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NIV
NATIONAL INSTITUTE
OF VIROLOGY



VIROdesk NEWSLETTER

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Issue 2
July – Dec. 2022



Greetings from ICMR-NIV!

Dr. Sheela V. Godbole
Director-in-charge

Dear Readers,

I am delighted to present before you another issue of VIROdesk, the half-yearly newsletter of the ICMR-National Institute of Virology (ICMR-NIV) for 2022.

As with the previous editions, VIROdesk adds to the visibility, outreach, and impact of NIV's contributions in public health research. Amongst the many lessons we learned during the past 3 years in tackling the COVID-19 pandemic, a major one has been on the importance of accurate scientific communication. The need for media engagement and enhancing communication skills among researchers has become imperative. This digital decade provides opportunities to embrace these novel technologies to enhance our communication capacities. Keeping this in mind, an article in this issue highlights the importance of media engagement and communications in health emergencies. Another interesting article discusses about long-COVID which has recently gained a lot of medical and scientific attention.

A very momentous event for ICMR-NIV in this period, has been the Foundation Stone laying ceremony and Bhumi Pujan of the three Zonal ICMR-NIVs by the Honorable President of India, Smt. Droupadi Murmu in Bengaluru, Dibrugarh and Jabalpur on 27th September, 13th October and 14th October, 2022, respectively, and of the ICMR-National Institute of One Health in Nagpur, by the Honorable Prime Minister Shri. Narendra Modi on 11th December, 2022. In the coming years, we look forward to the establishment and functioning of these institutes.

The staff and students of the Institute enthusiastically observed and celebrated the Independence Day, Hindi Diwas, Vigilance Awareness Week and also hosted outdoor events like the Fit India Run 3.0 that attracted huge numbers of staff and student participants. Also featured is an interview with one of our student achievers, and snapshots of several trainings and events we hosted during the period.

The year end was a time of mixed emotions for the NIV family when Prof. (Dr.) Priya Abraham completed her tenure as the Director of the Institute, and returned to her parent institute handing over the reigns of the institute to me as an additional charge.

With this preface, I hope you will enjoy reading this Newsletter and we look forward to your feedback.

Jai Hind !!

Editorial Team

- Dr. Sarah Cherian
- Dr. Jayati Mullick
- Dr. Mallika Lavania
- Dr. Ullas PT
- Dr. Himanshu Kaushal
- Dr. Sreelekshmy Mohandas
- Dr. Arun TR

Media Engagement and Communications in Health Emergencies

[Dr. S. Cherian, Dr. B.V. Tandale, Dr. P.D. Yadav, Dr. R. Vishwanathan]

Public health emergencies, especially of such a scale and magnitude as the COVID-19 pandemic, call for appropriate information, education and communication plans for engagement with the public. It can be achieved through various platforms, like print media, television channels and social media. Public trust is essential for securing individuals' continued involvement in adopting healthy behaviours and practices for prevention and control measures recommended by health services, including vaccination.

Science communication during health emergencies is very different and critical, due to the general panic and scare created by such scenarios. It assumes critical importance, since the early interventions proposed by health authorities tend to be based on limited information and evidence available at the time, and also face challenges in media engagement. Scientists are overstressed during health emergencies and need to opine and advise rationally and urgently. This requires the research community to prepare themselves in advance and respond timely during health emergencies.

With this in view, the Indian Council of Medical Research (ICMR) Communications Unit organized a workshop on crisis communications at the ICMR-RMRC Field Station in Keylong, Himachal Pradesh, from 15th to 16th June 2022. The experiences of the Communications Unit at ICMR during the COVID-19 pandemic, as well as the best practices from various Institutes involved in the pandemic response, were presented and discussed. The program also included group activities on press releases, social media campaigns, and differences between regular science communication and crisis communication. The ICMR-NIV case study focused on the journey of managing disease outbreaks including COVID-19. The communication strategy and media appearances by scientists, along with interviews and sharing of related personal experiences, during these interactions with the media journalists on COVID-19 were also presented. A scientist's perspective in a situation when a Variant of Concern was emerging and queries about the vaccine efficacy, booster doses, mask practices, and aspects of public gatherings were discussed for educating the communicators for future needs. The protocols implemented at ICMR-NIV during the COVID-19 pandemic were presented along with highlights of coverage in print and electronic media, including progress and updates from the Twitter handle @icmr_niv.

