



## DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY  
Tuesday 20210831

### कोरोना

कोरोना से 5 दिन बाद मिली बड़ी राहत, 24 घंटे में मिले 31 हजार नए केस, एक्टिव मामले भी घटे  
(Hindustan: 20210831)

<https://www.livehindustan.com/national/story-coronavirus-news-cases-30941-in-24-hours-active-cases-also-goes-down-4478818.html>

कोरोना के लगातार 5 दिनों तक 40 हजार से ज्यादा केस मिलने के बाद अब राहत मिली है। मंगलवार को देश भर में एक दिन में 30,941 नए केसों का आंकड़ा दर्ज किया गया है। इससे पहले लगातार 40 हजार से ज्यादा केस मिल रहे थे, जिससे चिंताएं बढ़ी हुई थीं। लेकिन अब आंकड़ा एक बार फिर से 30 हजार के करीब आने से राहत की सांस मिली है। यही नहीं रिकवर होने वालों की संख्या भी 36,275 रही है। इसके साथ ही देश में अब तक कोरोना से रिकवर होने वाले लोगों की संख्या बढ़कर 3,19,59,680 हो गई है। फिलहाल देश में कोरोना रिकवरी रेट 97.53% है।

इसके अलावा अब तक मिले कुल मामलों के मुकाबले एक्टिव केसों का प्रतिशत 1.13% ही रह गया है। अब देश में एक्टिव केसों का आंकड़ा 3,70,640 है। हालांकि बीते 5 दिनों में नए केसों में तेजी के चलते वीकली पॉजिटिविटी रेट 2.51% हो गया है, जो पहले 2 फीसदी से कम पर आ गया था। हालांकि अब भी बीते 67 दिनों से यह 3 पर्सेंट से कम बना हुआ है। डेली पॉजिटिविटी रेट 2.22 पर्सेंट हो गया है। नए केसों में कमी के साथ ही वैक्सीनेशन के मोर्चे पर भी बड़ी सफलता मिलती दिख रही है। अब तक देश में 64 करोड़ से ज्यादा टीके लग चुके हैं।

[https://epaper.livehindustan.com/imageview\\_1016940\\_108688954\\_4\\_1\\_31-08-2021\\_0\\_i\\_1\\_sf.html](https://epaper.livehindustan.com/imageview_1016940_108688954_4_1_31-08-2021_0_i_1_sf.html)

# चिंता: हफ्तेभर में संक्रमण 30 फीसदी बढ़ा

नई दिल्ली | विशेष संवाददाता

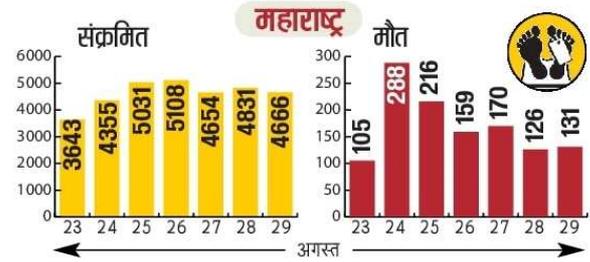
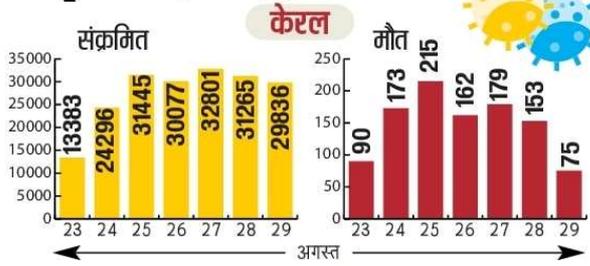
कोरोना की दूसरी लहर अभी खत्म नहीं हुई है। यह बात सरकार भी कह रही है और आंकड़े भी यही संकेत दे रहे हैं। पिछले एक सप्ताह के दौरान संक्रमण में 30 और मौतों में 16% की बढ़ोतरी हुई है। आंकड़े संकेत दे रहे कि देश कोरोना की तीसरी लहर के मुहाने पर बैठा है।

प्रोजेक्ट जीवन रक्षा द्वारा किए गए एक विश्लेषण के अनुसार, एक सप्ताह में कोरोना के मामले 2.33 लाख से बढ़कर 2.88 लाख हो गए हैं जबकि मौतें 3110 से बढ़कर 3603 हो गई हैं। यह वृद्धि क्रमशः 30% व 16% की रही है। इनमें से ज्यादातर संक्रमण केरल और फिर महाराष्ट्र के हैं। मौतों के मामले भी इन्हीं दो राज्यों में ज्यादा हैं। टीम ने 16-22 अगस्त के बीच मौतों का भी विश्लेषण किया गया। कुल 1249 मौतें दर्ज की गईं। जिनमें से 893 यानी 71% केरल में, 15% तमिलनाडु तथा 13% कर्नाटक में हुईं। केरल में दस साल से कम उम्र के दो बच्चों की भी मृत्यु हुई।

## संकट क्यों

- केरल में हर पांच में से एक मौत 80 से ज्यादा उम्र के लोगों की। यहां बुजुर्ग अधिक इसलिए संक्रमण से मौतें भी ज्यादा। तमिलनाडु-कर्नाटक में यह पैटर्न नहीं दिखा
- केरल में कांटेक्ट ट्रेसिंग कम हो रही है। प्रति संक्रमित औसतन दो कांटेक्ट ट्रेस किए जा रहे हैं जबकि यह 22 तक होने चाहिए।

## केरल-महाराष्ट्र ने बढ़ाई दिक्कत



## टीकाकरण

**63**  
करोड़ से अधिक टीके की खुराक दी जा चुकी अब तक

**36%**  
से अधिक को टीके की पहली खुराक दी गई

**11%**  
से ज्यादा लोगों ने अब तक कोरोना टीके की दोनों खुराक ली

## इन पांच राज्यों में पॉजिटिविटी रेट ज्यादा

केरल	18.8	सिक्किम	9.5
मणिपुर	11.3	मेघालय	6.8
मिजोरम	11.1	(आंकड़े प्रतिशत में)	

## नियम तोड़ने वालों में 87% बिना मास्क के

दिल्ली में लॉकडाउन के दौरान पुलिस ने कोरोना नियम उल्लंघन में पौने तीन लाख लोगों पर कार्रवाई की है। इनमें 87.8 फीसदी मास्क नहीं पहनने वाले लोग शामिल हैं। > ब्योरा पेज 09

**नई रिसर्च में खुलासा, सांस से जुड़ी बीमारी नहीं है कोविड-19 संक्रमण! (Dainik Jagran: 20210831)**

<https://www.jagran.com/lifestyle/health-new-study-claims-covid-19-is-not-a-respiratory-disease-21977674.html>

