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समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology

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CONTENT

S. No.	TITLE	Page No.
	COVID-19: DRDO's Contribution	1-5
1.	DFRL supplies 1.5 tonnes of food products, sanitisers to southern range cops	1
2.	DRDO से लेकर भारतीय सेना तक ने बनाए ये खास उपकरण, डॉक्टर्स के आएंगे बहुत काम	2
3.	ऑटोमैटिक ट्रॉली से सस्ते थर्मल स्कैनर तक COVID-19 से लड़ने के लिए भारतीय सेना, भारतीय नौसेना और DRDO ने किए ये इनोवेशन	3
4.	Here are some 'tech innovations' by Indian Army, DRDO and others to fight COVID-19	4
5.	अतुल्य करणार कोरोना विषाणुचा सफाया (मराठी)	5
6.	A microwave steriliser to kill coronavirus	5
	COVID-19: Defence Forces Contribution	6-11
7.	Indian Army band performs outside govt hospital, expresses gratitude to covid fighters	6
8.	Indian Air Force salutes frontline covid-19 workers	7
9.	With fighter jets and army bands, India's military thank health workers	8
10.	Coronavirus: Indian Navy salutes corona warriors on land, air and sea	9
11.	थल सेना, एयर फोर्स के बाद अब नौसेना ने दी कोरोना योद्धाओं को सलामी, दिखा भव्य नजारा	10
	Defence Strategic: National/International	12-15
12.	CDS Gen. Rawat Says 'Pakistan frustrated with Peace in J&K', Lauds Handwara martyrs	12
13.	Navy is tracking China & Pakistan's activities amid pandemic, Covid has no impact on ops	13
14.	Chinese Navy has now six type 094A Jin-class nuclear powered ballistic missile submarines	15
	Science & Technology	16-18
15.	चांद्र पर उत्खनन के लिए मचेगी होड़, जानिए ISRO क्यों रहना चाहता है इसमें आगे	16
16.	Covid-19 slows down India's space race	17
17.	ISRO to validate the design and construction of rocket launchers	18
	COVID-19 Research	19-26
18.	Like HIV and dengue, Covid-19 also might never have a vaccine: Report	19
19.	'How is this possible?' Researchers grapple with Covid-19's mysterious mechanism	20
20.	US germ warfare research leads to new early Covid-19 test	22
21.	बहरूपिए वायरस पर शोध कराएगा आईसीएमआर	25
22.	हर्ड इम्यूनिटी पर नई रिसर्च: कोविड 19 थमने में दो साल तो लगेगे	25

DFRL supplies 1.5 tonnes of food products, sanitisers to southern range cops

Mysuru: Defence Food Research Laboratory (DFRL) processed and supplied various ready to eat food products, fruit juices, and instant quick cooking food products and hand Sanitizers to the police personnel involved in the containment of COVID- 19.

Inspector General of Police (IGP) Southern Range S Vipul Kumar distributed 1.5 tonnes of food products and 1,000 bottles of hand sanitizers prepared by Defence Food Research Laboratory to police personnel deployed in Southern range comprising Mysuru, Kodagu, Hassan, Mandya and Chamarajanagar districts to combat Covid-19 pandemic.

Dr Anil Dutt Semwal, Director, Defence Food Research Laboratory. Police officers of respective districts and Scientists from DFRL participated in the programme.

The Ready to eat food comprises varieties of food items like Vegetable Biryani, Lemon Rice, Tomato rice, Kichidi, Chapati, Plain Rice, Dal fry curry, Potato peas curry, Instant upma, Instant halwa, Lemon Juice and Lemon pickle.

The food products are prepared in stringent hygienic conditions complying with suitable protocols. The Ready to Eat (RTE) food products are packed in multi-layer retort pouches and processed in a special retort to internationally accepted food standards. After processing, the food products are tested for their microbiological quality and cleared for supplies. The shelf life of these products is one year under room temperature conditions. Hand sanitizers were produced as per World Health Organization (WHO) protocol.

Previously DFRL has also supplied 1.5 tonnes of Ready-to-Eat (RTE) food comprising Tomato Rice, Vegetable pulav, Sooji Halwa, Khichidi, Combo Meals (White Rice + Dal Fry), Lemon pickle and Ready -to- Drink Lemon juice to Kerala to combat COVID-19.

The Products were handed over to V S Sunil Kumar, Minister for Agriculture, Kerala. The food products were distributed to healthcare professionals by NPOL, Kochi

DFRL prepared and supplied 2000 bottles (100 ml) of hand sanitizer and 1.5 tonnes packets of RTE foods and juices to Mysuru City Corporation for healthcare workers.

The laboratory supplied 1000 bottles of (100 ml) hand sanitizer and 1.0 tonnes of Meals of Ready to eat food products to office of Superintendent of Police, Mysuru to distribute to police personnel involved in COVID -19 operations. The laboratory also supplied 500 bottles of (100ml) hand sanitizer and 500 Meals of Ready to eat food products to Home Guards, Mysuru involved in COVID- 19 operations. The Laboratory also supplied 1000 bottles of hand sanitizer to BSNL staff and Postal Staff, Mysuru circle.

<https://www.mysoorunews.com/dfrl-supplies-1-5-tonnes-of-food-products-sanitisers-to-southern-range-cops/>



DRDO से लेकर भारतीय सेना तक ने बनाए ये खास उपकरण, डॉक्टर्स के आएंगे बहुत काम

कोरोना वायरस के खिलाफ जंग में पूरा भारत एकजुट हो गया है। जहां एक तरफ रेलवे डिब्बों को आइसोलेशन वार्ड में परिवर्तित किया जा रहा है, तो दूसरी तरफ भारी मात्रा में हैंड सैनिटाइजर बनाया गया है। साथ ही छात्रों ने कम लागत और आसानी से उपलब्ध होने वाले संसाधनों का इस्तेमाल कर ऐसे उपकरण बनाएं हैं, जो कोरोना फाइटर्स के बहुत काम आए हैं। अब इस कड़ी में भारतीय सेना, नौसेना और डीआरडीओ ने खास डिवाइस तैयार किए हैं, जो डॉक्टर्स और मेडिकल कर्मचारियों के बहुत काम आएंगे। तो आइए इन गैजेट पर डालते हैं एक नजर...

DRDO ने बनाया खास सूट

रक्षा संगठन डिफेंस रिसर्च एंड डेवलपमेंट ऑर्गेनाइजेशन (DRDO) ने मेडिकल, पैरामेडिकल और अन्य कर्मियों के लिए खास बायो सूट बनाया है। इस सूट में टेक्सटाइल, कोटिंग और नैनो तकनीक का उपयोग हुआ है। इसके अलावा इस सूट को सिंथेटिक ब्लड की सुरक्षा के लिहाज से तैयार किया गया है।



Bio suit - फोटो : TWITTER

भारतीय सेना ने रिमोट-कंट्रोल ट्रॉली की तैयार

भारतीय सेना के इलेक्ट्रॉनिक्स और मैकेनिकल इंजीनियर्स ने डॉक्टर्स के लिए खास तकनीक वाली रिमोट-कंट्रोल ट्रॉली बनाई है। इस ट्रॉली में वॉश-बेसिन और डस्टबिन जोड़ा गया है। इस ट्रॉली में सामान रखने के लिए जगह दी गई है। साथ ही इस ट्रॉली को आसानी से संचालित किया जा सकता है।



Trolley - फोटो: toi

भारतीय सेना ने बना किफायती थर्मल स्कैनर

भारतीय सेना ने डॉक्टर्स और मेडिकल कर्मचारियों के लिए किफायती थर्मल स्कैनर बनाया है। यह थर्मल स्कैनर कुछ सेकेंड में संक्रमितों को



MASK - फोटो : TOI

स्कैन कर सकता है। इसके अलावा सर्जिकल मास्क और हैंड सैनिटाइजर भी तैयार किया गया है।

DRDO वायरस टेस्टिंग के लिए तैयार की मोबाइल लैब

DRDO की हैदराबाद स्थित रिसर्च सेंटर ने कोरोना वायरस के संक्रमितों की स्क्रीनिंग करने के लिए खास मोबाइल लैब को तैयार की है। इस लैब के जरिए डॉक्टर्स कोरोना वायरस को आसानी से रोक सकेंगे।



LAB - फोटो : TOI

<https://www.amarujala.com/photo-gallery/technology/gadgets/coronavirus-indian-army-indian-navy-drdo-develop-special-gadgets-to-fight-with-coronavirus-know-all-about-it-in-hindi?pageId=5>

ऑटोमैटिक ट्रॉली से सस्ते थर्मल स्कैनर तक COVID-19 से लड़ने के लिए भारतीय सेना, भारतीय नौसेना और DRDO ने किए ये इनोवेशन

*यहां जानें COVID-19 से लड़ने के लिए भारतीय सेना, भारतीय
नौसेना और DRDO द्वारा 'टेक इनोवेशन' के बारे में..*

भारत में COVID-19 के खिलाफ लड़ाई में कम लागत और आसानी से उपलब्ध संसाधनों के उपयोग ने महत्वपूर्ण भूमिका निभाई है। चाहे रेलवे के डिब्बों को आइसोलेशन वार्डों (isolation wards) में परिवर्तित करना हो या भारी मात्रा में हैंड सैनिटाइजर (hand sanitizers) बनाने के लिए एक साथ आने वाले छात्र का आना हो, आसान व्यवस्था या सरल नवाचारों (simple innovations) की सभी ने सराहना की है। हमने आईआईटी और अन्य इंजीनियरिंग कॉलेजों को भी देखा है जिन्होंने कम संसाधनों के साथ 3D प्रिंटेड फेस शील्ड या कम लागत वाले वेंटिलेटर बनाए हैं।

इंटरस्टिंग बात ये है कि रक्षा अनुसंधान और विकास संगठन (DRDO) के साथ हमारे सशस्त्र बलों ने भी महामारी से लड़ने और लोगों को इस दौड़ में आगे बढ़ने में मदद करने के लिए तकनीकी समाधान पेश किए।। यहां जानें COVID-19 से लड़ने के लिए भारतीय सेना, भारतीय नौसेना और DRDO द्वारा 'टेक इनोवेशन' के बारे में...