The ICMR has also recently launched a first-of-its-kind 'Health Communications Course (HCC)'. This certificate course has been developed in collaboration with the Centre for Development Management and Communication-Mudra Institute of Communication, Ahmedabad (CDMC-MICA) and Global Health Strategies (GHS). Dr. Sheela Godbole, Director-in-charge, ICMR-NIV actively contributed to the curriculum development for many of the modules of this course. The course is structured at three levels over a period of four months and includes both contact and online sessions, by leading public health and communication experts from India. In addition, there will be live virtual interactive

sessions and direct interactions with faculty. Upon completion of the course, it is expected that the participants will develop skills in risk communication and community engagement for achieving better health outcomes, along with learning strategies for communication campaigns. The first batch included 30 participants from 13 ICMR institutes selected through a rigorous blinded screening, subjective and objective questionnaires and an aptitude test. Two scientists from ICMR-NIV, Dr. Babasaheb V. Tandale, Scientist 'F' and Dr. Rajlakshmi Vishwanathan, Scientist 'E', are currently pursuing this course. The first contact session of the HCC was held from 14th-18th November 2022 in New Delhi. The session included talks and interactions with leading experts in science communication from different fields, visits to institutes involved in science communication like Vigyan Prasar, Department of Science and Technology and CSIR-National Institute of Science Communication and Policy Research (NIScPR), as well as hands-on group activities for poster designing, press releases and media briefing. This course will help scientists to improve their health communication skills.

In summary, health communication is important for increasing public awareness of different diseases. Appropriate communication can counter misinformation and allay public concerns. It also helps to increase awareness about public health programmes and campaigns, and can also be leveraged to improve community participation in disease prevention and control activities.



Workshop on Crisis Communication at ICMR-RMRC Field Station at Keylong held from 15th to 16th June 2022

Perspectives on long-term effects of COVID-19

[Dr. Sreelakshmi P.R., Scientist D, Entomology Group]

After more than two years, humankind is beginning to see some light at the end of the dark tunnel of the COVID-19 pandemic. We have learned to live with the SARS-CoV-2 virus without losing the battle, using strategies like vaccination and other effective public health tactics. We have now managed to reduce mortality and the rates of hospitalization for severe illnesses related to COVID-19. It is about time that we give some attention to the issues that were stacked away for later considering them as 'unimportant'. From a broader viewpoint, COVID-19 has developed itself into an iceberg phenomenon. It has spread its roots widely in our society across all sectors with its longer, persistent and debilitating effects. For clinical purposes, the occurrence of residual symptoms beyond 12 weeks of diagnosis of COVID-19 is considered as 'long COVID' or 'post-COVID syndrome'. Several agencies including World Health Organization have come up with definitions for this clinical entity, yet it remains ill-defined.

Irrespective of the severity of acute infection, more than 50% of individuals report persistent or new symptoms after COVID-19. The most commonly reported symptom is excessive fatigue. Beyond simply feeling tired, people feel worn out limiting them in their daily chores. There is intolerance to exercise and generalized body aches. An increased heart rate of 10-15 beats higher than the baseline values is commonly experienced by these individuals. Shortness of breath, giddiness and sharp variations in blood pressure restrict their activities considerably. Another frequent problem encountered is 'brain fog'. People use this terminology to describe combinations of neurological symptoms of forgetfulness, confusion, inattentiveness, lack of sleep and headache. While the older age group is at higher risk for this syndrome, it is worrying to see the high rates of diseases like

diabetes, heart attack and stroke among the younger individuals after COVID-19. While men were at higher risk of contracting the more severe form of the disease during its acute phase, studies document female gender as an independent risk factor for long-COVID.