Coronavirus एक नए शोध में दावा किया गया है कि कोविड-19 एक संवहनी स्थिति (vascular condition) है और फेफड़ों से संबंधी बीमारी नहीं जैसा कि इसे अक्सर माना जाता है। कैलिफोर्निया विश्वविद्यालय-सैन डिएगो में इस पर नया शोध किया गया।

नई दिल्ली, लाइफस्टाइल डेस्क। Covid-19: कोविड से जुड़ी कई जानकारियों में आए दिन बदलाव आते रहते हैं, लेकिन एक बात तो निश्चित थी कि यह एक सांस की बीमारी है। यहां तक कि ज्यादातर मरीज जो कोविड-19 वायरस संक्रमित हुए थे, उनमें सांस से जुड़े हल्के से मध्यम लक्षण नज़र आए थे और वे बिना किसी मेडिकल मदद के रिकवर भी हो गए थे।

नई रिसर्च आई सामने

लेकिन एक नए शोध में दावा किया गया है कि कोविड-19 एक संवहनी स्थिति (vascular condition) है और फेफड़ों से संबंधी बीमारी नहीं, जैसा कि इसे अक्सर माना जाता है। कैलिफोर्निया विश्वविद्यालय-सैन डिएगो द्वारा प्रायोजित एक रिसर्च के अनुसार, कोविड के कुछ रोगियों में रक्त के थक्कों के साथ-साथ अन्य चिंताएं जैसे कि 'कोविड फीट', आमतौर पर एक सांस से जुड़ी बीमारी के संकेत नहीं हैं।

जर्नल सर्कुलेशन में प्रकाशित शोध के अनुसार, यह वायरस धमनी या संचार प्रणाली को टारगेट करता है। इसका S प्रोटीन, जो क्राउन बनाता है, ACE2 रिसेप्टर पर हमला करता है, जिससे कोशिका के माइटोकॉन्ड्रिया को नुकसान होता है, जो ऊर्जा पैदा करता है और फलस्वरूप एंडोथेलियम, जो रक्त धमनी को कवर करता है।

शोध ने एक छद्म वायरस तैयार किया जिसमें सिर्फ एस प्रोटीन शामिल था और वायरस का कोई अन्य भाग प्रयोगशाला में प्रदर्शित करने के लिए नहीं था। यह प्रोटीन अपने आप में बीमारी को प्रेरित करने के लिए पर्याप्त है। यह पहले ही देखा जा चुका है, लेकिन एस प्रोटीन की सटीक विधि और कार्य अब तक अज्ञात था। अध्ययन के अनुसार, इस वक्त मौजूद सभी वैक्सीन ने यह प्रोटीन रीक्रिएट कर लिया है।

शोध का नतीजा

संवहनी समस्याएं रोगी की प्रतिरक्षा प्रतिक्रिया से संबंधित हो सकती हैं। श्वसन प्रणाली पर प्रभाव फेफड़े के ऊतक की सूजन के कारण होता है। यही वजह है कि कई लोग जो कोविड-19 से पीड़ित होते हैं, उन्हें स्ट्रोक या दूसरी दिक्कतों का भी सामना करना पड़ता है।

### **25% of fully vaccinated healthcare workers at Delhi hospital got infected, but no hospitalisations (The Hindu:20210831)**

<https://www.thehindu.com/news/cities/Delhi/25-fresh-infection-among-fully-vaccinated-delhi-hospital-healthcare-workers-study/article36186930.ece>

Delta and its associated lineages comprise nearly half the coronavirus infections and are believed to be driving the infection in Kerala and Maharashtra.

None of nearly 600 vaccine recipients, however, reportedly required hospitalisation.

In an indicator of the diminishing role of vaccines in preventing transmission of the coronavirus, a little over 25% of the fully vaccinated health-care workers of a Delhi hospital contracted a fresh or 'breakthrough' infection. None of the nearly 600 vaccine recipients, however, reportedly required hospitalisation. While previous reports of similar infections have been reported in other studies in India, this is the first time that such a high percentage has been reported as part of a single study.

The study involved health-care workers at the Max group of hospitals in Delhi and Gurugram and was led by scientists at the CSIR-Institute of Genomics and Integrative Biology (CSIR-IGIB). It appears as a preprint and is yet to be peer-reviewed.

The timing between the first and second dose varied, but 482 received the second dose within 42 days of the first dose. About half the recipients had been previously infected with SARS-CoV-2.

#### Levels of antibodies

To confirm a reinfection, the researchers relied on levels of antibodies that were directed towards the nucleocapsid region of the coronavirus, which is different from the region (spike protein) that vaccine-generated antibodies normally target. Currently, all the vaccines are designed to produce antibodies against the spike-protein and so high levels of antibodies against the nucleocapsid region were taken to be markers of a fresh coronavirus infection. A

breakthrough infection is one where someone tests positive at least two weeks after their second dose.

Shantanu Sengupta of the CSIR-IGIB and one of the scientists who led the study said that 25% was a “conservative estimate” as many of the infections were likely asymptomatic and only a subset of them who manifested symptoms were likely to get themselves tested.

While the infections were mild it could contribute to healthcare workers unknowingly infecting patients, said Dr. Sengupta. For their analysis, the scientists relied on blood samples taken every week - up to 90 - following vaccination and because this period coincided with India’s second wave, where most infections were due to the Delta variant, it was most likely that these breakthrough infections too were due to the Delta variant. “Two doses of the vaccine weren’t protective against infection but infection followed by vaccination - even a single dose - was significantly protective against fresh infections,” he added.

Currently too, Delta and its associated lineages comprise nearly half the coronavirus infections and are believed to be driving the infection in Kerala and Maharashtra.

Those health-care workers who were previously infected had a reinfection rate of 2.5% over the same period.

In line with emerging evidence from several countries such as the United States and Israel where in spite of half the population being vaccinated, breakthrough infections are being reported, the study underlines that India too may not be immune to the phenomenon.

“The neutralisation of Delta variant by antibodies to non-Delta spike protein is greatly reduced. This means that neither prior infection by non-Delta variants, nor existing vaccines, are individually sufficient for the path to herd immunity. This also implies that masking is an essential part of any rational COVID control strategy, being agnostic to immune escape,” the authors note in their study.

The data indicates an “urgency to explore routes towards more effective use of vaccines,” the authors say. Because a single dose of ChAdOx1-nCoV19 to previously infected subjects induces humoral immunity comparable or better than two doses in naïve subjects, a single dose could be optimally directed to populations with high seropositivity.

## **Maharashtra breaks rising COVID-19 trend (The Hindu: 20210831)**

<https://www.thehindu.com/news/national/coronavirus-live-august-31-2021-updates/article36195476.ece>

Children and their family members, wearing face masks, shopping in Vijayawada on Monday. | Photo Credit: V. Raju

Private hospitals picked up only 9.4% of the COVID vaccines — Covishield and Covaxin — between May 1 and August 17, though 25% of the doses were allotted, an RTI reply received from the Department of Health and Family Welfare shows.

