग किया जाएगा

महाराष्ट्र न्यूज़ | नई दिल्ली

दिल्ली सरकार दिल्ली के लोगों को जल्द 100 और मोहल्ला क्लिनिकों की सौगात देने की वात कही है। डिप्टी सीएम मनीष सिसोडिया ने सोमवार को स्वास्थ्य विभाग व पीड़ानत्युद्री के उच्च अधिकारियों के साथ समीक्षा नैतिक कर मोहल्ला क्लिनिकों का जल्द सुरू करने के निर्देश दिया है। सिसोडिया ने कहा कि दिल्ली का मोहल्ला क्लिनिक मोड़ देगा ही नहीं, बल्कि पूरे विश्व में प्राथमिक स्वास्थ्य प्रणाली का शानदार व अनुमोदित आहेगा।

इन क्लिनिकों का निर्माण कार्य अपने अंतिम दौर में चल रहा है और जल्द ही उन आप जनता के लिए पूरी तरह से उपलब्ध हो जाएगा। सिसोडिया ने कहा कि दिल्ली में वर्तमान में 519 मोहल्ला क्लिनिक हैं, जहां लोगों को 212 प्रकार के टेस्ट व सभी वीसक दवाओं, जिसमें 125 प्रकार के दवाओं को सुविधा उपलब्ध है, सहित सभी प्रकार के प्राथमिक स्वास्थ्य देखभाल सेवाएं नियुक्त प्रदान की जाती है।