As mysterious as the clinical symptoms is the pathophysiology of long-COVID. In an attempt to describe this, several theories have been hypothesized. Experts say that some parts of the virus that remain in the body get re-activated periodically and can produce long-term health issues. Another perspective is that these symptoms are resulting from an excessive inflammatory response resulting in endothelial injury producing micro clots which compromise blood flow to organs like the heart, lungs, brain, liver and kidney causing diffuse damage to them. Auto-immunity is another proposed hypothesis where the body fails to recognize its own proteins as self-proteins due to the structural resemblance with the viral particles. Autoantibodies thus produced cause tissue damage. These are some clues to the possible mechanisms of long COVID but the definitive pathway is yet to be unveiled.

The long-term effects of COVID-19 have made the pandemic enduring. The post-COVID phase has problems which are deeper than what is seen on the surface. The constellation of symptoms affecting multiple organ systems makes the matter complicated, warranting care that is interdisciplinary. At present, there is no panacea for this illness but researchers and clinicians across the globe have prioritized this syndrome and are hopeful of devising remedies in the near future.

Scientific Desk

Relhan V, Sahay RR, Shete AM, Yadav PD, Sahoo B, Patil DY, Kumar S, Premachandran Syamaladevi KS, Dar L, Mohandas S, Abraham P. Clinical presentation, viral kinetics, and management of human monkeypox cases from New Delhi, India 2022. J Med Virol. 2022 Oct 21. doi: 10.1002/jmv.28249.

[Summary: Investigators described the clinical and demographic characteristics, virological follow-up, and management of five confirmed monkeypox cases from New Delhi, India without any international travel history. The viral load kinetics and viral clearance were estimated in oropharyngeal swabs (OPS), nasopharyngeal swabs (NPS), EDTA blood, serum, urine, and various lesion specimens on every fourth day of follow-up ranging from 5 to 24 post-onset day (POD) of illness. All five cases presented with mild to moderate-grade intermittent fever, myalgia, and lesions on the genitals, groins, lower limb, trunk, and upper

limb. Four cases had non-tender firm lymphadenopathy. No secondary complications or sexually transmitted infections were recorded in these cases except for the presence of viral hepatitis B infection marker hepatitis B virus surface antigen in one case. All the cases were mild and had a good recovery. A higher viral load was detected in lesion fluid (POD 9), followed by lesion roof (POD 9), urine (POD 5), lesion base (POD 5), and OPS/NPS (POD 5). The monkeypox virus (MPXV) DNA was detected in clinical samples from the 5th to 24th POD. These monkeypox cases without international travel history suggest the underdiagnosed monkeypox infection in the community. This emphasizes the need for active surveillance of MPXV in the high-risk population such as men having sex with men and female sex workers.]

Yadav PD, Mohandas S, Shete A, Sapkal G, Deshpande G, Kumar A, Wakchaure K, Dighe H, Jain R, Ganneru B, Yemul J,

Gawande P, Vadrevu KM, Abraham P. Protective efficacy of COVAXIN® against Delta and Omicron variants in hamster model. iScience. 2022 Oct 21;25(10):105178. doi: 10.1016/j.isci.2022.105178.

[Summary: The immunity acquired after natural infection or vaccinations against SARS-CoV-2 tends to wane with time. Here, we compared the protective efficacy of COVAXIN® following two- and three-dose immunizations against the Delta variant and also studied the efficacy of COVAXIN® against Omicron variants in a Syrian hamster model. Despite the comparable neutralizing

antibody response against the homologous vaccine strain in both the two-dose and three-dose immunized groups, considerable reduction in the lung disease severity was observed in the 3-dose immunized group after the Delta variant challenge. In the challenge study using the Omicron variants, i.e., BA.1.1 and BA.2, lesser virus shedding, lung viral load and lung disease severity were observed in the immunized groups. The present study shows that administration of COVAXIN® booster dose will enhance the vaccine effectiveness against the Delta variant infection and give protection against the BA.1.1 and BA.2 variants.]



Interview

In this issue, we feature a student achiever, Mr. Anurag Singh, who secured an All India Rank of 91 in the CSIR-JRF/NET examination conducted in June 2022.

Q : It must have been a big task to balance the rigorous course work of M.Sc. Virology and your preparations for CSIR-JRF/NET. How was your experience in this?

A: The M.Sc. Virology curriculum at ICMR-NIV covers a very specialised domain, whereas the CSIR-NET/JRF examination requires comprehensive knowledge of life science discipline as a whole. It became quite hectic at times but the motivation was stronger. There were days when I failed to follow my daily plans, but I tried to make sure that at bedtime I had acquired more knowledge than the day before.