After nearly a week of cases outweighing recoveries, Maharashtra rallied again to see a trend reversal as 4,696 patients were discharged on Monday against a comparatively low surge of 3,741 new COVID-19 cases.

The active case tally dipped to 51,834. The death toll was the lowest in a fortnight, as 52 deaths took the State's cumulative fatalities to 1,37,209. The case fatality rate remains constant at 2.12%.

You can track coronavirus cases, deaths and testing rates at the national and State levels here. A list of State Helpline numbers is available as well.

Here are the latest updates:

### **VACCINES**

Private hospitals lift less than 10% of vaccines

Private hospitals picked up only 9.4% of the COVID vaccines — Covishield and Covaxin — between May 1 and August 17, though 25% of the doses were allotted.

Of the 9.4% doses lifted, private hospitals had administered 65% by August 13. On the other hand, 90.6% of such doses reached government centres, of which they administered 97%.

The figures were ascertained from an RTI reply received from the Department of Health and Family Welfare.

In 12 States and Union Territories, including Andhra Pradesh, Rajasthan, Madhya Pradesh, Chhattisgarh, Odisha, Himachal Pradesh, Bihar and Assam, the share of doses supplied to private hospitals was less than 2% of the overall supply.

### **NUMBER OF CASES**

India logs 30,941 new COVID-19 cases

With 30,941 people testing positive for coronavirus, India's total tally of COVID-19 cases rose to 3,27,68,880, while the active cases declined to 3,70,640, according to the Union Health Ministry data updated on Tuesday.

The death toll has climbed to 4,38,560 with 350 fresh fatalities, according to the data updated at 8 a.m.

The active cases comprise 1.13 per cent of the total infections, while the national COVID-19 recovery rate was recorded at 97.53 per cent, the ministry said. An increase of 5,684 cases has been recorded in the active COVID-19 caseload in a span of 24 hours.

### **COVID-19 mortality is rare among children, finds study (The Hindu: 20210831)**

<https://www.thehindu.com/news/national/karnataka/covid-19-mortality-is-rare-among-children-finds-study/article36192112.ece>

A health worker collecting a swab sample for COVID-19 test from a child who arrived at Kempegowda Bus Stand in Bengaluru on July 18, 2021.

Study was conducted by Jeevan Raksha, a public-private initiative involving Proxima, a management firm, and the Public Health Foundation of India

Out of the 166 persons who died of COVID-19 during the week between August 16 and 22 in Karnataka, only two were children, aged 14 and 15. No child below the age of 10 died because of COVID-19 during the period.

These were the findings of a study on mortality patterns in the southern States of Karnataka, Kerala, and Tamil Nadu, conducted by Jeevan Raksha, a public-private initiative involving Proxima, a management firm, and the Public Health Foundation of India.

The 14-year-old girl from Bengaluru Urban who died was a diabetic, and she passed away within 24 hours of admission to hospital, while the 15-year-old boy from Haveri district died less than 48 hours after his hospitalisation, the study said.

While no COVID-19 deaths of persons below 20 were reported from Tamil Nadu, two children — one under a year old and the other two years old — died in Kerala during the study period.

The study argued that lockdowns and movement restrictions can neither be afforded nor be an effective tool. Therefore, people need to “start cohabiting with COVID-19 and smartly protect lives and livelihood”, Jeevan Raksha said in a statement on Monday.

Though the study did not have data on the number of COVID-19 infections among children during the period, Jeevan Raksha argued that the mortality data of the three States validates the views expressed by some eminent epidemiologists that it is very rare for children and teenagers to get critically ill and succumb to COVID-19.

“Children cannot be caged in houses anymore. It will affect their holistic growth and impact their future professional and personal lives. Parents need to adapt to the current circumstances and support the school administrations to facilitate the normalisation process. Initially, there could be an inevitable influx of infections in a couple of schools, so parents need to manage these anxious phases fearlessly,” said Jeevan Raksha convener Mysore Sanjeev.

Meanwhile, the study pointed out that a total of 1,249 people succumbed to COVID-19 in Kerala, Tamil Nadu, and Karnataka during the week from August 16 to 22. Kerala accounted for as many as 893 deaths (or 71%), while Tamil Nadu and Karnataka accounted for 190 and 166 deaths, respectively.

While 6% of the mortality was among people in the age group of 21 to 40, 24% was in the 41 to 60 group. As much as 52% was from the 61 to 80 age group, and 15% in the age group of 81 to 90.

While one in every five COVID-19 deaths in Kerala was of a person aged 80 and above, in Karnataka one in every four deaths was of a person aged 50 and below. “There were no COVID-19 deaths in the age group of 1 to 20 in Tamil Nadu. One in every five deaths in Tamil Nadu was of a person in the age group of 51 to 60,” Mr. Sanjeev said.

## कैंसर

**अध्ययन: कैंसर से मौत का खतरा होगा कम, वैज्ञानिकों ने इन दो व्यायामों को बताया बेहद कारगर (Amar Ujala: 20210831)**

<https://www.amarujala.com/photo-gallery/lifestyle/fitness/how-to-prevent-cancer-aerobic-and-strength-training-exercises-for-cancer-patients?pageId=5>

कोरोना संक्रमण ने प्रत्यक्ष-अप्रत्यक्ष दोनों तरह से लोगों के स्वास्थ्य को प्रभावित किया है। दूसरी लहर में संक्रमण ने शरीर के कई अंगों पर असर डाला, वहीं इलाज के अभाव में कई गंभीर रोगियों के मामलों की संख्या में भी इस दौरान इजाफा देखने को मिला है। स्वास्थ्य विशेषज्ञों के मुताबिक आंकड़े बताते हैं कि पिछले एक साल में कई तरह के कैंसर के मामलों में उल्लेखनीय वृद्धि हुई है। डॉक्टरों का कहना है कि महामारी के दौरान इलाज की उचित व्यवस्था के अभाव और रोग पर ध्यान न देने के कारण कई लोगों में कैंसर के मामले चौथे चरण तक भी पहुंच गए हैं।

डॉक्टर कहते हैं, कैंसर जैसे गंभीर रोग का समय पर निदान और इलाज आवश्यक है। कोरोना महामारी ने कैंसर रोगियों के लिए बड़ी मुसीबत पैदा कर दी है। इलाज में हो रही देरी स्थिति को और गंभीर बना सकती है। इसी को लेकर हाल ही में किए गए एक अध्ययन में विकल्प के तौर पर वैज्ञानिकों ने उन दो व्यायाम के बारे में बताया है जिनका अभ्यास कैंसर के खतरे को कम कर सकता है। आइए आगे की स्लाइडों में इन व्यायाम के कैंसर में लाभ के बारे में जानते हैं।