DRDO ने मेडिकल स्टाफ के लिए बनाया स्पेशल सूट

डीआरडीओ ने मेडिकल प्रोफेशनल्स के लिए Bio सूट बनाया है ताकि उन्हें कोरोना वायरस बीमारी से लड़ने में मदद मिल सके। डीआरडीओ द्वारा बनाए गए Bio-सूट में एक अनोखा फीचर है। कहा जाता है कि DRDO ने पनडुब्बी अनुप्रयोगों में प्रयुक्त सीलेंट के आधार पर सीलिंग टेप के विकल्प के रूप में एक विशेष सीलेंट तैयार किया है।

Indian Army EME ने बनाया रिमोट कंट्रोल ट्रॉली

भारतीय सेना के इलेक्ट्रॉनिक्स और मैकेनिकल इंजीनियर्स (ईएमई) ने स्वास्थ्य सेवा के कर्मचारियों और अन्य लोगों तक ज़रूरी सामान पहुंचाने के लिए रिमोट-कंट्रोल ट्रॉली बनाई है। इस रिमोट संचालित ट्रॉली में वांश बेसिन और इस्टबिन भी है। ट्रॉली में स्टोरेज स्पेस भी है जो अस्पतालों और आइसोलेशन वार्ड में इस्तेमाल किया जा सकता है।

Indian Navy ने बनाया इन-हाउस पोर्टेबल ऑक्सीजन

भारतीय नौसेना ने एक अनोखा इन-हाउस पोर्टेबल ऑक्सीजन मल्टीफीडर बनाया है जो COVID-19 से पीड़ित छह मरीजों के लिए एक साथ इस्तेमाल किया जा सकता है। पोर्टेबल मल्टी-फीड ऑक्सीजन मैनिफोल्ड के रूप में डब किया गया, डिवाइस को एक ही ऑक्सीजन सिलेंडर से छह रोगियों के लिए इस्तेमाल किया जा सकता है।

भारतीय सेना ने बनाया लो-कॉस्ट वाला थर्मल स्कैनर

भारतीय सेना ने चिकित्साकर्मियों को कोरोना वायरस बीमारी से लड़ने में मदद करने के लिए कई कम लागत वाले नवाचारों का विकास किया है। इनमें नवीन सर्जिकल मास्क, हैंड सैनिटाइजर, एंटी-एयरोसोलाइजेशन बॉक्स और थर्मल स्कैनर शामिल हैं।

DRDO तेजी से COVID-19 सैंपल टेस्ट के लिए मोबाइल लैब बनाया है

COVID-19 संक्रमण के साथ संदिग्ध लोगों की स्क्रीनिंग प्रक्रिया को तेज करने के लिए DRDO की हैदराबाद स्थित प्रयोगशाला रिसर्च सेंटर इमारत (RCI) ने एक मोबाइल लैब बनाया है।

ऑटोमैटिक हैंड सैनिटाइज़र

फायर एक्सप्लोसिव एंड एनवायरनमेंट सेफ्टी (सीएफईईएस) दिल्ली ने आग दमन के लिए मिस्ट टेक्नोलॉजी में अपनी विशेषज्ञता का उपयोग करते हुए ऑटोमैटिक मिस्ट बेस्ड सैनिटाइज़र डिस्पेंसिंग यूनिट बनाई है। ये एक कॉन्टैक्टलेस सैनिटाइज़र डिस्पेंसर है, जो बिल्डिंग/कार्यालय परिसरों आदि में प्रवेश करते समय हाथों के सैनिटाइज़ेशन के लिए अल्कोहल बेस्ड हाथ रगड़ने वाले सैनिटाइज़र घोल का छिड़काव करता है।

<https://hindi.news18.com/news/tech/tech-innovations-indian-army-indian-navy-drdo-to-fight-against-coronavirus-pandemic-in-india-3075793.html>



Mon, 04 May 2020

Here are some 'tech innovations' by Indian Army, DRDO and others to fight COVID-19

Indian Army, Indian Navy and DRDO have also used technology to alter some of the equipment and make them smarter and more helpful in the fight against coronavirus

Technology has been a huge help in the fight against coronavirus. The government even got an app developed to protect people from getting into contact with those suspected of being carriers of COVID-19. While these tech developments are already helping us, Indian Army, Indian Navy and DRDO have also used technology to alter some of the equipment and make them smarter and more helpful during these tough times.

Remote-controlled trolley

Indian Army's Corps of Electronics and Mechanical Engineers (EME) have created a remote-controlled trolley. This is being used by healthcare workers to deliver essential items to frontline healthcare staff. In order to make it more helpful, the trolley comes equipped with a washbasin and dustbin.



The remote-controlled trolley comes with a washbasin and a dustbin.

Low-cost innovations

The Indian Army has been fighting for the citizens ever since its birth. They have recently developed a few low-cost tech innovations that aim to help medical workers in the fight against COVID-19. These innovations include surgical masks, hand sanitizer, anti-aerosolization boxes and thermal scanners.

Contactless Sanitizer dispenser

While sanitizers play a huge role in the fight against coronavirus, we often touch the bottles that potentially has germs around it. In order to solve this problem, Centre for Fire Explosive & Environment Safety (CFEES), Delhi has developed an automatic mist-based sanitiser dispensing unit. It uses infrared sensors to detect hands and dispense the sanitizer. It is just like the hand blowers we see in washrooms but just throws sanitizer instead of hot air.

Ultraviolet C Light-based sanitisation box

The most important thing to do during the ongoing pandemic is to sanitise our hands. But what is the point when our belongings like mobile phone, wallet and keys are infected? Defence Institute of Physiology & Allied Sciences (DIPAS), Institute of Nuclear Medicine & Allied Sciences (INMAS) and DRDO laboratories in Delhi have developed an Ultraviolet C Light-based sanitisation box. This can be used to sanitise a lot of things including wallets and keys. The organizations have also developed a handheld UV-C device with a wavelength of 254 nanometres.

<https://www.indiatvnews.com/technology/news-tech-innovations-by-indian-army-drdo-to-fight-coronavirus-pandemic-covid-19-613697>

‘अतुल्य’ करणार कोरोना विषाणूचा सफाया

कमी खर्चात यंत्र तयार

- ◆ हे यंत्र बनवायला लागणारा खर्च खूप कमी आहे. फक्त ४ हजार ५०० रुपये हे यंत्र बनवण्याचा खर्च आहे.
- ◆ हाताने किंवा स्टँडवर बसवून याचा वापर करता येऊ शकतो. ३० सेकंद, तसेच एका मिनिटात जमिनीवर, धातूवर या यंत्राद्वारे किरणांचा मारा करून निर्जंतुकीकरण करण्यात येते.
- ◆ या यंत्राचे वजन केवळ ३ किलो असल्याने ते कुठेही घेऊन जाता येणे शक्य आहे.

लोकमत न्यूज नेटवर्क

पुणे : संपूर्ण जग कोरोना विषाणूने प्रभावीत झाले असून, या विषाणूपासून वाचण्यासाठी शास्त्रज्ञ, अभियंते विविध उपकरणे बनवत आहेत. असेच एक उपकरण पुण्यातील डिफेन्स इन्स्टिट्यूट ऑफ अॅडव्हान्स् टेक्नॉलॉजी (डायट) संस्थेने बनवले असून, हे उपकरण कुठल्याही वस्तू, धातू आणि कपड्यांवरील कोरोनाचे विषाणू नष्ट करू शकते. या उपकरणाचे ‘अतुल्य’ असे नामकरण करण्यात आले असून, संरक्षण आणि संशोधन विकास संस्थेने (डीआरडीओ) मोठ्या प्रमाणात हे उपकरण बनविण्यास सांगितले आहे.



हा विषाणू कोठेही असू शकतो. एखाद्या धातूवर हा विषाणू जिवंत राहू शकतो. त्याला हात लागल्यास त्याची लागण त्या व्यक्तीला होऊ शकते. यामुळे आम्ही कोरोनाचा विषाणू नष्ट करता येईल, अशा यंत्राची निर्मिती करण्यास सुरुवात केली. या यंत्राची उपयोगिता पाहून डीआरडीओने याचे उत्पादन करण्यास परवानगी दिली आहे.

- सी. पी. रामनारायण, कुलगुरु, डिफेन्स इन्स्टिट्यूट ऑफ अॅडव्हान्स् टेक्नॉलॉजी

कोरोना विषाणूवर मात करण्यासाठी विविध संस्था झटत आहेत. भारतात कोरोनाचे रुग्ण वाढत आहेत. या विषाणूपासून दूर राहण्यासाठी सॅनिटायझर यंत्र, मास्क, हेडशिल्ड संरक्षण आणि विकास संस्थेने यापूर्वी विकसित केले आहे; मात्र धातू, वस्तूवरील विषाणू नष्ट करण्यासाठी संशोधन सुरु होते.

पुण्यातील डिफेन्स इन्स्टिट्यूट ऑफ अॅडव्हान्स् टेक्नॉलॉजी

हे यंत्र मायक्रोव्हेव यंत्र आहे. एस-प्रोटीनसारखा विषाणू नष्ट करण्यास हे यंत्र सक्षम आहे. हा विषाणू आणि कोरोना विषाणू मिळता जुळता असल्याने दवाखाने, रेल्वे, तसेच विविध कार्यालयात या यंत्राचा वापर करून धातू, वस्तू आणि कापडांवरील विषाणू नष्ट करता येतात. या यंत्रातून ५५० ते ६०० डिग्री सेल्सिअस तापमान तयार होत असून, त्याद्वारे निर्जंतुकीकरण करण्यात येते.

(डायट) संस्थेने यापूर्वी या उपकरण बनविण्यासाठी गेल्या २१ प्रकारच्या यंत्राची निर्मिती केली आहे. त्यामुळे वस्तूवरील विषाणू होते. त्यांच्या या प्रयत्नांना यश नष्ट करण्यासाठी एक प्रभावी आले आहे.

के ५० वर्ष

THE HINDU

Mon, 04 May 2020

A microwave steriliser to kill coronavirus

Product is cost-effective and can be operated in portable or fixed installations

Defence Institute of Advanced Technology in Pune, a deemed university supported by the Defence Research and Development Organisation (DRDO), has developed a microwave steriliser named ATULYA to disintegrate COVID-19. The virus gets disintegrated by differential heating in the range of 56-60 degree Celsius.

It is cost-effective that can be operated in portable or fixed installations, and was tested for human/operator safety and has been found safe. Depending on size and shape of various objects, time of sterilisation is from 30 seconds to one minute. The approximate weight is three kg and it can be used for non-metallic objects only.