Q: What were the difficulties and problems that you faced in achieving your target, and how did you go about them? Can you identify any common problems students face that need to be overcome to reach their goal?

A: Time management was one of the biggest hurdles that I faced. As I could not afford missing M.Sc. Virology classes, I came up with my own strategy for preparation. One thing that I learned in this process, is to never blindly follow someone else's schedule. We should identify our strengths and limitations, prepare accordingly and be consistent in the process.

Q: Tell us the study habits that helped you secure a top rank in the JRF examination.

A: I followed standard reference books rather than readymade handbooks for preparation. In my opinion, to ace CSIR-JRF examination, or any other competitive examination for that matter, one must always trust their basics. We all have that within ourselves, we only need to channelize. Instead of going for the whole syllabus (which is really vast), I identified and ranked the



Mr. Anurag Singh
M.Sc. Virology student
2022 batch

topics according to my stronghold, things which I know and can annex, and others which would require much more of my time. This strategy really helped my preparation.

Q: In your opinion, how could one prepare effectively for the JRF/NET examinations?

A: Everyone has their own style of studying. I believe that solving and analysing the previous years' question papers can be helpful. Moreover, the section A of the question paper, which is often neglected, is actually very scoring and equally important for acing this examination.

Q: Any thoughts yet on the broad area you would like to choose for your Ph.D., and the motivation behind it?

A: If given a chance I would like to work on viral immunology. More specifically I wish to study the immune correlates of protection of viruses which induce latent infection. Viruses such as Human Immunodeficiency Virus have been around us for decades but their immunopathogenesis still remains elusive. Such studies would be pivotal in vaccine development against HIV.

Q: We wish you all the very best and a very exciting scientific journey ahead!

A: Thank you very much!





Awards



Winners of the NIV Research Foundation Awards 2021 along with the Chief Guest Air Cmde Dr. SP Singh, Director, ICMR-NIV, Prof.(Dr.) Priya Abraham and Mrs. Shibi Jacob, SAO, at the felicitation program during the Independence Day celebrations held on 15th August 2022.

- **Dr. Rima R Sahay**, Scientist C, Maximum Containment Facility won the Late Shri. Tarachand Mourya and Late Smt. Sushilabai Mourya Memorial Achiever of the year award for Scientists.
- **Dr. Rajlaxmi Jain**, Technical Officer, Maximum Containment Facility won the Dr. S. N. Ghosh Memorial Achiever of the year award for the Technical Staff.
- **Mrs. Priyanka Aher**, Section Officer (Accounts) won the Mohan Singh Chaddha Memorial Achiever of the year award for the Administrative Staff.
- **Mr. Mayur Mohite**, Technical Officer, Maximum Containment Facility won the Er. Darshane Achiever of the year award for the Engineering Staff.



Winners of the awards at VIROCON 2022 conference held at Sher-e-Kashmir University of Agricultural Sciences, Srinagar, Kashmir. From left to right are:

- **Mr. Abhranil Gangopadhyay** won the First Prize for poster presentation in Viral Genomics and Pathogenesis.
- **Dr. Rima R. Sahay** won the Young Scientist Award, in Medical Virology.
- **Dr. Mallika Lavania and Dr. Gururaj N. Deshpande** shared the First Prize for oral presentations on COVID-19.
- **Mrs. Rashmi Gunjekar** secured the First Prize in poster presentation on COVID-19.
- **Mrs. Supriya Hundekar** secured the Second Prize in poster presentation on Viral epidemics, host pathogen interaction, diagnostics and epidemiology.
- **Mrs. Rashi Srivastava** secured the Second Prize in poster presentation on COVID-19.
- **Dr. Sreelekshmy Mohandas** secured First Prize in oral presentation on Viral Genomics and Pathogenesis (not featured in the photo).



Dr. Pragya Yadav, Scientist F, Maximum Containment Facility was honored in the Travelling Exhibition on “Vaccines Injecting Hope” on 15th November 2022, at the National Science Centre, New Delhi.