कैंसर के खतरे को समझिए

मायो क्लिनिक की रिपोर्ट के अनुसार, कैंसर असामान्य कोशिकाओं के विकास के कारण होने वाली गंभीर बीमारी है। कैंसर अक्सर शरीर के एक साइट में छोटे ट्यूमर के रूप में शुरू होता है जो धीरे-धीरे सामान्य कोशिकाओं में बढ़ता जाता है। कैंसर के बढ़ने के साथ इसका उपचार बहुत मुश्किल हो जाता है। हर प्रकार के कैंसर का नाम आमतौर पर उन कोशिकाओं के नाम पर रखा जाता है जिनमें यह शुरू होता है। आंकड़ों के मुताबिक यह रोग दुनिया में मृत्यु का दूसरा प्रमुख कारण है। हालांकि हाल के वर्षों में कैंसर स्क्रीनिंग, उपचार में आधुनिकता और रोकथाम में सुधार के चलते कैंसर रोगियों के जीवित रहने की दर में उल्लेखनीय सुधार हुआ है।

शोधकर्ताओं का मानना है कि दो प्रकार के व्यायामों का संयोजन कैंसर के रोगियों की गंभीरता और मौत के जोखिम को कम करने में सहायक हो सकते हैं। आइए इनके बारे में जानते हैं।

व्यायाम से कम हो सकता है कैंसर का खतरा

साओ पाउलो स्थित फेडरल यूनिवर्सिटी में डिपार्टमेंट ऑफ प्रीवेंटिव मेडिसिन के प्रोफेसर डॉ लिएंद्रो रेज़ेंडे कहते हैं, शारीरिक गतिविधि कई प्रकार के कैंसर के जोखिम को कम कर सकती है। इस बारे में जानने के लिए डॉ रेज़ेंडे और उनकी टीम ने 12 अध्ययनों की समीक्षा की। इस अध्ययन में 1.3 मिलियन (13 लाख) लोगों के डेटा की जांच की गई। वैज्ञानिकों ने पाया कि कई प्रकार के व्यायाम कैंसर से मृत्यु के जोखिम को 14 प्रतिशत तक कम कर सकते हैं।

स्ट्रेंथ ट्रेनिंग और एरोबिक व्यायाम को दिनचर्या में शामिल करने से कैंसर से मृत्यु का जोखिम 28 प्रतिशत तक कम हो जाता है। वहीं साल 2016 के एक अध्ययन में वैज्ञानिकों ने पाया कि जो लोग रोजाना व्यायाम करते हैं, उनमें फेफड़े, किडनी, कोलन, मलाशय, मूत्राशय और स्तन कैंसर के विकसित होने का खतरा कम होता है।

एरोबिक व्यायाम कैंसर रोगियों के लिए फायदेमंद

विशेषज्ञों के मुताबिक एरोबिक व्यायाम शरीर के ऑक्सीजन अवशोषित करने और अन्य अंगों तक पहुंचाने की क्षमता में सुधार करती है। एरोबिक व्यायाम न केवल वजन को नियंत्रित करने में मदद करते हैं साथ ही मोटापे को भी कम करते हैं। मोटापे को कैंसर का एक बड़ा कारण माना जाता है। इन सबके अलावा एरोबिक व्यायाम नींद के पैटर्न को ठीक रखने में सहायक हैं, जिससे शरीर की ऊर्जा बढ़ाती है। यह व्यायाम एंडोर्फिन हार्मोन को भी बढ़ा देते हैं जिससे रोगियों के आत्मविश्वास में भी सुधार होता है। यही कारण है कि कैंसर रोगियों को एरोबिक व्यायाम करने की सलाह दी जाती है।

स्ट्रेंथ ट्रेनिंग अभ्यास के भी हैं लाभ

अमेरिकन कॉलेज ऑफ स्पोर्ट्स मेडिसिन के सलाह के अनुसार सभी लोगों को सप्ताह में 2-3 बार स्ट्रेंथ ट्रेनिंग अभ्यास जरूर करने चाहिए। यह अभ्यास न केवल आपकी मांसपेशियों को टोन करते हैं, साथ ही हड्डियों के घनत्व, शरीर की मुद्रा और गतिशीलता में भी सुधार करते हैं। कैंसर रोगियों के लिए यह सभी अति आवश्यक होते हैं।

नियमित शारीरिक व्यायाम हमारी प्रतिरक्षा और लिम्फैटिक सिस्टम को मजबूत करने में सहायक है। प्रतिरक्षा प्रणाली मजबूत होने से संक्रमण और कैंसर की कोशिकाएं बढ़ने नहीं पाती हैं। वहीं लिम्फैटिक सिस्टम शरीर के विषाक्त पदार्थों को बाहर निकालने में मदद करता है।

## एड्स

**AIDS के मामले में मिजोरम सबसे आगे, 2019-20 के दौरान 2,339 लोग पाए गए संक्रमित (Hindustan: 20210831)**

<https://www.livehindustan.com/national/story-mizoram-leads-in-aids-case-2339-people-were-found-infected-during-2019-20-4478959.html>

आधिकारिक आंकड़ों के अनुसार, वित्तीय वर्ष 2019-2020 के दौरान मिजोरम में एड्स की बीमारी के चलते 443 लोगों की मौत हो गई। सोमवार को जारी सांख्यिकीय हैंडबुक मिजोरम 2020 के अनुसार, 2019-2020 के दौरान 2,339 लोगों को एड्स से संक्रमित पाया गया। इससे पहले 2018-19 में 2,237 लोग एचआईवी पॉजिटिव पाए गए थे और 716 लोगों की इस बीमारी से मौत हुई।

राज्य के अर्थशास्त्र और सांख्यिकी विभाग द्वारा जारी हैंडबुक में कहा गया है कि 2018-2019 में 65,615 सैंपल्स के मुकाबले 2019-2020 के दौरान 51,691 ब्लड सैंपल्स का टेस्ट किया गया।

राष्ट्रीय एड्स नियंत्रण संगठन (नाको) के अनुसार, अपनी कुल 10.91 लाख आबादी (2011 की जनगणना) में से 2.32 प्रतिशत संक्रमित होने के साथ, मिजोरम को देश में सबसे अधिक एड्स संक्रमित राज्य माना जा रहा है। मिजोरम ने अक्टूबर 1990 में अपना पहला एचआईवी पॉजिटिव मामला दर्ज किया था। मिजोरम स्टेट एड्स कंट्रोल सोसाइटी (MSACS) के अनुसार, अक्टूबर 1990 से सितंबर 2020 तक 1,972 गर्भवती महिलाओं सहित 23,092 लोगों में एड्स का पता चला और 2,877 लोगों की इस बीमारी से मौत हो गई।

राज्य में एचआईवी पॉजिटिव मामलों में से 78 प्रतिशत से अधिक सेक्सुअली ट्रांसमिटेड थे, जबकि लगभग 20 प्रतिशत मामले संक्रमित इंजेक्शन के कारण। एमएसएसीएस के अनुसार, यह अनुमान