<https://www.thehindu.com/news/cities/Hyderabad/a-microwave-steriliser-to-kill-coronavirus/article31495921.ece>

Mon, 04 May 2020

Indian Army band performs outside govt hospital, expresses gratitude to covid fighters

The tribute aims at boosting the morale of the frontline workers such as the healthcare workers, law enforcement, delivery personnel fighting Coronavirus

By Pritesh Kamath

Mumbai: As the nation battles the COVID-19 crisis fiercely, a chopper of the Indian Armed Forces passed above the government hospital in Panchkula in Haryana on Sunday followed by the Indian Army band that performed outside the hospital to express gratitude towards the health workers who are at the frontline of the battle against the deadly coronavirus.

The chiefs of the Indian Army, Navy and the Airforce also paid tribute to the police on Sunday for their exceptional and heroic efforts in the war against COVID-19 pandemic. CDS Bipin Rawat, COAS Manoj Mukund Naravane, Air Chief Marshal Rakesh Kumar Singh Bhadauria, and Navy chief Admiral Karambir Singh honoured the police force by laying a wreath at the National Police Memorial in the national capital Delhi on Sunday morning.

The tribute aims at expressing gratitude and boosting the morale of the frontline workers such as the healthcare workers, law enforcement, delivery personnel, and media that is fighting the novel Coronavirus pandemic. CDS General Bipin Rawat and the three service chiefs had addressed a press conference on Friday and said that the Indian Armed Forces had planned a series of special activities for paying tribute to the COVID warriors.

"On behalf of the armed forces, we want to thank all COVID-19 warriors. Doctors, nurses, sanitation workers, police, home guards, delivery boys and media which has been reaching out with the message of government on how to carry on with lives in difficult times," CDS General Bipin Rawat had said.

"There are some special activities that the nation will get to witness. Air Force will conduct flypast from Srinagar to Trivandrum and another one starting from Dibrugarh in Assam to Kutch in Gujarat. It'll include both transport and fighter aircraft," he had added.

The Navy on its part will have its warships deployed in formations in coastal areas in the evening on May 3. Navy warships would also be lit up and their choppers would be used for showering petals on hospitals.

As a part of the tribute ceremony, the Armed Forces showcased their performances in all the States and Union Territories across the country. The Indian Air Force aircrafts conducted fly past in various places across the country.

<https://www.republicworld.com/india-news/city-news/indian-army-iaf-pachkula-navy-covid-warriors-fighters-health-care.html>

Indian Air Force salutes frontline covid-19 workers

By Elizabeth Roche

- **Frontline fighter aircraft of Indian Air Force including the Sukhoi-30 MKI, MiG-29 and Jaguar, flew over Rajpath in central Delhi**
- **Healthcare workers in the national capital said they were elated and overwhelmed by the gesture**

New Delhi: A fleet of military jets undertook a spectacular fly-past over New Delhi on Sunday as part of a nationwide exercise to express gratitude to doctors, paramedics, sanitation staff and other frontline workers engaged in the fight against covid-19.

Frontline fighter aircraft of Indian Air Force including the Sukhoi-30 MKI, MiG-29 and Jaguar, flew over Rajpath in central New Delhi and then circled over the city for around 30 minutes. Helicopters then hovered over hospitals across with the city showering rose petals in a gesture of thanks and bringing cheer to the health care workers. Such scenes were repeated across the country.



When asked for their reaction, some healthcare workers in New Delhi said they were "elated" and "overwhelmed" by the gesture and also added that this would send out a message to those who had stigmatised and humiliated them.

Meenakshi Bhardwaj, the medical superintendent of the Ram Manohar Lohia Hospital, said the healthcare workers felt "honoured" by the gesture, according to a PTI report.

"It is a thoughtful gesture to thank the healthcare workers, who are risking their lives and leaving behind their families to serve people. People have been aggressive towards doctors in some instances and this is a message for them. It is a morale booster," she added.

Some 200 healthcare workers have contracted covid-19 in the line of duty. India has recorded more than 35,000 cases of covid-19 with about 1,500 deaths.

"The forces have done what people have not done -- giving due recognition and according respect to doctors, who are putting their lives on the line like the Army does for the nation. The gesture is really heartwarming," PTI quoted Neeraj Gupta, professor in the Department of Pulmonary, Critical Care and Sleep Medicine at the Safdarjung Hospital as saying. He said even the prime minister Narendra Modi had appealed to people not to mistreat doctors and healthcare workers and on the day of the "Janata Curfew", urged them to clap in the honour of the corona warriors. He was referring to Modi's appeal to all citizens to clap their hands and clang vessels on 22 March at 5.00 pm in a gesture of appreciation to healthcare workers in India.

"Despite all these pleas, the frontline workers have faced the wrath of those very people for whom they are working," he said.

Nursing officer Manju Dahiya, who is deployed at the COVID-19 ward at the Safdarjung Hospital, was quoted as saying: "It was such a nice gesture on the part of the Indian Army. We feel proud, motivated and inspired. It is so good to know that the country is with you and recognising your contribution."

At the Delhi government-run LNJP Hospital, healthcare workers stepped out when the flower petals were showered and clapped in response to the gesture, PTI said.

Indian navy ships too joined in the exercise of thanking "covid warriors" with personnel on board vessels standing in lines to form the words "Thank You."

Incidentally, in the US, Air Force and Navy pilots did something similar to thank their health care workers, a PTI report from the US said.

The US Air Force and Navy pilots staged a rare joint flyover in three American cities including Washington late Saturday to salute the frontline coronavirus responders and essential workers as the country, the worst hit by the pandemic, fought a grim battle against the "invincible enemy." A formation of six F-16C/D Fighting Falcon and 6 F/A-18C/D Hornet aircraft took part in the flyover, the report added.

The SARS-CoV2 virus that surfaced in Wuhan in December, has claimed 243,922 lives worldwide and infected over 3.4 million people globally, according to Johns Hopkins University data. The US has the highest number of infected at 1,133,069 with over 67,000 dead due to the disease.

<https://www.livemint.com/news/india/indian-air-force-salutes-frontline-covid-19-workers-11588511955305.html>



Mon, 04 May 2020

With fighter jets and army bands, India's military thank health workers

By Devjyot Ghoshal

New Delhi: India's air force flew aircraft low over more than a dozen cities on Sunday, part of a nationwide campaign by the armed forces to thank healthcare workers and other essential services personnel fighting the coronavirus outbreak.

So far India has recorded nearly 40,000 coronavirus cases and more than 1,300 deaths amid a weeks-long nationwide lockdown to contain the spread of the virus.

In the southern city of Bengaluru, a helicopter showered flowers over Victoria Hospital, as doctors and other medical workers in hospital gowns and masks cheered on, local television showed. A military band played alongside.

In the financial capital of Mumbai, television showed fighter jets roaring over the famous Marine Drive, which runs parallel to the Arabian Sea, as some residents craned for a view from their balconies.

Later on Sunday, navy and coast guard ships will line up along more than 30 locations on the Indian coast, with some vessels lit up and firing flares.

But the celebrations were dampened by news of the death of four Indian army personnel, including two officers, as well as a police official during a gun battle with militants in the northern Kashmir region on Saturday.

The five were killed while freeing hostages in Kashmir's Kupwara district, an Indian Army spokesman said. Two militants were also shot dead, he added.

<https://www.reuters.com/article/us-health-coronavirus-india-flypast/with-fighter-jets-and-army-bands-indias-military-thank-health-workers-idUSKBN22F05Y>



Indian Air Force (IAF) Sukhoi Su-30MKI fighter jets perform as part of an activity being carried out by the IAF to show gratitude towards the frontline warriors fighting the coronavirus disease (COVID-19) outbreak, in Gandhinagar, India, May 3, 2020. REUTERS/Amit Dave

Coronavirus: Indian Navy salutes corona warriors on land, air and sea

Here's how the Indian Navy paid tribute to the corona warriors on behalf of the entire nation
By Manjeet Singh Negi

HIGHLIGHTS

- **On land, Navy applauded frontline workers, formed human chains & naval band performed**
- **In air, Chetak helicopters carried out flypasts over hospitals & showered flowers**
- **At sea, Indian Navy ships were beautifully illuminated & fired flares in the air**

New Delhi: The Indian Navy joined the entire nation to express gratitude and salute the frontline workers on Sunday. Expressing gratitude and appreciation of the entire nation - while representing the Indian armed forces - towards the determination and committed efforts of our 'corona warriors' - the medical professionals, health workers, policemen, government staff and media, for their relentless efforts against Covid-19 through a number of activities on ground, in air and at sea.

LAND

Round of applause: Station commanders and senior naval officers across the three commands (Western, Southern and Eastern naval commands) and in Andaman and Nicobar Command met the healthcare professionals, policemen, sanitation workers and other frontline workers to convey the appreciation on behalf of the Indian Navy and applauded their efforts in successfully treating the Covid-19 patients and also thanked them for their relentless efforts.

Human word chain: 1,500 Indian Navy personnel at INS Hansa, Goa expressed their appreciation by forming a human chain and thanked the corona warriors.

Naval band: Earlier in the day, the SNC band played some famous numbers on a warship berthed opposite the Cochin Shipyard Limited (CSL) and near the Vikrant-Venduruthy Bridge, epochal landmarks of Kochi. Naval bands also performed onboard Ex-Viraat in Mumbai and at Visakhapatnam Harbour.

AIR

Flypast in Kochi, Kerala: As part of the thanksgiving gesture, Chetak helicopters of the Navy showered flower petals on the District Hospital in Kochi. Subsequently, a flypast of seven aircraft was conducted which consisted two Dornier aircraft, one SeaKing helicopter, two Advanced Light Helicopter (ALH) and two Chetak helicopters of the Indian Navy.

The flypast was conducted over the city's renowned landmark, Marine Drive which was immediately followed by steampast by seven fast interceptor crafts of the Navy, in the channel, displaying a banner thanking the corona warriors.

Vizag, Andhra Pradesh: A Chetak helicopter from INS Dega showered flower petals over Andhra Medical College, Government Hospital for Chest and Communicable Diseases (GHCCD) and GITAM Institute of Medical Sciences and Research (GIMSR).

Mumbai: Indian Navy Chetak helicopter carried out flypast while showering petals over Kasturba Gandhi hospital and Asvini Naval hospital in Mumbai.



An Indian Navy helicopter showers flower petals on medics to applaud them at INHS Asvini in Mumbai on Sunday. (Photo: PTI)

Goa: Indian Navy Chetak helicopter carried out flypast while showering petals over Goa Medical College and ESI Hospital.