Farewell to Prof. (Dr.) Priya Abraham



“Great is the art of beginning but greater is the art of ending.”

We bid farewell to our beloved Director, **Prof. (Dr.) Priya Abraham** in November 2022, after her successful completion of her tenure as the Director of ICMR-National Institute of Virology, Pune. Prof. Abraham joined the ICMR-NIV on 18th November 2019, shortly before the COVID-19 pandemic. She spearheaded and steered the institute through the toughest times of the pandemic with her exceptional leadership skills. ICMR-NIV reached newer heights of glory during her tenure, supporting the nation’s fight against the COVID-19 pandemic, from designing diagnostics, establishing and supporting national testing capacity and eventually in the successful development of an indigenous vaccine. During her tenure, ICMR-NIV bagged awards from several organizations for the exemplary services rendered in the preparedness and fightback against COVID-19. Prof. Abraham received several accolades and awards; a few among them were the ‘Business Excellence & Innovative Best Practices Academia Award-2020’ from the New Delhi Institute of Management, ‘Integrated Health & Wellbeing Council Janani Award’ for Medical Research Leadership, 2021 and the ‘Rotary Vocational Excellence Award’ in 2022. She will be remembered as an exceptional leader of action and example to every NIVian, and we wish her many more successes ahead.



Our new Director-in-Charge

Dr. Sheela V. Godbole, Director, ICMR-National AIDS Research Institute, Pune, delightedly accepted the additional responsibility of holding the reigns of the institute as the Director-in-Charge, ICMR-NIV, Pune. We heartily welcome Dr. Godbole to the ICMR-NIV family.

EVENTS

15th July 2022



Prof. Dr. Balram Bhargava, Hon'ble Secretary, DHR & DG, ICMR, launching the new website of ICMR-NIV.

27th July 2022



Scientists and Director of ICMR-NIV with the grandchildren of Dr. CG Pandit (Founder Director, who was instrumental in establishing the erstwhile Virus Research Centre) during their visit to the Institute.

27th July 2022



Scientists of ICMR-NIV in the 'ICMR Health Communication Conclave: Connect and Collaborate' held in Delhi on 27th July 2022.

28th - 29th July 2022



A workshop on Health Technology Assessment was conducted for scientists and researchers from various medical colleges in Pune at ICMR-NIV from 28th to 29th July 2022. (From left to right: Dr. Yogesh Gurav, Dr. Srikanth Tripathy, Dr. Sarah Cherian, Dr. Bhavani Shankara).

10th August 2022



Visit of officials from the Directorate of Medical Education and Research, Govt. of Maharashtra, to ICMR-NIV on 10th August 2022.

15th August 2022



Independence day celebrations, 2022 at ICMR-NIV. Air Cmde Dr. S. P. Singh, from the Armed Forces Medical College, Pune was the Chief Guest on the occasion, and addressed the staff of ICMR-NIV.

27th September 2022
13th & 14th October 2022



Hon'ble President of India, Smt. Droupadi Murmu, unveiled the foundation stone of Zonal ICMR-NIVs at Bengaluru (on 27th September 2022), Dibrugarh (on 13th October 2022) and Jabalpur (on 14th October 2022).

- Clockwise from top left:** Bhoomi puja ceremony at Bengaluru
- Top right:** Director, ICMR-NIV with other staff at the ceremony in Dibrugarh
- Bottom left:** Scientists and staff of ICMR-NIV at Jabalpur

3rd November 2022



Dr. Yogesh Gurav (Scientist E & Group Leader, Health Technology Assessment Group), giving a talk during the Health Technology Assessment workshop held during the SYMRESEARCH 2022 Conference held at Symbiosis International University, Lavale, Pune on 3rd November 2022.

5th November 2022



Fit India Freedom Run 3.0 [from ICMR-NIV, Pashan to Balewadi Stadium, Pune] organized on 5th November 2022.



Chief Guest Shri. Maruti Adkar [Olympian Wrestler, Munich Olympics, 1972] along with the winners of the Fit India Freedom Run 3.0.

11th December 2022



Hon'ble Prime Minister of India, Shri. Narendra Modi, inaugurating the Bhumi Pujan and Foundation Stone laying ceremony of the ICMR-National Institute of One Health, Nagpur, on 11th December, 2022.