लगाया गया है कि मिजोरम में प्रति 1,000 लोगों पर लगभग 1.19 लोग एड्स से संक्रमित हैं। 25-34 आयु वर्ग के युवाओं में एड्स की दर सबसे अधिक है, जिसे कुल संक्रमितों का 42.59 प्रतिशत माना जा रहा है, इसके बाद 35-49 आयु वर्ग के 26.49 प्रतिशत लोग संक्रमित हैं।

## कोरोना का नया वैरिएंट

**नई मुसीबत: सामने आया डेल्टा से भी खतरनाक कोरोना का नया वैरिएंट, इस वजह से भारत की बढ़ गई है चिंता (Amar Ujala: 20210831)**

<https://www.amarujala.com/photo-gallery/lifestyle/fitness/new-covid-variant-c-1-2-south-african-variant-symptoms-and-risk-factor?pageId=5>

तेजी से अपना रूप बदल सकता है कोरोना का यह वैरिएंट

कोरोना के इस नए वैरिएंट को म्यूटेशन के लिहाजे से भी वैज्ञानिक बेहद खतरनाक बता रहे हैं। 24 अगस्त को प्रीप्रिंट रिपोजिटरी मेडरेक्सिव पर पीयर-रिव्यू अध्ययन के लिए पोस्ट किए गए

डेटा के अनुसार सी.1 की तुलना में कोरोना के इस नए वैरिएंट सी.1.2 में तेजी से म्यूटेशन हो सकता है। इसका मतलब यह है कि कोरोना के इस नए वैरिएंट के स्पाइक प्रोटीन में काफी तेजी से बदलाव होता रह सकता है। शोधकर्ताओं का कहना है कि दुनियाभर में अब तक सामने आ चुके कोरोना के सभी वैरिएंट्स की तुलना में यह नया वैरिएंट अधिक उत्परिवर्तन है, यही इसे बेहद संक्रामक भी बनाता है।

प्रतिरक्षा प्रणाली चकमा देने की क्षमता

कोरोना के इस नए वैरिएंट को लेकर शोधकर्ताओं की सबसे बड़ी चिंता यह है कि यह वैरिएंट शरीर में संक्रमण या वैक्सीनेशन से बनी प्रतिरक्षा प्रणाली को आसानी चकमा दे सकता है। शोधकर्ता बताते हैं, सार्स-सीओवी-2 वायरस अपने स्पाइक प्रोटीन का उपयोग करके मानव कोशिकाओं को संक्रमित करते हुए उनमें प्रवेश करता है। इसी बात को ध्यान में रखते हुए कोरोना की सभी वैक्सीनों को तैयार किया गया है।

इस नए वैरिएंट सी.1.2 में N440K और Y449H जैसे म्यूटेशनों का पता चला है। यह म्यूटेशन शरीर में बर्नी प्रतिरक्षा को आसानी से मात देने की क्षमता रखते हैं। हालांकि वैज्ञानिकों का कहना है कि जिन लोगों ने वैक्सीन की दोनों डोज ले ली हैं, उनमें खतरा अन्य लोगों के मुकाबले कम हो सकता है।

कोरोना के इस नए वैरिएंट से संक्रमण के क्या लक्षण हो सकते हैं?

शोधकर्ताओं का कहना है कि चूंकि यह अभी नया वैरिएंट है, ऐसे में इसके बारे में जानने के लिए और अधिक अध्ययन की आवश्यकता है। ऐसे में स्पष्ट नहीं कहा जा सकता है कि इस वैरिएंट से संक्रमितों में क्या लक्षण दिख सकते हैं। फिलहाल अब तक के अध्ययन के आधार पर पता चलता है कि संक्रमितों को नाक बहने, लगातार खांसी आने, गले और शरीर में दर्द, गंध और स्वाद की कमी, बुखार, मांसपेशियों में ऐंठन, आंखों के रंग में बदलाव के साथ दस्त आने की समस्या हो सकती है। यह वैरिएंट फेफड़ों को किस प्रकार से प्रभावित कर सकता है, इस बारे में जानने के लिए अध्ययन किया जा रहा है।

भारत के लिए क्यों है यह ज्यादा खतरनाक?

वैज्ञानिक कोरोना के इस वैरिएंट को भारत के लिए काफी खतरनाक बता रहे हैं। विशेषज्ञों का कहना है भारत में तीसरी लहर की आशंका जताई जा रही है। कोरोना की दूसरी लहर के कम होते ही यात्रा प्रतिबंधों में ढील के साथ, व्यवसाय और स्कूल फिर से खोल दिए गए हैं। इसके अलावा देश में त्योहारों के मौसम की शुरुआत हो चुकी है, जिसके कारण लोगों में संक्रमण का खतरा फिर से बढ़ सकता है।

इसके अलावा इस नए वैरिएंट को इम्यूनिटी को चकमा देने वाला माना जा रहा है, ऐसे में यह संकट और बढ़ सकता है। देश में अब भी बड़ी आबादी को वैक्सीन की एक भी डोज नहीं लगी है, यह चिंता को और भी बढ़ा देती है। विशेषज्ञ लोगों से फिलहाल सभी लोगों से मास्क पहनने और सोशल डिस्टेंसिंग करने पर विशेष ध्यान रखने की अपील कर रहे हैं।

## **Covid Endemic**

### **Explained: Is Covid-19 now endemic in India? (The Indian Express: 20210831)**

<https://indianexpress.com/article/explained/covid-cases-endemic-in-india-who-7479128/>

WHO chief scientist Dr Soumya Swaminathan has said India seems to be entering some stage of endemicity. If the virus is present all the time, what are the implications for immunity, future waves, and vaccination?

People wait for a Covid-19 vaccine dose at a hospital in Noida on Monday. Scientists believe a large section of the population has developed antibodies against the virus, either due to vaccination or natural infection. (Reuters Photo)

As India gets ready to face a possible third wave of SARS-CoV-2, World Health Organization (WHO) chief scientist Dr Soumya Swaminathan has said that “India seems to be entering some stage of Covid-19 endemicity where there is low- to moderate-level transmission”. Earlier this year, scientists had indicated in a survey carried out by the journal Nature that the SARS-CoV-2 virus is set to become endemic and would continue to circulate in pockets of the global population.

What is endemicity?

Endemic means something that is present all the time. For example, said leading virologist Dr Shahid Jameel, influenza is endemic, unlike smallpox which has been eradicated.

“Only those pathogens can be eradicated that don’t have animals (another species) as a reservoir. Smallpox and polio are human virus examples, rinderpest is a cattle virus. This means if there is a virus/pathogen that is present in some animal reservoir like bats, camels or civet cats, then it can transmit again once the level of immunity wanes in the population against the disease caused by it,” Dr Jameel said.