Andaman and Nicobar Islands: Indian Naval aviation assets carried out fly past along with the Air Force and Coast Guard across various parts of Andaman and Nicobar Islands.

SEA

Eastern Naval Command: INS Jalashwa and INS Savitri on their mission-based deployments saluted the corona warriors for their relentless fight against the Covid-19 pandemic while at sea.

Western Naval Command: Indian Navy personnel in the Arabian Sea onboard mission deployed ships expressed their appreciation and thanked the corona warriors for their unwavering commitment.

Indian Navy personnel at INS Hansa, Goa and INS Vikramaditya expressed their appreciation by forming a human word chain.

Southern Naval Command: Steampast by seven fast interceptor crafts of the Navy, in the channel, in Kochi displaying a banner thanking corona warriors.

Illumination of ships at anchorage:

25 Indian Naval warships across nine port cities including those in Andaman and Nicobar Islands were illuminated and fired flares in the air from 7.30 pm onwards on Sunday.

Ships lit up at Mumbai anchorage, flare fires:

Ships of the Eastern Naval Command illuminated at Visakhapatnam, Andhra Pradesh:

Indian Coast Guard illuminates its ships to show solidarity with frontline workers for their contribution in the fight against Covid-19 in Thiruvananthapuram, Kerala:

Indian Navy ships of Southern Naval Command illuminated at The Anchorage in Ernakulam channel in Kochi, Kerala:

Indian Navy fires flares in the air as a mark of gratitude and appreciation for the frontline workers.

<https://www.indiatoday.in/india/story/indian-navy-salutes-corona-warriors-on-land-air-and-sea-see-visuals-1673974-2020-05-03>

दैनिक जागरण

ज्ञान प्रसार एवम् विर Mon, 04 May 2020

थल सेना, एयर फोर्स के बाद अब नौसेना ने दी कोरोना योद्धाओं को सलामी, दिखा भव्य नजारा

Thank Corona Warriors कोरोना महामारी से अग्रिम मोर्चे पर जंग लड़ने वाले कोरोना से लड़ रहे योद्धाओं को रविवार शाम को नौसेना ने भी सलामी दी। इस दौरान रात को भव्य नजारा दिखाई दिया

नई दिल्ली: थल सेना और एयरफोर्स के बाद अब नौसेना कोरोना वॉरियर्स को सलामी दे रही है। भारतीय तटरक्षक बल के अधिकारियों की मानें तो कोरोना योद्धाओं के सम्मान में बल के 46 जहाज रोशन किए जाएंगे। साथ ही 7516 किमी की तटरेखा को शामिल करते हुए 25 स्थानों पर हरी रोशनी छोड़ी जाएगी। नौसेना के पोत कोरोना योद्धाओं के सम्मान में सायरन भी बजाएंगे। यह पहला मौका है, जब तीनों सेनाएं वॉरियर्स के सम्मान एकसाथ आगे आई हैं।

भारतीय नौसेना के जवानों ने आईएनएस हंस पर मानव श्रृंखला बनाकर इंडिया सैल्यूट कोरोना वॉरियर्स अभियान के तहत फ्रंटलाइनर कोरोना वॉरियर्स के प्रति सम्मान व्यक्त किया।

दक्षिणी नौसेना कमान के जहाजों ने कोरोना के खिलाफ लड़ाई में फ्रंटलाइनर योद्धाओं के सम्मान में इंडिया सैल्यूट्स कोरोना वारियर्स अभियान के तहत कोच्चि तट पर भव्य आतिशबाजी की।

मुंबई में तैनात भारतीय नौसेना के जहाज ने कोरोना के खिलाफ लड़ाई में डॉक्टरों और मेडिकल स्टाफ के योगदान के लिए आभार जताया। जहाज से भव्य आतिशबाजी का नजारा दिखाई दिया।

आंध्र प्रदेश के विशाखापत्तनम में पूर्वी नौसेना कमान ने कोरोना के खिलाफ लड़ाई में डॉक्टरों एवं पैरामेडिकल स्टाफ के सम्मान में 'इंडिया सैल्यूट्स कोरोना वारियर्स' अभियान के तहत जहाजों से आतिशबाजी की...

कोरोना के खिलाफ जंग में अग्रिम पंक्ति के योद्धाओं के सम्मान में 'इंडिया सैल्यूट कोरोना वारियर्स' अभियान के तहत कोच्चि के एर्नाकुलम चैनल में दक्षिणी नौसेना कमान के जहाजों ने सागर को जगमग कर दिया।

नौसेना अपने युद्धपोतों से रविवार शाम को कोरोना योद्धाओं के सम्मान में आतिशबाजी का अभूतपूर्व नजारा भी पेश किया।

तमिलनाडु में नौसेना ने आइएनएस सहयाद्री और आइएनएस कामोत्रा को चेन्नई के तट पर कोरोना योद्धाओं के सम्मान में रोशनी से जगमग किया...

अरब सागर में तैनात भारतीय नौसेना के जहाज पर जवानों ने कोरोना के खिलाफ लड़ाई में डॉक्टरों और पैरामेडिकल स्टाफ के योगदान के लिए उनका आभार जताया...

भारतीय नौसेना के जवानों ने विमान वाहक पोत आइएनएस विक्रमादित्य पर चिकित्सा पेशेवरों और अन्य सभी फ्रंटलाइन योद्धाओं के प्रति सम्मान में एक मानव श्रृंखला बनाई।

हिंद महासागर क्षेत्र में तैनात भारतीय नौसेना के जहाज सावित्री पर जवानों ने स्वास्थ्य कर्मियों, स्वच्छता कर्मचारियों और पुलिसकर्मियों समेत कोरोना के खिलाफ लड़ रहे योद्धाओं के प्रति सम्मान प्रकट किया।

कोच्चि में दक्षिणी नौसेना कमान के हेलीकॉप्टरों और निगरानी विमानों ने कोरोना के खिलाफ फ्रंट लाइनर चिकित्सा पेशेवरों के प्रति आभार जताने के लिए जनरल हॉस्पिटल एर्नाकुलम के ऊपर से फ्लाइपास्ट किया।

इससे पहले बंगाल की खाड़ी में INS जलशवा ने कोरोना महामारी के खिलाफ लड़ाई लड़ रहे डॉक्टरों, नर्सों एवं अन्य स्वास्थ्य कर्मियों और पुलिस कर्मियों को सलामी दी।

उल्लेखनीय है कि कोरोना के खिलाफ जंग लड़ रहे लाखों डॉक्टरों, पैरामेडिकल स्टाफ, सफाईकर्मी और अग्रिम मोर्चे पर काम कर रहे कर्मचारियों के प्रति आभार व्यक्त करने के राष्ट्रव्यापी अभ्यास के तहत सैन्य विमानों ने राष्ट्रीय राजधानी के ऊपर भव्य फ्लाइ पास्ट किया। सैन्य विमानों के इन जत्थों में सुखोई-30 एमकेआई, मिग-29 और जैगुआर ने राजपथ के ऊपर उड़ान भरी और अगले 30 मिनट तक शहर का चक्कर लगाया। मुख्य परिवहन विमान सी-130 ने अलग से फ्लाइ पास्ट किया।

<https://www.jagran.com/news/national-thank-for-corona-warriors-now-indian-navy-salutes-corona-warriors-after-army-and-air-force-20240160.html>



Thank Corona Warriors कोरोना महामारी से अग्रिम मोर्चे पर जंग लड़ने वाले कोरोना से लड़ रहे योद्धाओं को रविवार शाम को नौसेना ने भी सलामी दी। इस दौरान रात को भव्य नजारा दिखाई दिया



Mon, 04 May 2020

CDS Gen. Rawat Says 'Pakistan frustrated with Peace in J&K', Lauds Handwara martyrs

Slamming Pakistan's continued support to terrorism, Chief of Defence Staff General Bipin Rawat, on Sunday, said that Pakistan was putting all its effort in infiltrating into Indian soil, in conversation with Republic TV. He added that Pakistan was frustrated with peace in the valley and hence was renewing its infiltration attempts. Expressing confidence in the Indian Army's ability, he said that Pakistan will be soon exposed with respect to terrorism.

CDS Rawat: 'Pakistan frustrated with peace in Pakistan'

"Pakistan continues to extend support to terrorists. All efforts are made to train them, to infiltrate, and carry out violence in the state of Jammu & Kashmir. I think they are frustrated with the peace they are witnessing in J&K. We had prepared for this. Whenever they see peace returning in Jammu & Kashmir, they will attempt excessive infiltration as they have to always tell people of Jammu & Kashmir – 'we support you'. India will expose them soon as far as terrorism is concerned," he said.

Talking about the martyrdom of 5 Indian soldiers in the Handwara encounter, earlier in the day, he said that they had upheld the true value of the Armed forces and succeeded in their mission. He added that the soldiers had stopped the two terrorists from infiltrating and carrying out violence in Jammu and Kashmir. He also expressed his condolences to the bereaved families and lauded the Bravehearts.

CDS pays tribute to Handwara martyrs

"Today's operation has been a sad operation – soldiers have laid their lives from the Indian Army and police forces. These five brave soldiers carried out their duty and ensured that the terrorists who had infiltrated do not carry out violence among the civilian population near Handwara. They have successfully completed their mission, but in the bargain, we have lost a commanding officer, one field officer, two more jawans, and a police inspector," he said.

He added, "I would like to use this opportunity to commend their bravery and express condolences to their families, upholding the true tradition of the Armed forces. They have maintained the peace in Jammu & Kashmir so that the people can benefit from what the government is doing for them".

Counter-terror operation in Handwara

A team comprising of five Army and JK Police personnel entered the target area in Jammu Kashmir's Handwara occupied by the terrorists to evacuate the civilians taken hostage in a house in Changimul, Handwara, the Army said. Two terrorists were eliminated and the team of five security forces personnel comprising of two Army officers, two Army soldiers and one JK Police Sub Inspector attained martyrdom. Top Lashkar-e Taiba commander Haider from Pakistan has been killed in Handwara encounter.

<https://www.defencenews.in/article/CDS-Gen-Rawat-Says-Pakistan-Frustrated-With-Peace-In-JandK,-Lauds-Handwara-Martyrs-830431>

Navy is tracking China & Pakistan's activities amid pandemic, Covid has no impact on ops

In an interview, DCNS Vice Admiral M.S. Pawar said the 35th Chinese Anti-Piracy Escort Force has set sail and is heading to the Indian Ocean Region

By Snehash Alex Philip

New Delhi: The Indian Navy is closely tracking the naval activities of China and Pakistan in the Indian Ocean Region (IOR) amid the Covid-19 pandemic, which has had no impact on the force's operational capability, a top naval officer has said.