22nd to 24th December 2022



ICMR was awarded the 'Best stall in Medicine and Health Research' in the Shining Maharashtra exhibition conducted at Akluj, Solapur, Maharashtra, from 22nd to 24th December 2022.

Trainings

Biosafety & Biosecurity



Trainings on 'Biosafety Practices during Disaster Management' under the CBRN course held for the NDRF trainees from NDRF 5BN, Sudumbare, Pune on 16th September, 18th November and 13th December 2022.





Training on 'Biosafety Practices during Disaster Management' under the CBRN course were held for the QRMT Paramedical personnel from AFMC, Pune on 13th September 2022 at ICMR-NIV.



Training for 'Working inside the Mobile Biosafety Level-3' for the trainees (5) from ICMR-RMRC, Gorakhpur was held at ICMR-NIV from 07th to 11th November 2022.



Orientation Workshop on 'Biosafety, Biosecurity & laboratory preparedness' for staff (10) from the upcoming Zonal ICMR-NIVs and the ICMR-National AIDS Research Institute, Pune was held at ICMR-NIV from 13th to 16th December, 2022.

Training on Whole Genome Sequencing of SARS-CoV-2



Hands-on Training on Whole Genome Sequencing of SARS-CoV-2 using ION Torrent S5 Studio and Illumina Nextseq2000 platforms and the use of Bioinformatics tools in data analysis was held during 27th June-2nd July 2022 for 28 participants from 14 VRDLs/ICMR Institutes, and during 17th-24th September 2022 for 21 participants from selected medical colleges, across the country. Representative photographs of the trainings are shown above.



Dr. Shilpa Tomar
Scientist B, Hepatitis Group



Pansies: "There is strength in your softness."



Ocean: "Sometimes in the waves of change we find our true direction."

Superannuated staff



Mr. Ankayya Thimanpalli
Laboratory Assistant, Animal House
(1992-2022)



Autumn: "Every moment is a fresh beginning."

ICMR-NIV in news

2 years and counting, NIV fights pandemic battle from virus to vax

Deviyani Javed @timesgroup.com

KolKata. It was open on January 28, 2020, and Priya Abraham, the director of Central Institute of Virology...



Priya Abraham at Science City on Thursday

We isolated the SARS-CoV-2 virus on March 12, 2020, more than a week before total lockdown was announced...

TO INVESTIGATE NEW VIRAL INFECTIONS 1st trial run of mobile biosafety lab underway at Pingori village

ANURADHA MARGAEPANAS @timesgroup.com

PUNE'S NIV mobile biosafety lab (MBL) is a container-based laboratory...



The mobile lab has been stationed at the village which is two hours away from Pune, at Pingori

At a trial run of the MBL, the NIV researchers are conducting a self-reliance test that will help them understand the operational aspects...



Four cases of monkeypox have been reported so far

NIV Pune isolates first virus strain of monkeypox

Priya Abraham @timesgroup.com

The National Institute of Virology (NIV) has isolated India's first monkeypox virus.

With this discovery, the Indian Council for Medical Research is boosting an expansion of interest (EOI) for pharmaceuticals to enhance their research and development...

India has reported four cases of monkeypox so far. While three laboratory-confirmed cases have been reported from Kerala...

After a second case was reported, the NIV said it is not as easily spread through the respiratory route as the case of COVID-19 virus. Unless an individual has had an infected person, it is unlikely to occur via the respiratory route.

Of course, those physical contact as well as coming into contact with used linen, clothing, etc. of an infected person is a route of infection.

Dr. ECK, Secretary, ICMR, said, "New Delhi, India's EOI is a formal framework to support the manufacturing of in-vitro diagnostic (IVD) products in India."

At the NIV, the ICMR is supporting the development of IVDs for diagnosis of various viral infections, including monkeypox.

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Monkeypox virus in Indian patient is milder west African clade: NIV

Umeshkulkar @timesgroup.com

PUNE: Scientists from the National Institute of Virology (NIV) have isolated the monkeypox virus from a patient in Kerala...

There are two genetic clades of the monkeypox virus: the West African clade and the Central African clade. The West African clade has historically caused milder disease.