“In the case of coronavirus disease, it will continue to circulate as it is present in the animal reservoir. This also means that it will cause disease to the extent that people have had no vaccination against or exposure. If, however, enough people are vaccinated or have been exposed to the infection, then the virus will cause symptomatic infection but not disease. So, that is what is considered becoming endemic – it is there but not causing disease,” Dr Jameel said.

When is SARS-CoV-2 likely to become endemic?

That will depend on how fast it spreads and mutates. There are many variables that have to be considered, Dr Jameel said, and there is no clear answer regarding when the virus is likely to be endemic. “Instead of getting bogged down on whether the virus has become endemic or

not, the need is to focus on vaccination and limit transmission. It is not possible to predict when the virus is going to be endemic,” Prof Jameel said.

The last serological survey by the Indian Council of Medical Research (ICMR) had shown from a representative sample of the population — 70 districts out of 718 — that roughly two-thirds of the population have antibodies. Again, out of those two-thirds, some would have had the antibodies because they have now been fully vaccinated. However, since vaccination rates are still fairly low, the general assumption is that most people who have antibodies have been infected but not all have had disease. This means a majority will be protected from symptomatic disease later on, Dr Jameel explained; they may get infected but are protected.

“Again, that is assuming the virus is not going to change to a form that transmits easily and evades immunity. One cannot predict if and when the virus mutates into something where vaccines start failing,” Prof Jameel said.

How long can the antibodies be expected to last?

It is an open question, said Professor Partha Majumder, National Science Chair, Government of India. “Most everybody now has antibodies that likely reduces the chance of infection and even if infected may not develop severe disease. This virus is going to stay with us. We may already have developed herd immunity, which indicates that most of us have antibodies — either due to infection or vaccination — and hence if infected we may not develop severe disease,” he said.

“From its rate of spread and its rate of mutation, many of us indeed expect that this coronavirus will never be eradicated – not just in India, but globally – and will become endemic to stay with you without causing major health problems, since the vast majority would have developed protective antibodies,” he said.

Clinical epidemiologist Colonel (retired) Dr Amitav Banerjee, too, referred to countrywide serosurveys that indicate almost 67 % Indians, including a large proportion of children, have IgG antibodies. “As the antibody levels wane over time, the immunity persists due to memory and T cells. We can assume that a much larger proportion beyond this 67 % have encountered the virus and would have had immunity due to natural infection. There is a need for more serosurveys for IgG levels to be carried out,” Col Banerjee said.

Whether or not a booster dose of a vaccine is required, Professor Majumder said, depends on how quickly the antibody level comes down in the average individual. “There are wide variations in the trend of waning of antibody level among persons; sufficient data have not yet accumulated to definitively determine the need for a booster dose,” Professor Majumder said.

“While vaccine effectiveness does appear to decline over time, there is still expected to be substantial protection. It is likely that a third shot or booster might be necessary in the future and in fact, a regular booster shot, just like for influenza, might be indicated,” said Professor Gautam Menon, Professor of Physics and Biology at Ashoka University.

Should we worry about numbers rising again?

According to Professor Menon, one can expect a more or less constant level of infection within the population, with the likelihood of severe illness, hospitalisation or death becoming increasingly small as people are vaccinated.

The Delta variant now dominates new infections around the country. Viruses mutate constantly, but the question, Professor Menon said, is whether a new variant will come along that is much more transmissible than Delta and can evade a immune response from either a prior infection or vaccination.

“As long as it does not, we might expect that a small background of reinfections and vaccine breakthroughs will help maintain numbers of infected at a low, constant level. It is more likely that there will be a steady level of cases, with some regions, especially of low prior seroprevalence and low vaccination rates, seeing spikes. It is completely unlikely that we will see case numbers comparable to the second wave,” Prof Menon said.

## **Weight Loss**

**Weight loss alert: Seven food combinations to burn fat, beat bloating and boost metabolism (The Indian Express: 20210831)**

<https://indianexpress.com/article/lifestyle/health/lose-weight-seven-food-combinations-weight-loss-foods-healthy-eating-7474318/>

A dietitian lists some food combinations that may work magic to lose weight; find out

Weight loss is not an easy process, but one that can be achieved by being consistent. Dietitian Vidhi Chawla says that in order to lose weight successfully, one has to exercise and eat proper food every day.

“There are certain food combinations that can help you burn fat, beat bloating and boost metabolism. Do not skip your breakfast; it may cause you to not consume adequate amounts of fibre and nutrients. It can also increase bouts of acidity,” she advises.

The dietitian lists some food combinations that may work magic to lose weight. Read on.

1. Egg and bell pepper: Eggs are a powerful superfood on their own, but when combined with bell pepper — another fat-burning ingredient — it can help you lose weight quickly. Eggs are rich in vitamins, antioxidants, and healthy fats, as well as choline, a nutrient that boosts

metabolism. Bell peppers, on the other hand, are rich in vitamin C. Eating peppers can help you burn stored fat and convert carbs into fuel, keeping you energised all day. By adding bell peppers into your eggs, you can significantly accelerate weight loss.

2. Carrots and tahini: Carrots contain about 10 per cent of carbs, are made up of starch, simple sugars and fibre. They also have a low glycemic index and are rich in vitamin A in the beta carotene form, vitamin K, B-vitamins, and potassium. Tahini, also known as sesame butter, is high in calcium and can help you lose weight by reducing your appetite and calorie intake.

weight loss, weight loss food, foods for weight loss, food combinations that help with weight loss, weight loss and healthy foods, healthy eating, indian express news Eggs are a powerful superfood on their own, but when combined with bell pepper, it can help you lose weight quickly. (Photo: Getty/Thinkstock)

3. Figs and Brazil nuts: Figs are considered to be a healthy replacement for unhealthy snacks because they have few calories and no fats at all. They are high in antioxidants, which help reduce cell-damaging free radicals in your body. Brazil nuts, on the other hand, are a great source of selenium, an antioxidant that helps your body's immune system and promotes metabolism. When combined with figs, it will aid in weight loss by making you feel fuller, increasing your metabolism, and ensuring you eat fewer unhealthy snacks.

4. Avocado and cayenne pepper: Avocado contains oleic acid, which helps you feel fuller for a longer period of time. Smashed avocado with cayenne pepper, which contains capsaicin, an appetite suppressant, can be placed on top. Capsaicin promotes satiety, which can help you lose belly fat by reducing caloric intake. Place those avocado slices on sprouted grain bread, which is high in fibre and can help you feel satisfied.

5. Lentils and tomatoes: Make lentil soup. People who consume pulses as part of a calorie-restricted diet lose more weight than those who consume the same number of calories but do not consume as many legumes. The broth can also aid in weight loss by filling you up without adding unnecessary calories. Include some anti-inflammatory tomatoes, which can also help you maintain leptin resistance and thus lose more weight.