In an interview to ThePrint Sunday, Deputy Chief of the Naval Staff (DCNS) Vice Admiral M.S. Pawar said China was the first country to be affected by the pandemic, which started in Wuhan, but there has been no major effect on the activities of People's Liberation Army Navy (PLAN).

"The 35th Chinese Anti-Piracy Escort Force (APEF) has set sail and is presently heading to the Indian Ocean Region to replace the 34th APEF deployed in the Gulf of Aden. Furthermore, a large number of PLAN/Coast Guard assets, maritime militia and survey ships are deployed in the contested waters of the South China Sea," DCNS Pawar said.

The DCNS is responsible for all operational issues in the Navy.

"Our Intelligence, Surveillance and Reconnaissance (ISR) assets (spaceborne, airborne, shipborne, ground and underwater systems) continue to remain deployed to maintain full-spectrum domain awareness for real-time compilation of operational picture in the entire IOR," he said.

The officer said that the South China Sea is witnessing disputes among multiple claimants to various islands, reefs and maritime zones in the region.

"A significant part of our trade passes through the area and naturally, we are interested in the safety and security of our maritime economic interests. We support peaceful resolution of disputes between the relevant parties and endorse a rules-based order," he said.

On Chinese Navy and its modernisation pace

The DCNS said that while China has been engaged in modernisation of PLAN since the 1990s, the last 15 years have seen an unprecedented pace.

"They have commissioned at least 117 major combatants in the last 10 years itself. PLAN is likely to become a four-carrier Navy by the end of this decade and could have 10 carriers by 2049. Presently, they appear to be focusing on integrating their aircraft carriers and the associated carrier battle groups (CBG)," he said.

Vice Admiral Pawar pointed out that China is already maintaining an average of six to seven units in the Indian Ocean Region.

"PLAN is also engaged in building larger amphibious platforms to expand their expeditionary capability. China's media has often hinted that the PLAN aircraft carrier could venture into the IOR in near future," he said.



A file photo of Deputy Chief of the Naval Staff Vice Admiral M.S. Pawar. | Photo: Twitter/@indiannavy

Apart from operationalising the Liaoning aircraft carrier, China has also commissioned its first indigenously built aircraft carrier Shandong.

Two Type 75 Landing Platform Dock (LPD) have been launched which would add to PLAN's expeditionary capability. The Type 055 destroyer with 112 Vertical Launching System (VLS) is among the largest in the world.

"All in all, it is beyond doubt that China is focused on rapidly developing naval capabilities, not only in terms of platforms but also in furthering their reach through the concept of 'Places and Bases' to operate from," he said, adding that it is instructive to note that China's first overseas military base is located in the IOR – in Djibouti.

He said the Indian Navy's modernisation is underway as planned, based on its needs and assessments, without any desire to match other navies' force levels, platform for platform.

"That having been said, we have perhaps the best human capital manning our platforms, which is indeed our greatest strength," he said.

On Pakistan's midget Submarines

Asked about inputs that Pakistan is operating midget submarines for its special forces, Vice Admiral Pawar said the Indian Navy is aware of the capabilities of adversaries and constantly monitors various procurement and developments in the region.

Midget submarines are typically used to infiltrate hostile areas for clandestine attacks, but can also undertake conventional tasks with limited endurance.

"However, our coastal security mechanisms have constantly improved over the last 12 years since the 26/11 terror strikes at Mumbai which emanated from Pakistan... We maintain thorough maritime domain awareness and are geared up to defeat all sea-borne threats," he said.

The officer added that an electronic net backed by coastal security assets "is capable of detecting and defeating any clandestine activity".

On operational impact due to Covid-19

Asked about the kind of operational impact the Covid-19 pandemic has had on the Navy, Vice Admiral Pawar said, "In short, nil".

"Our Naval assets continue to be mission deployed in three dimensions, with all the networks and space assets functioning optimally. The Navy remains combat-ready, mission capable and is in full readiness to partake in the national mission to fight the pandemic as well as to provide support to our friendly neighbours in the IOR," he said.

Indian naval assets continue to remain on patrol covering vast oceanic swathes – from the Straits of Malacca in the East to Bab-el-Mandeb in the West, to undertaking Op Sankalp to provide protection to the country's merchant vessels, and to conduct anti-piracy patrols in Gulf of Aden.

"In respect of coastal security, our citizens can rest assured that the Indian Navy, in coordination with nearly 20 other government agencies, is vigilant and on guard to ensure no breach of security through the sea-route," he said.

<https://theprint.in/defence/navy-is-tracking-china-pakistans-activities-amid-pandemic-covid-has-no-impact-on-ops/413822/>

Chinese Navy has now six type 094A Jin-class nuclear powered ballistic missile submarines

The Type 094 or Jin-class is a Nuclear-Powered Ballistic Missile Submarine (SSBN). It is the second-generation SSBN of the Chinese navy.

According to a report of the U.S. Office of Naval Intelligence published in 2015, the JIN-class nuclear ballistic missile submarine (SSBN) is poised to begin strategic patrols in the near future, for the first time, putting Chinese intercontinental range ballistic missiles to sea.

According to Naval military open sources, the Type 094 nuclear powered submarine is approximately 137 meters long. It is equipped with 12 missile tubes, each capable of firing the JL-2 SLBM (Submarine Launched Ballistic Missile), which carries between one to three nuclear warheads to an estimated range of 7,200 km. The JL-2 is derived from the DF-31 InterContinental Ballistic Missile (ICBM).

The JL-2 (NATO reporting name CSS-N-14) is a Chinese second-generation intercontinental-range submarine-launched ballistic missile (SLBM) deployed on the People's Liberation Army Navy's (PLAN) Type 094 submarines. It succeeds the JL-1 SLBM deployed on the Type 092 submarine.

According to the U.S. Department of Defense's 2019 annual report on Chinese military capabilities, China has built six Type 094, or Jin-class, nuclear ballistic missile submarines (SSBN), with four operational and two outfitting at Huludao Shipyard.

The Type 094A is a variant with a modified and improved sail. The sail appears to incorporate features from one installed on a modified Type 093. It could be equipped with 16 launch tubes, while Type 094 had only 12 launch tubes. Pictures published in 2015 to Chinese website, the Type 094A has a more prominent "hump" in the missile bay aft of the sail as well as other changes in the contours of the body. The Type 094A has a retractable towed array sonar (TAS) mounted on the top of its upper tailfin, which would make it easier for the craft to "listen" for threats and avoid them.

The Type 094A version could be equipped with new ballistic missile Julang-2A (JL-2A) which has a greater range than the JL-2. The new missile could reach virtually the entire United States from Yulin Naval Base in Hainan Island.

<https://www.defencenews.in/article/Chinese-Navy-has-now-six-Type-094A-Jin-class-nuclear-powered-ballistic-missile-submarines-830421>



Mon, 04 May 2020

चांद पर उत्खनन के लिए मचेगी होड़, जानिए ISRO क्यों रहना चाहता है इसमें आगे

इसरो (ISRO) इसरो अगले साल चंद्रयान (Chandrayaan3) अभियान शुरू करेगा। उसका उद्देश्य चांद पर हीलियम 3 (Helium3) के भंडार खोजना भी है जो अतुल ऊर्जा का स्रोत हो सकता है।

By Vikas Sharma

नई दिल्ली: क्या चांद (Moon) की धरती से हमें कुछ ऐसी चीजें मिल सकती हैं जो हमारी किसी समस्या का हल कर दे। क्या चांद पर उत्खनन (Mining on Moon) से कुछ ऐसा प्रचुर मात्रा में मिल सकता है जो हमें अपनी धरती पर नहीं मिल सकता। दुनिया के बहुत सारे देश देश ऐसी कुछ उम्मीदों के साथ चांद को लेकर अपनी योजनाएं बना रहे हैं। इसमें भारत भी पीछे नहीं है और वह दुनिया में इसकी अग्रणी भूमिका निभाना चाहता है।

इरादे जाहिर कर रहे हैं दुनिया के देश

भारत की भी चांद को लेकर अपनी योजनाएं हैं, अपने कार्यक्रम है। पिछले साल उसका चंद्रयान 2 मिशन नाकाम हो गया था, लेकिन उसका कार्यक्रम रद्द नहीं हुआ है। एक तरफ जहां नासा की योजना चांद पर इंसानी बस्ती बनाने के साथ ही वहां पर एक बहुत विशाल टेलीस्कोप स्थापित करने की है। तो दूसरी तरफ चीन भी चांद के पिछले हिस्से पर रोवर भेज कर अपना इरादा जाहिर कर चुका है।

चांद के दक्षिणी इलाके में जाना चाहता है भारत

भारतीय अंतरिक्ष कार्यक्रम के तहत भारतीय वैज्ञानिकों का इरादा चांद के दक्षिणी इलाके में जाने का है। एक बार वहां पहुंचने के बाद इसरो की कोशिश उत्खनन के उस दुर्लभ स्रोत के अध्ययन करने की है जो ट्रिलियन डॉलर की न्यूक्लियर ऊर्जा दे सकता है। चंद्रयान 2 के बाद अब चंद्रयान 3 से भारत अपना कार्यक्रम फिर से शुरू करेगा।

प्रचुर ऊर्जा के स्रोत की तलाश

हीलियम आइसोटोप पृथ्वी पर बहुत ही कम मात्रा में पाया जाता है, लेकिन वह चांद पर प्रचुर मात्रा में उपलब्ध है। इतना कि यदि वह सही तरह से उपयोग में लाया जा सके तो अगले 250 सालों में पूरी दुनिया की ऊर्जा की मांग की पूर्ति कर सकता है।

बड़े खेल का अखाड़ा होने वाला है चांद

इस अभियान से चांद पर अन्वेषण करने वालों की दौड़ में भारत की स्थिति बहुत मजबूत हो सकती है। इतना ही नहीं यह मंगल और आगे के अन्वेषणों में भी भारत को आगे बने रहने में मददगार हो सकता है। वहीं यह केवल वैज्ञानिक अन्वेषण ही नहीं बल्कि व्यवसायिक और सैन्य मामलों में भी अहम योगदान देगा इतना तय है।