The West African strain is mostly self-limiting with low mortality. Historically, it has been reported to cause milder disease than the Central African strain.

India has reported four monkeypox cases — one with a Central African clade and three with West African clade. All cases in the Central African clade have been traced back to the West African clade.

Dr. Priya Abraham, director, NIV Pune, on Monday said, "The second patient is from Kannur. This patient is an adult male who returned positive."

The Maharashtra health department is also continuously monitoring suspected monkeypox cases in the state with at least seven suspected samples having been sent to the NIV Pune.

ICMR-NIV REVEALS MONKEYPOX VIRUS STRAIN A.2 IN TWO UAE-RETURNED TRAVELLERS

PUNE: The Indian Council of Medical Research (ICMR) has analysed two monkeypox virus samples from travellers who returned from the UAE.

The study also details about where a 35-year-old male from UAE tested positive for Monkeypox. Both the cases had no traces of sexual contact.

Dr. Pradeep Awate, state surveillance officer, said, "We are on alert for symptoms of monkeypox in travellers coming from the UAE."

NIV says three dengue virus types present in Pune; 2 are dangerous

PUNE: Scientists from the National Institute of Virology (NIV) have identified three types of dengue virus in Pune.

Two of the types are considered dangerous. The study also details about where a 35-year-old male from UAE tested positive for Monkeypox.

Dr. Pradeep Awate, state surveillance officer, said, "We are on alert for symptoms of monkeypox in travellers coming from the UAE."

NIV Mumbai uses CRISPR to keep resch labs polio virus-free

MUMBAI: Researchers from the National Institute of Virology (NIV) have used the CRISPR-Cas9 system to develop a polio virus-free cell line.

The study also details about where a 35-year-old male from UAE tested positive for Monkeypox. Both the cases had no traces of sexual contact.

Dr. Pradeep Awate, state surveillance officer, said, "We are on alert for symptoms of monkeypox in travellers coming from the UAE."

Co-Dominant DENV-2 Causes Serious Illness

PUNE: Scientists from the National Institute of Virology (NIV) have identified a co-dominant dengue virus-2 (DENV-2) strain in Pune.

This strain is associated with more severe illness. The study also details about where a 35-year-old male from UAE tested positive for Monkeypox.

Dr. Pradeep Awate, state surveillance officer, said, "We are on alert for symptoms of monkeypox in travellers coming from the UAE."

HOW THE GENE EDITING TOOL WORKS

CRISPR-Cas9 is a unique technology that enables medical researchers to edit parts of the genome by removing, adding or altering sections of the DNA sequence.

It's being used to develop gene therapies, diagnostics, hybrids in agriculture and bio-energy.

In 2020, the Nobel Prize in Chemistry was jointly awarded to Emmanuelle Charpentier and Jennifer Doudna for their 2012 work on CRISPR-Cas9.

polio virus-free cell line for use in research work in laboratories. Many clinical trials and research using CRISPR-Cas9 are underway across the world, but there have only been a few from India.

The genetic tool has mainly been used to develop hybrid crops, and in May 2020, scientists from the Council of Scientific and Industrial Research's Delhi-based Institute of Genomics and Integrative Biology developed the world's first CRISPR-Cas9-edited rapid Covid-19 test.

Now, Mumbai's scientists have used the CRISPR-Cas9 system to develop a polio virus-free cell line for use in research work in laboratories.

Another case of a 32-year-old male from Dubai, UAE travelled to his hometown Kerala on July 13, 2022, and tested positive for Monkeypox. As per the research, he developed multiple vesicular rashes on the genital organ and on both hands on July 10, 2022.

The lesions progressed and later spread to the face, back, neck and forearm with cervical lymphadenopathy by July 15, 2022.

poliovirus recombination cell strains" in other words, they defined not only that would let the polio grow as a culture sample.

ANI

ANI

ANI

NIV develops Nipah virus antibody test kit

Umeshkulkar @timesgroup.com

PUNE: Scientists at the National Institute of Virology (NIV) have developed a rapid test kit for Nipah virus antibody detection.

The kit is designed for early detection of Nipah virus infection. It is a rapid test kit for Nipah virus antibody detection.

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