6. Pineapple and lime juice: Pineapple is low in calories and high in water content, making it an ideal healthy weight loss snack. Pineapples are high in fibre, which promotes normal food passage through the digestive system and stimulates the release of gastric and digestive juices that aid in food dissolution. Lime contains a variety of essential nutrients that help in the reduction of both body weight and food consumption. It contains citric acid, which aids in the faster and more efficient burning of body fat.

7. Green tea with lemon and mint: Green tea is a magical drink that has been shown to aid in weight loss and the burning of belly fat. It's high in antioxidants and also contains a lot of catechins, which help your liver convert fat to energy by promoting fat release from fat cells. You can also add a lemon to your green tea, which contains pectin and polyphenols and help you lose weight by making you feel fuller.

## **Combo Antibody Treatment**

### **New research: Combo antibody treatment reduces hospitalisation (The Indian Express: 20210831)**

<https://indianexpress.com/article/explained/combo-antibody-treatment-reduces-hospitalisation-study-7479119/>

Of the nearly 1,400 Mayo Clinic patients enrolled in this study, 696 received the drug combo between December 2020 and early April.

In an observational study, Mayo Clinic researchers have found that a combination of casirivimab and imdevimab — two monoclonal antibody treatments that have emergency use authorisation from the US Food and Drug Administration — keep high-risk patients out of the hospital when infected with mild to moderate Covid-19. The study has been published in The Lancet's EClinicalMedicine.

Of the nearly 1400 Mayo Clinic patients enrolled in this study, 696 received the drug combo between December 2020 and early April. An equal number of patients didn't receive the drug combo. Upon evaluation of their status at 14, 21 and 28 days after treatment, the numbers for hospitalisation were found to be significantly lower for the treated group, at each stage.

At 14 days, 1.3% of the treated group was hospitalised, while 3.3 % of the non-treated group was hospitalised. At day 21, the percentages of people hospitalised from the treated and non-treated groups were 1.3 and 4.2, respectively. At day 28, 1.6% of the treated patients were hospitalised compared to 4.8% of the non-treated patients.

From this data, it can be inferred that there was 60%-70% relative reduction in hospitalization among treated patients, Mayo Clinic said in a press release.

The release quoted Raymund Razonable, a Mayo Clinic infectious disease specialist and senior author of the study, as saying that when a combination of monoclonal injections is used to treat patients who are at high risk due to a range of comorbidities, and contract a mild or moderate case of Covid-19, they get an opportunity to recover without being hospitalised.

“Our conclusion overall at this point is that monoclonal antibodies are an important option in treatment to reduce the impact of Covid-19 in high-risk patients,” Dr Razonable was quoted as saying.

## **Diet/ Nutrition**

### **Covid-19: Go for gut health, to build immunity (Hindustan Times: 20210831)**

<https://www.hindustantimes.com/lifestyle/health/covid19-go-for-gut-health-to-build-immunity-101630343204102.html>

From probiotic-rich foods such as yogurt and kimchi to high-fibre foods including legumes and oats, experts share ways one can build gut health and boost the immune system to keep viruses at bay.

The need to strengthen our immune system has been widely discussed over the last year-and-a-half. People are upping their intake of vitamin C-rich food items, digging into traditional herbs and home remedies to fight a host of illnesses, including Covid-19. However, what one may not know is that gut health forms the core of our immunity.

Our gut, health experts say, is our second brain, for anything we eat has a direct impact on most aspects of our health, right from hormone levels to reproductive health and even heart health. It is, then, imperative that we maintain a strong gut.

“Gut health is important as our gut contains immune cells and healthy bacteria that kill infectious viruses, bacteria and fungi. A healthy gut also connects with the brain through hormones and nerves in order to maintain overall health and well-being,” explains Manisha Chopra, a nutritionist and fitness expert.

So, how exactly does good gut health assure immunity? “Our gut microbes produce compounds that tell immune cells to destroy harmful viruses in the brain and nervous system. There are trillions of microbes living in and on us, collectively known as the human microbiome, which activates the immune system to fight viruses and keep our immune system strong. So, it’s important to keep good bacteria in balance in our gut, so that we can fight viruses like Covid-19” says Ruchhi Parmar, a dietitian.

Furthermore, gut bacteria are known to balance the immune response against pathogens. “It makes sure the immune response is effective, but not so vigorous that it may lead to collateral damage of the host. Bacteria present in the gut can stimulate an effective immune response against viruses that are not only responsible for infecting the gut, such as rotavirus and norovirus, but also the ones affecting the lungs, like flu. The gut microbes initiate specialised immune cells to synthesise potent antiviral proteins that will eliminate viral infections,” observes Dr Rohini Patil, a nutritionist.

To improve one’s gut health, experts recommend regular consumption of probiotics. “Fermented foods such as kimchi, yogurt, miso, kefir etc. are good for gut health, as they are great dietary sources of probiotics. High-fiber foods such as peas, oats, legumes and

asparagus, as well as collagen-boosting foods such as salmon and bone broth are also good for gut health, as are mushrooms, garlic and onion,” says Chopra.

A good night’s sleep, a stress-free environment and hydration are also key to good gut health. “Drinking plenty of water has proved beneficial on mucosal lining of the intestines as well as in the balance of good bacteria in the gut,” says Parmar, who recommends lemon water or any kind of detox water as a morning ritual.

“Opt for coconut oil and extra virgin olive oil, over other vegetable oils. Most vegetable oils have high levels of omega-6 fatty acids. A little omega-6 is good, but too much can cause oxidative stress. Also, exercise or meditate thrice a week to keep your gut healthy,” she adds.

## **Child Health**

### **Study shows maternal voice reduces pain in premature babies (Hindustan Times: 20210831)**

<https://www.hindustantimes.com/lifestyle/health/study-shows-maternal-voice-reduces-pain-in-premature-babies-101630316376985.html>

In the study, researchers observed that when the mother spoke to her baby at the time of the medical intervention, the signs of the baby's oxytocin level -- the hormone involved in attachment and also linked to stress -- increased significantly, which could attest to better pain management.

A new study has shown that the mother's voice at the time of painful medical intervention for her prematurely born baby, decreased the baby's expression of pain.

The findings of the study were published in the journal 'Scientific Reports'.

A baby born prematurely often has to be separated from its parents and placed in an incubator in intensive care.

For several weeks, he or she will undergo routine medical procedures that can be painful, without being relieved by too many pharmaceutical painkillers, which are risky for his or her development.

So how can we act for the good of the baby? A team from the University of Geneva (UNIGE), in collaboration with the Parini Hospital in Italy and the University of Valle d'Aosta, observed that when the mother spoke to her baby at the time of the medical

intervention, the signs of the baby's oxytocin level -- the hormone involved in attachment and also linked to stress -- increased significantly, which could attest to better pain management.

These results demonstrate the importance of parental presence with premature babies, who are subjected to intense stress from birth, a presence that has a real impact on their well-being and development.

As soon as they are born before 37 weeks of gestation, premature babies are separated from their parents and placed in an incubator, often in intensive care.