कौन कौन शामिल हैं इस दौड़ में

इस दौड़ में अमेरिका, चीन, भारत, जापान, और रूस की सरकारें तो शामिल हैं ही, इसमें एलोन मस्क, जेफ बेजोस, रिचर्ड ब्रेनसन जैसे अरबपति भी अपनी भूमिका बनाने में लगे हुए हैं। वे इस क्षेत्र में निवेश की अपार संभावनाओं का दोहन करने के प्रयास में लगे हैं।

भारत की भी है तैयारी

भारत ने भी अंतरिक्ष पर इंसान भेजने की योजना बनाई है। सिवान का कहना है कि वे इस अभियान को लेकर काफी उत्सुक हैं, और इसरो भी इसके लिए तैयार है। इसरो ने इसके लिए 117 बिलियन डॉलर का बजट रखा है। इसरो अपने सस्ते अंतरिक्ष अभियानों के लिए मशहूर है। इससे पहले भी भारत का चंद्रयान अभियान अक्टूबर 2008 में प्रक्षेपित किया था जिसने चांद के 3400 चक्कर लगाए। इसने पहली बार चांद की सतह पर पानी के संकेत ढूंढे थे। लेकिन चंद्रयान 2 की नाकामी से उसका कार्यक्रम आगे खिसक गया है।

क्या होगा चंद्रयान 3 अभियान में

चंद्रयान 2 में एक ऑर्बिटर, लैंडर और एक रोवर था। सौर ऊर्जा से युक्त छह इस रोवर का नाम विक्रम था। विक्रम को कम से कम 14 दिन तक वहां रहकर 400 मीटर के दायरे में अपना काम लैंडर को वहां की तस्वीरें भेजनी थीं जिसे इसरो को उन्हें विश्लेषण के लिए भेजनी थी। अब यही काम चंद्रयान3 करेगा और उसके साथ कुछ और शोधकार्य भी जोड़े जा सकते हैं।

सुरक्षित आण्विक ऊर्जा का स्रोत

इस अभियान के मूल उद्देश्यों में एक चांद पर हीलियम 3 आइसोटोप की भंडार की खोज करना भी है। माना जा रहा है कि हीलियम3 एक सुरक्षित आण्विक ऊर्जा का स्रोत है। जिस तरह से दुनिया भर की स्पेस एंजेसी चंद्रमा के लिए अपनी योजनाएं बना रही हैं। आने वाले समय में इन देशों के बीच दिलचस्प प्रतियोगिता देखने को मिल सकती है।

<https://hindi.news18.com/news/knowledge/india-want-to-lead-in-harnessing-power-source-from-moon-know-why-viks-3075592.html>



Mon, 04 May 2020

Covid-19 slows down India's space race

The training in Russia of the four Indian Air Force pilots for the first human space mission of India has reportedly been put off due to the closure by Covid-19.

The space mission, called Gaganyaan, would be launched in 2022 from India into a low Earth orbit in space. Indian pilots were to return by the end of the year and continue specific training in India. All this was postponed now, the Financial Express newspaper reported.

Russia's Gagarin Cosmonaut Training Center, located in Star City about 30 kilometers from Moscow, has been in operation for more than 50 years. Crew training and testing of Gaganyaan systems are two of the most critical activities listed by the Indian Space Research Organization (ISRO) this year, according to ISRO President Kailasavadivoo Sivan in early 2020.

ISRO's Human Space Flight Center is involved from mission planning, systems engineering for human survival in space, to the crew selection and training stage.

Currently, ISRO scientists work from home via video conferencing. However, some specialists work on projects following Covid-19's strict social distancing protocols.

ISRO had planned to launch some important missions next year, with Gaganyaan-1 as a target by the end of that year. The solar ships Aditya and Chandrayaan-3 were also major missions scheduled for 2021.

<https://www.defencenews.in/article/Covid-19-slows-down-Indias-space-race-830436>

ISRO to validate the design and construction of rocket launchers

By Cameron Hills

Chennai: The Indian Space Agency will conduct a series of tests to validate the design and construction of the missile and orbital module system for the country's prestigious space program, Gaganyaan, a senior official said.

He also said the space agency would soon build its own astronaut training facility and launch its first small satellite launch vehicle (SSLV) or small rocket in a few months.

"The design and construction of the launcher and orbital module system for Indian spaceflight has been completed. A number of tests must be performed to validate the design and construction of the systems in 2020," said K.Sivan, chairman of the Indian space research organization (ISRO) said.

He spoke at the 70th Annual General Meeting and the National Conference on "Latest Developments in Aerospace and Defense Technology" organized by the Aeronautical Society of India.

According to Sivan, ISRO's goal is to have the first unmanned flight by the end of next year.

The demonstration of human spaceflight is planned before India's 75th Independence Day in 2022. Four Indians are undergoing astronaut training in Russia.

Sivan said that the new small rocket being built by ISRO is designed as an inexpensive space access option to cover a large number of small satellite launch programs.

He said the land purchase program for the construction of India's second missile launch center in Kulasekarapattinam in Tamil Nadu was underway to ship the small missiles.

Sivan said using the existing rocket launch center in Sriharikota in Andhra Pradesh to launch small rockets would hamper ISRO's regular launch programs.

According to him, SSLV's first development flight will take place in a few months.

According to Sivan, the space agency is working to develop a 10-ton missile for the geostationary transfer orbit (GTO) and semi-cryogenic engine.

He also said ISRO has transferred its lithium-ion cell technology to industry and its commercial space, New Space India Ltd, will work to transfer technologies developed by ISRO.

Sivan said New Space will also market ISRO's spin-off technologies inside and outside of India. It will be responsible for the transfer of small satellite and SSLV manufacturing to the industry.

He also said that the Polar Satellite Launch Vehicle (PSLV) will soon be manufactured by the industry as a full rocket.



<https://news herder.com/technology-uae/2020/05/03/isro-to-validate-the-design-and-construction-of-rocket-launchers/>

Like HIV and dengue, Covid-19 also might never have a vaccine: Report

- *'The public's hopes are repeatedly raised and then dashed, as various proposed solutions fall before the final hurdle,' says a CNN report*
- *From a total of 102 candidate vaccines for coronavirus in the race, eight leading vaccines are in human testing phase*

London: While over 100 vaccines are currently under pre-clinical trials and a couple of those have entered human trial stage, leading health experts have raised alarming questions about what if the world never sees a COVID-10 vaccine, as in the case of HIV and even dengue where there is no vaccine even after years of research.

According to a CNN report, "there is another, worst-case possibility: that no vaccine is ever developed".

In this outcome, "the public's hopes are repeatedly raised and then dashed, as various proposed solutions fall before the final hurdle", the report said on Sunday.

Nearly four decades and 32 million deaths later, the world is still waiting for

an HIV vaccine.

An effective vaccine for dengue fever, which infects as many as 400,000 people a year according to the World Health Organisation (WHO), has eluded scientists for decades.

A vaccine to prevent dengue (Dengvaxia) is available in some countries for people ages 9-45 years old. But the WHO recommends that the vaccine only be given to persons with confirmed prior dengue virus infection.

According to the US Centers for Disease Control and Prevention (CDC), the vaccine manufacturer, Sanofi Pasteur, announced in 2017 that "people who receive the vaccine and have not been previously infected with a dengue virus may be at risk of developing severe dengue if they get dengue after being vaccinated".

"There are some viruses that we still do not have vaccines against. We can't make an absolute assumption that a vaccine will appear at all, or if it does appear, whether it will pass all the tests of efficacy and safety," Dr David Nabarro, professor of global health at Imperial College London, was quoted as saying in the report.

According to Dr Anthony Fauci, Director of National Institute of Allergy and Infectious Diseases (NIAID), the vaccine could happen in 12-18 months.

However, "we've never accelerated a vaccine in a year to 18 months," Dr Peter Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine in Houston, was quoted as saying.

The COVID-19 disease could be with us many years into the future and lockdown is not sustainable economically.



Scientists are seen working at Cobra Biologics, they are working on a potential vaccine for Covid-19, following the outbreak of the coronavirus disease in Keele, Britain (Photo: Reuters)

"It means the culture of shrugging off a cough or light cold symptoms and trudging into work should be over. Experts also predict a permanent change in attitudes towards remote working," said the report.

Currently, a vaccine candidate for COVID-19 was identified by researchers from the Oxford Vaccine Group and Oxford's Jenner Institute. The potential upcoming vaccine, ChAdOx1 nCoV-19, is based on an adenovirus vaccine vector and the SARS-CoV-2 spike protein.

According to the WHO, from a total of 102 candidate vaccines in the race, eight leading vaccines are in human testing phase.

What probably separates ChAdOx1 - known as recombinant viral vector vaccine - from the rest is the time it has promised to take in order to deliver mass quantities.

However, no one is 100 per cent sure, yet.

(This story has been published from a wire agency feed without modifications to the text. Only the headline has been changed.)

<https://www.livemint.com/science/health/like-hiv-and-dengue-covid-19-also-might-never-have-a-vaccine-report-11588520135788.html>

theguardian

Sun, 03 May 2020

'How is this possible?' Researchers grapple with Covid-19's mysterious mechanism

Doctors are still exploring exactly how the coronavirus affects the body, and what its long-term impacts might be

By Melissa Davey

Respiratory physician Dr David Darley says something peculiar happens to a small group of Covid-19 patients on day seven of their symptoms.

"Up until the end of that first week, they're stable," says Darley, a doctor with Sydney's St Vincent's Hospital. "And then suddenly, they have this hyper-inflammatory response. The proteins involved in that inflammation start circulating in the body at high levels."

In these patients, the lungs begin to struggle. Blood pressure lowers. Other organs, including the kidneys, may begin to shut down. Blood clots form throughout the body. The brain and intestines may also be affected. Some suffer changes to their personality, suggesting brain damage.

"I think what is evolving is a very specific set of stages of disease and for some reason, not everyone goes through all of the stages," Darley says. "Some go through to the most severe stage and they require breathing support and oxygen. These patients who are severe tend to be older, they are more likely to be men, and also have other medical problems like diabetes, high blood pressure or cardiovascular disease."

But there is no way of knowing which patients will be affected by the most severe symptoms. Clinicians like Darley hope that a disease biomarker – a unique characteristic in the blood, body fluids, or tissues – will eventually be discovered for each stage.