They have to undergo daily medical interventions, necessary to keep them alive (intubation, blood sampling, feeding tube, etc.), which have potential impacts on their development and pain management.

The difficulty? It is not always possible to relieve them with pharmaceutical painkillers, as the short and long term side effects on their neurological development can be significant.

There are other ways to relieve the baby, such as wrapping, restraint, sugar solutions or non-nutritive sucking with a teat.

However, for several years now, studies have shown that the presence of a mother or father has a real calming effect on the child, particularly through the emotional modulations of the voice.

This is why the team of Didier Grandjean, full professor at the Psychology Section of the Faculty of Psychology and Educational Sciences (FPSE) and at the Swiss Center for Affective Sciences (CISA) of the UNIGE, has been interested in the early vocal contact between the mother and the premature baby, in the impact of the mother's voice on the management of pain resulting from the routine practices necessary for the follow-up of the babies, and in the psychological and cerebral mechanisms that would be involved.

To test this hypothesis, the scientists followed 20 premature babies at the Parini Hospital in Italy and asked the mother to be present during the daily blood test, which is done by extracting a few drops of blood from the heel.

"We focused this study on the maternal voice because in the first days of life it is more difficult for the father to be present, due to working conditions that do not always allow days off," said Dr Manuela Filippa, a researcher in Didier Grandjean's group and first author of the study.

The study was conducted in three phases over three days, allowing for comparison: a first injection was taken without the mother being present, a second with the mother talking to the baby and a third with the mother singing to the baby.

The order of these conditions changed randomly. "For the study, the mother started talking or singing five minutes before the injection, during the injection and after the procedure," said the Geneva researcher.

"We also measured the intensity of the voice, so that it would cover surrounding noise, as intensive care is often noisy due to ventilation and other medical devices," she added.

First, the research team observed whether the baby's pain decreased in the presence of the mother.

To do this, they used the Preterm Infant Pain Profile (PIPP), which establishes a coding grid between 0 and 21 for facial expressions and physiological parameters (heartbeat, oxygenation) attesting to the baby's painful feelings.

"In order to code the behaviour of premature babies, we filmed each blood test and judged the videos 'blind', by trained personnel, without sound, so as not to know whether the mother was present or not," noted Didier Grandjean.

The results were significant: the PIPP is 4.5 when the mother is absent and drops to 3 when the mother talks to her baby.

"When the mother sings, the PIPP is 3.8. This difference with the spoken voice can be explained by the fact that the mother adapts her vocal intonations less to what she perceives in her baby when she sings because she is in a way constrained by the melodic structure, which is not the case when she speaks," emphasised the Geneva professor.

The scientists then looked at what changes in the baby when it hears its mother speak.

"We quickly turned to oxytocin, the so-called attachment hormone, which previous studies have already linked to stress, separation from attachment figures and pain," explained Dr Manuela Filippa.

Using a painless saliva sample before the mother spoke or sang and after the heel prick, the research team found that oxytocin levels rose from 0.8 picograms per millilitre to 1.4 when the mother spoke. "In terms of oxytocin, this is a significant increase," she said.

These results show the positive impact of the mother's presence when premature babies undergo painful medical procedures.

"We demonstrate here the importance of bringing parents and child together, especially in the delicate context of intensive care," Manuela Filippa emphasised.

"Furthermore, parents play a protective role here and can act and feel involved in helping their child to be as well as possible, which strengthens the essential attachment bonds that are taken for granted in a full-term birth," concluded Didier Grandjean.

## Epilepsy

**Study suggests that genetic risk scores can aid accurate diagnosis of epilepsy (Hindustan Times: 20210831)**

<https://www.healthshots.com/health-news/ladies-even-moderate-hiit-can-keep-you-fit-suggests-study/>

Epilepsy is often inherited, and recent research has shown that sufferers have elevated polygenic risk scores (PRSs) for the condition.

Although epilepsy is a relatively common condition, affecting approximately 1 per cent of individuals worldwide, it is often difficult to diagnose in clinical practice, and it is estimated that up to a quarter of all cases may be misdiagnosed initially. Epilepsy is often inherited, and recent research has shown that sufferers have elevated polygenic risk scores (PRSs) for the condition.

Now, investigators from Finland have proposed that PRSs could be used as a tool to help diagnose epilepsy in those individuals who have had a single seizure and distinguish them from those where the seizure has another cause. The results will be presented at the annual conference of the European Society of Human Genetics today [Sunday].

While we have heard about epilepsy, it's time to really know about it. Image Courtesy: Shutterstock

Together with other colleagues at the Institute for Molecular Medicine (FIMM), University of Helsinki, Finland, Henrike Heyne, MD (now working at the Hasso Plattner Institute, Potsdam, Germany) extracted data on 9660 individuals with epilepsy-related diagnoses from the over 269K people included in the FinnGen2 project and looked at their polygenic risk scores as compared to those of healthy controls.

As expected, the individuals with epilepsy had a higher polygenic risk for the condition

“In FinnGen we could also investigate the health records of participants who had suffered convulsions where the cause was unclear. Although some of them had later received a specific diagnosis of epilepsy, the majority had not. And we found that the genetic risk for epilepsy was significantly higher in individuals who received a specific epilepsy diagnosis than in those with only one seizure where the case was unclear,” said Dr Heyne.

Participants in the study ranged in age from a few months to over 90. In those under 40, the researchers found that the influence of the genetic factors was larger than in older individuals. This genetic influence was particularly high in those with adolescent myoclonic epilepsy, the type that made up the largest proportion of cases in the international epilepsy consortium used to identify which genetic variants convey the highest risk to epilepsy.

Although the sample size was relatively small, the results clearly showed the potential for the use of PRSs in the diagnosis of epilepsy, and the researchers hope to see them replicated in further studies with the larger sample sizes that are more usual in other common diseases such as high blood pressure or diabetes.

“Genetic risk could serve in future as a biomarker for epilepsy,” said Dr Heyne. “This could prove to be a very useful addition to existing methods, such as electroencephalograms. PRSs have been shown to be useful in many other diseases and it is likely that in the future their use may become standard practice, meaning that genetic data could help to make an epilepsy diagnosis immediately after a seizure.

epilepsy Excessive lack of sleep can actually cause you to have an epilepsy seizure. Image courtesy: Shutterstock.

Chair of the ESHG conference, Professor Alexandre Reymond, Director of the Center for Integrative Genomics, University of Lausanne, Lausanne, Switzerland, said: “Genetic information often tells us whether a person is at increased risk to develop a disorder or not. In this study, the authors have pioneered the use of a genetic risk score to identify people at risk for epilepsy.”

Reymond added, “Combining genetic data with other more traditional methods such as electroencephalograms could help identification of epileptic individuals, potentially allowing early treatment. Of note is that about 25 per cent of epilepsy patients are under an effective regimen.”