"It would help clinicians predict what stage patients are at and maybe even if they will



A coloured electron microscope image of a human cell heavily infected with coronavirus. Photograph: NIAID/National Institutes of Health Handout/EPA

progress to the next stage of disease,” he said. “It could help us predict who needs to be more closely observed in hospitals and would mean we have all the systems ready to go if they worsen. And it would give us more confidence to have them discharged to home if a biomarker says they are low risk for developing severe illness.”

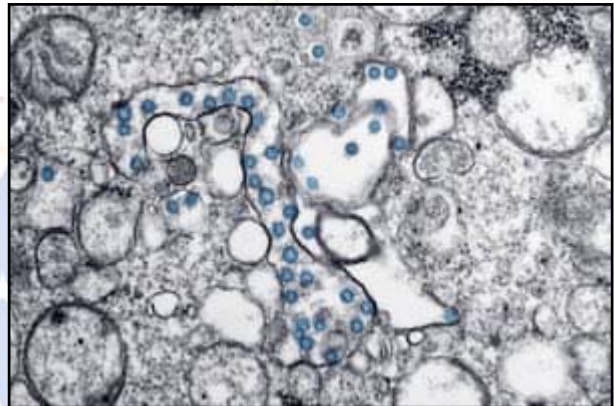
Darley is one of the researchers working on a long-term St Vincent’s study of patients admitted to the hospital with Covid-19. Patients will be followed for a year after being discharged, receiving tests at regular intervals to see if there are any lasting effects or changes in the body’s immune system and blood. They will also be assessed for any ongoing changes to lung, gut and brain functions. No [one yet knows](#) if the virus causes permanent or long-term harm.

“I don’t think it’s clear yet whether it’s the virus infecting the lungs and the blood vessels, or if it’s the body’s immune system which goes out of control which then causes lung and blood vessel injury,” Darley said. “Or, it could be a combination of both.”

“The pathogenesis is not clear yet. We are observing brain inflammation in a subset of patients, and in those we are seeing agitation and a change in behaviour or personality. That’s really interesting, and there are reports coming from elsewhere of some people, including younger patients, suffering stroke. It’s unclear whether the virus is infecting the lining cells of blood vessels in the brain, or whether the patient’s blood is excessively prone to clotting because of all the inflammation, leading to stroke.”

A renowned intensive care specialist from Italy, Prof Luciano Gattinoni, said this type of clotting in respiratory diseases is “extremely unusual”.

The 75-year-old has been working in intensive care for 40 years, and said he has never seen anything like what is happening to the lungs of some Covid-19 patients. What is particularly baffling is patients are presenting with poor oxygenation but little lung damage. This type of presentation is more typical of patients suffering from altitude sickness than a viral infection, Gattinoni says. As a result, patients who are very sick may not feel like they’re really struggling to breathe – even as they’re being critically deprived of oxygen.



A electron microscope image showing spherical particles of the novel coronavirus, coloured blue, from the first US case of Covid-19. Photograph: Hannah A Bullock, Azaibi Tamin/AP

“How is this possible?” Gattinoni told Guardian Australia from the intensive care department of the German hospital where he is working as a guest professor. “Bad oxygenation and good lungs tells me this must have something to do with the blood vessels. But these vessels are everywhere. In the brain. In the kidneys. So, in some patients, many organs are affected.”

The problem is, mechanical ventilation in intensive care replaces the strength of the respiratory muscles. If patients are struggling to breathe but their lung structure is OK, this ventilation does little to help and in fact may prove harmful, Gattinoni said, because mechanical ventilation is invasive.

He said while only a small number of patients are severe enough to require ventilation, a significant proportion of those on ventilators die, continuing to show low blood oxygen levels despite mechanical assistance.

Gattinoni said doctors must use ventilators only when needed, and at the right time. Getting this right can improve survival rates, he believes, and he thinks wrongly timed ventilation is why some intensive care units treating Covid-19 patients have higher death rates than others.

“Timing with this disease is absolutely critical,” he said. “Ventilation cannot begin too early or too late.” In the meantime, patients are given anticoagulants, drugs that prevent or slow blood clotting in the hope that stroke can be prevented.

Darley said scans of the lungs of Covid-19 patients are unique, showing “ground glass opacity”, a hazy pattern that does not obscure the underlying lung structure. Lung cancer, for example, would typically show on a scan as a dark, solid lesion, obscuring other structures in the lungs. While other illnesses, for example bacterial infections, can result in ground glass opacity on a scan, there were some unusual features on scans for Covid-19, Darley said.

“It has a classic pattern in Covid,” he said.

He suspects men are more severely affected than women because the virus is activated by an enzyme controlled by androgens, a group of hormones that play a role in male characteristics. But more research is needed to test this hypothesis. Darley added that any research into the virus needed to be conducted ethically and with strong scientific protocols.

“With no treatments for this virus, all we can do for severe patients at the moment is provide supportive care,” he said. “If the level of fluid is low, we can replace it. If they need ventilation, we can help them breathe. But treatments for this disease can only come from clinical trials.

“Our commitment at our hospital is to work with the highest level of scientific inquiry. People are desperate for treatments but we are reluctant to try treatments outside of clinical trials here.

“If we don’t clearly show a treatment is better than placebo or other treatments, we could be creating noise and adding to the current chaos of the scientific community. Our responsibility is to find treatments that work.”

Gattinoni agrees. He said scientists had been trying for decades to find drugs that moderate the inflammatory reaction, and he said these drugs had been “romanticised and popularised” in the race to find treatments for Covid-19.

“But in thousands of experiments over the years trying to block inflammatory responses, we’ve only had a lot of poor results,” Gattinoni said. “Like many other things in medicine, we have to be patient.”

<https://www.theguardian.com/world/2020/may/01/how-is-this-possible-researchers-grapple-with-covid-19s-mysterious-mechanism>

The Guardian logo is displayed in white text on a dark blue rectangular background.

Sat, 02 May 2020

US germ warfare research leads to new early Covid-19 test

Exclusive: test has potential to identify carriers before they become infectious

By Giles Tremlett

Scientists working for the US military have designed a new Covid-19 test that could potentially identify carriers before they become infectious and spread the disease, the Guardian has learned.

In what could be a significant breakthrough, project coordinators hope the blood-based test will be able to detect the virus’s presence as early as 24 hours after infection – before people show symptoms and several days before a carrier is considered capable of spreading it to other people. That is also around four days before current tests can detect the virus.

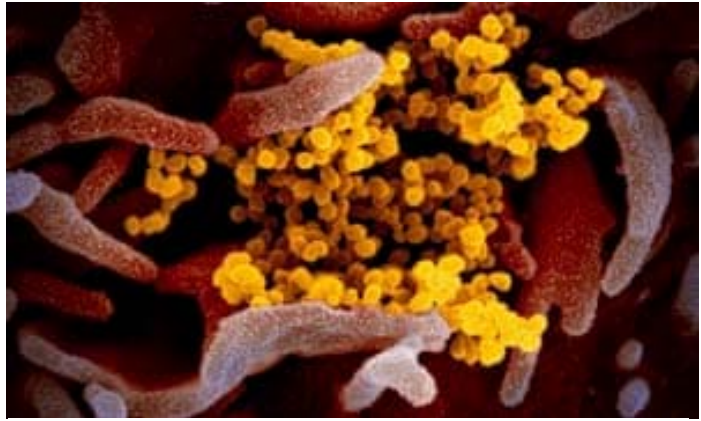
The test has emerged from a project set up by the US military’s Defense Advanced Research Projects Agency (Darpa) aimed at rapid diagnosis of germ or chemical warfare poisoning. It was hurriedly repurposed when the pandemic broke out and the new test is expected to be put forward for emergency use approval (EUA) by the US Food and Drug Administration (FDA) within a week.

“The concept fills a diagnostic gap worldwide,” the head of Darpa’s biological technologies office, Dr Brad Ringeisen, told the Guardian, since it should also fill in testing gaps at later stages

of the infection. If given FDA approval, he said, it had the potential to be “absolutely a gamechanger”.

While pre-infectious detection would improve the efficiency of test-and-trace programmes as governments worldwide relax lockdowns, Darpa cautioned that it must wait until after FDA approval is given and the test can be put into practise for evidence of exactly how early it can pick up the virus.

“The goal of research is to develop and validate an early host blood response diagnostic test for Covid,” Prof Stuart Sealfon, who leads the research team at Mount Sinai hospital in New York, said in an email.



A transmission electron microscope image showing Sars-CoV-2, the virus that causes Covid-19. The new test looks at the body's immune response to infection. Photograph: Alamy

He said the testing approach, which looks at the body's response as it fights Covid-19, should produce earlier results than current nose-swab tests that hunt for the virus itself. “Because the immune response to infection develops immediately after infection, a Covid signature is expected to provide more sensitive Covid infection diagnosis earlier,” he told the Guardian.

The research behind the development of the tests will eventually be made public, with the collaborating teams from medical schools at Mount Sinai, Duke University and Princeton expected to publish online, allowing scientists around the world to trial similar methods.

If EUA is granted, the test should start being rolled out in the US in the second half of May. Approval is not guaranteed, but Darpa scientists are enthusiastic about the potential impact as governments loosen lockdowns amid worries about controlling potential second-wave outbreaks.

“We are all extremely excited. We want to roll this test out as quickly as we can, but at the same time share with others who might want to implement in their own countries,” said Dr Eric Van Gieson, who set up Darpa's epigenetic characterization and observation (Echo) programme last year to diagnose biological warfare victims, and has redirected it to focus on Covid-19. Epigenetics looks at a set of controls on genes that can respond to the environment.

Hope that the test might pick up carriers before they become infectious is based on previous research into other viruses, though Sealfon said this remained “unknown” for Covid-19.

“We have evidence that diagnosis happens in the first 24 hours for influenza and an adenovirus,” Van Gieson said. “We are still in the midst of proving that with Covid-19. That said, we should know very soon after EUA.” He sees potential for the US to carry out up to a million tests a day, starting with 100,000 daily in May.

The test would up up the possibility of isolating pre-infectious cases and closing down transmission chains. It could also dramatically reduce quarantine periods for people exposed to Covid-19 spreaders, allowing them to go back to work within days. “It could have exceptional demand,” said Chris Linthwaite, the chief executive of Fluidigm, a California life-sciences technology company that is part of the project, who believes frequent testing can help manage workforces as they return to offices, warehouses and factories.

The UK government announced plans two weeks ago to restart a contact-tracing programme that was abandoned early in the outbreak. Britain's stated target was [100,000 tests a day](#) by the end of April. France announced on Tuesday that it would test 700,000 people a week, including those without symptoms.

Other countries such as South Korea, Australia and New Zealand already have efficient tracing systems, but they would be boosted if carriers could be detected early.

Darpa experts also see potential to improve protocols for protecting health care workers and others in high-risk jobs, as well as those in relatively self-contained or isolated communities such as care homes and prisons or onboard ships.

The test uses the same polymerase chain reaction (PCR) machines used for checking nasal swabs from people suspected of having the virus. “It’s a simple tweak,” said Van Gieson. “The infrastructure is already there.”

Limitations on use are similar to those already faced by countries such as Britain and depend on PCR capacity, stocks of chemical reagents and logistics. Results can take an hour, or longer if samples must be sent away to laboratories.

Like the viral test, the new blood test hunts for a type of molecule called RNA. In this case it is messenger RNA (mRNA). “Target mRNA is part of the immune response to viral infection,” Sealon said. “mRNA expression levels really do adjust due to the presence of Covid-19. Understanding the immune response is key to fighting Covid-19.”

Covid-19 is thought to incubate for about five days, at which stage people are assumed to become infectious. That is also when the virus can be detected by current nose swab tests. “They do the job, they just don’t tell you someone is sick until maybe four days after this [new test],” said Van Gieson.

The research shows accuracy levels above 95%. “This is something that will need to be constantly monitored as it will inevitably change up or down,” Van Gieson said.

Blood samples are harder to collect than nose swabs, but may be more reliable. Swab testing can be difficult because it requires taking a sample from deep inside the nose.

“It can throw up a lot of false negatives,” said Prof Lawrence Young of Warwick University, adding that recent studies showing low reliability were probably due to poor swab sampling. “I’ve been very concerned by pictures on the television of drive-in testing. Something you could measure reliably in blood could be a good thing.”

Like all researchers contacted by the Guardian, however, he was unwilling to comment further until the Mount Sinai-led team published its research. Most were concerned about potential problems with accuracy and practicality. Blood collection is a potential limitation, since drive-in centres are not usually equipped to do this. One millilitre of blood – a fifth of a teaspoon – is needed.

The research team is expected to publish the mRNA sequence, allowing others to create the so-called “primer” required. A similar approach was taken when the genetic sequence of the virus itself was released by China in January, allowing tests to be developed rapidly in South Korea and elsewhere.

<https://www.theguardian.com/world/2020/may/01/us-germ-warfare-lab-creates-test-for-pre-infectious-covid-19-carriers>

बहुरूपिए वायरस पर शोध कराएगा आईसीएमआर

न्यूज डेस्क, अमर उजाला, नई दिल्ली: भारत में कोविड-19 की नई प्रजातियों की तलाश के लिए आईसीएमआर अध्ययन करवाएगा। नए कोरोना वायरस के भारत में कई नए रूपों में बदलने की आशंका है। वैज्ञानिकों के मुताबिक, बदलाव की जानकारी से टीके की खोज में आसानी होगी। हालांकि सूत्रों ने बताया, लॉकडाउन में नमूनों को लाने ले जाने में दिक्कत आ रही है।

इस वजह से लॉकडाउन खत्म होने पर शोध को गति मिल सकेगी। सूत्रों ने बताया कि अध्ययन से वायरस की संक्रमण क्षमता का भी आकलन हो पाएगा। वैज्ञानिकों का कहना है कि अन्य देशों की तुलना में देश के वायरस में 0.2 से 0.9 फीसदी तक बदलाव आए हैं। एन्फ्लुएंजा डाटा साझेदारी की वैश्विक पहल के तहत आंकड़े उपलब्ध कराए जा रहे हैं। विश्वभर के विशेषज्ञों ने वायरस के सात हजार से ज्यादा जीनोम सीक्वेंस तैयार किए हैं।

भारत में तीन स्वरूप : भारत में वायरस के तीन स्वरूप सामने आए हैं, यह वुहान, इटली और ईरान के हैं। ईरान के वायरस का स्वरूप चीन से मिलता जुलता है। आईसीएमआर के विशेषज्ञ डॉ. रमन गंगाखेड़कर पहले ही कह चुके हैं कि देश में वायरस के स्वरूप का निर्धारण करने में समय लगेगा। हालांकि उनका कहना था कि वायरस के बदलने पर भी नया टीका सभी पर काम करेगा।

<https://www.amarujala.com/india-news/covid19-icmr-will-conduct-research-on-multimodal-virus>

NEWS 18

Mon, 04 May 2020

हर्ड इम्यूनिटी पर नई रिसर्च: कोविड 19 थमने में दो साल तो लगेंगे

न्यूज18 ने आपको पहले बताया था कि क्या होती है हर्ड इम्यूनिटी और भारत में क्यों थ्योरी दी गई कि कोरोना वायरस पर काबू के लिए यही रास्ता है। अब विशेषज्ञों ने इस थ्योरी को दुनिया भर के लिए ज़रूरी माना है। जानिए कि वैश्विक महामारी का दूसरे दौर को लेकर क्या चेतावनियां हैं और क्या वाकई यह थ्योरी कारगर है?

34 लाख से ज्यादा लोग संक्रमित हो चुके हैं और 2 लाख 44 हजार से ज्यादा जानें जा चुकी हैं। क्या इससे भी खराब स्थिति और कोई हो सकती है? एक नई रिसर्च (New Research) में चेतावनी दी गई है कि महामारी (Pandemic) का दूसरा दौर आना तय है, जो और घातक हो सकता है। साथ ही, कहा गया है कि महामारी को थमने में कम से कम दो साल का वक्त तो लगेगा ही।

ई इम्यूनिटी (Herd Immunity) को लेकर हुई इस नई रिसर्च में दावा किया गया है कि कोविड 19 (Covid 19) महामारी पर तब तक काबू नहीं पाया जा सकेगा, जब तक दुनिया की करीब 70 फीसदी आबादी संक्रमित (Infection) होकर या किसी तरह से वायरस के खिलाफ इम्यूनिटी विकसित नहीं कर लेगी। और इस प्राकृतिक प्रक्रिया में दो साल का समय लगने का आंकलन किया गया है। इस बारे में दिलचस्प पहलुओं के साथ ही ये भी जानें कि इस थ्योरी में कितना दम है।

रिसर्च : दूसरा दौर आएगा

अमेरिका की मिनेसॉटा यूनिवर्सिटी के संक्रामक रोग रिसर्च केंद्र के शोधकर्ताओं ने 300 साल के इतिहास में फ्लू संबंधी बड़ी महामारियों को लेकर अध्ययन किया। सीबीएस न्यूज और अटलांटा जर्नल में प्रकाशित खबरों के मुताबिक रिसर्च में पाया गया कि पहले दौर के छह महीने के बाद तकरीबन हर महामारी का दूसरा दौर आता है, जो ज़्यादा घातक साबित होता है। करीब दो सालों तक और भी दौर आते हैं, लेकिन बाद के दौर अपेक्षाकृत कम असरकारी होते हैं।

अभी तो बहुत कम है हर्ड इम्यूनिटी!

रिपोर्ट में कहा गया है कि महामारी का समय डेढ़ से दो साल तक का होता ही है क्योंकि हर्ड इम्यूनिटी विकसित होने में इतना समय लग ही जाता है। मौजूदा कोविड 19 के मामले में 60 से 70 फीसदी आबादी में इम्यूनिटी विकसित होने में दो साल तो लगेंगे ही क्योंकि अभी दुनिया में सिर्फ 34 लाख संक्रमण मामले हैं, जो कि कुल आबादी का बहुत छोटा हिस्सा है।

मुश्किल वक्त के लिए रहें तैयार

वैज्ञानिकों को हालांकि अभी यह नहीं पता है कि एक बार कोरोना वायरस से संक्रमित होने वाला व्यक्ति क्या भविष्य के लिए इम्यून हो जाएगा या उसकी यह इम्यूनिटी कितने समय की होगी। दूसरी ओर, सीडीसी के निदेशक रॉबर्ट रेडफील्ड पहले ही चेता चुके हैं कि महामारी के दूसरे दौर के लिए तैयार रहें क्योंकि यह पहले दौर से ज़्यादा जानलेवा साबित हो सकता है।

अब सवाल हर्ड इम्यूनिटी थ्योरी पर

इससे पहले भारत में हर्ड इम्यूनिटी के आधार पर ही संक्रमण पर काबू पाए जाने की थ्योरी दी गई थी। भारतीय वैज्ञानिकों ने कहा था कि भारत की करीब 60 फीसदी आबादी को संक्रमित होकर वायरस के खिलाफ इम्यूनिटी विकसित करना होगी। लेकिन हर्ड इम्यूनिटी की थ्योरी पर सवाल खड़े करते हुए फॉरेन पॉलिसी की रिपोर्ट कहती है कि यह थ्योरी विवादित है जिसे यूके पहले ही खारिज कर चुका है।

बगैर वैक्सीन यह संभव नहीं

हर्ड इम्यूनिटी को बगैर वैक्सीन के नामुमकिन करार देते हुए यह रिपोर्ट कहती है कि इससे हेल्थ सिस्टम ध्वस्त हो जाएगा और वायरस से मौतों की दर बढ़ेगी। भारत जैसे युवा आबादी वाले गरीब देशों में यह थ्योरी इसलिए कारगर नहीं होगी क्योंकि:

1. अक्ल तो विशेषज्ञों को ही कोविड 19 की इम्यूनिटी के बारे में ज़्यादा पता नहीं है कि यह कितने समय तक रहेगी या इससे कितनी सुरक्षा मिलेगी और क्या दोबारा संक्रमण होगा या नहीं।
2. भारत के लिए यह थ्योरी अनुमान के चलते दी गई है क्योंकि माना गया है कि यहां की ज़्यादातर आबादी युवा है इसलिए संक्रमण को झेल जाएगी और गंभीर स्थिति नहीं होगी।
3. अंततः हर्ड इम्यूनिटी को एकमात्र रणनीति के तौर पर मान्यता नहीं दी जा सकती। स्वास्थ्य प्रणाली की क्षमता, ज़्यादा टेस्टिंग, प्राइवेट और पब्लिक सेक्टर सहयोग, हाई रिस्क से आबादी की सुरक्षा और अन्य ज़रूरी उपायों के साथ जब तक मज़बूत तंत्र तैयार न हो, हर्ड इम्यूनिटी भरोसे लायक रणनीति नहीं है।

<https://hindi.news18.com/news/knowledge/know-about-new-research-on-herd-immunity-for-corona-virus-bhvs-3076366.html>